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# Determinants of tax evasion among individual taxpayers and moderating role of demographic factors in Nairobi Metropolitan area, Kenya.

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**DETERMINANTS OF TAX EVASION AMONG INDIVIDUAL TAXPAYERS AND  
MODERATING ROLE OF DEMOGRAPHIC FACTORS IN NAIROBI  
METROPOLITAN AREA, KENYA**



**A Research Thesis Submitted in Partial Fulfilment of the Requirement for the Award of  
Degree of Master of Commerce in Forensic Accounting at Strathmore University  
Business School (SBS), Strathmore University, Nairobi, Kenya**

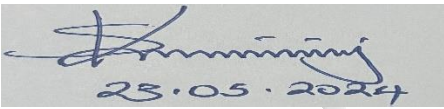
**May, 2024**

## DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the proposal itself.

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Samuel Kuria

  
23.05.2024

### Approval

This thesis of Samuel Kuria was reviewed and approved by

Dr. David Mathuva

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Strathmore University

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## ABSTRACT

This study was motivated to establish the determinants of tax evasion and moderating role of demographic factors of age and level of education among individual taxpayers in Nairobi, Kenya. This was precisely addressed by four specific objectives; namely, to establish the influence of behavioral, administrative and economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya, besides establishing the moderating role of age and level of education. The study was anchored on the Economic Deterrence Theory, Theory of Planned Behaviour, the Classical Growth Theory and the Social Identity Theory. The study was guided by the descriptive correlational research design. The target population was individual taxpayers based in the Nairobi Metropolitan area, Kenya. Based on anecdote data, the target population comprised of 10,411,220 people living in the five counties of Nairobi Metropolitan area, Kenya, namely, Nairobi, Machakos, Kajiado, Kiambu and Murang'a. The total sample size of the individual taxpayers to be randomly sampled were 768. A structured questionnaire was used to collect data. A pilot test was carried out of 78 individual taxpayers before the main data collection exercise in order to assess the reliability and the validity of the questionnaire. Cronbach's alpha test was used assess the reliability of the questionnaire. The factor analysis model was used by the study to assess the construct validity of the survey tool. Descriptive and Multinomial Logistic regression models were used to show the effect of behavioral, administrative and economic factors on tax evasion among the individual taxpayers in Nairobi Metropolitan area, Kenya, and how age and level of education moderates the relationship between the factors and tax evasion. Results showed that; there is a significant negative impact on the likelihood of major tax evasion for every one-unit increase in the behavioral factors score; for every one-unit increase in the administrative factors score, the odds of major evasion decrease by a big margin; when the economic factors score increases by one unit, the odds of major evasion increased greatly. Additionally, results revealed that age and education moderate the relationship between behavioral factors and tax evasion; between administrative factors and tax evasion; but do not significantly moderate the relationship between economic factors and tax evasion. It is concluded that enhancements in taxpayer behavior, such as increased compliance, ethical tax practices, adherence to religious principles, and positive tax morale, substantially reduce the probability of engaging in major tax evasion. It is recommended that policymakers should promote ethical tax practices and enhance taxpayer behavior through targeted education campaigns and community programs that emphasize compliance, and positive tax morale.

**Key words:** Tax morale, Tax evasion, Classical Growth Theory, Tax Compliance, Tax Incentives

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- Figure 3. 3: Relationship between Economic Factors and Tax Evasion.**Error! Bookmark not defined.**



## ABBREVIATIONS AND ACRONYMS

<b>ITA</b>	Income Tax Act
<b>ITIR</b>	Income Tax Individual Resident
<b>KRA</b>	Kenya Revenue Authority
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>PAYE</b>	Pay As You Earn
<b>SPSS</b>	Statistical Package for Social Sciences
<b>TPA</b>	Tax Procedure Act
<b>US</b>	United States America
<b>VAT</b>	Value Added Tax
<b>VIF</b>	Variance Inflation Factor



## DEFINITION OF TERMS

**Administrative factors** – the government administration factors comprising of tax penalties, tax audits, Tax incentives, government spending and quality governance that motivates a taxpayer to either evade their tax obligations or be compliant (Amponsah, 2019; Islam, Rashid, Hossain, & Hashmi. (2020); Yamen, Allam, Bani-Mustafa & Uyar (2018); Irawan & Utama, 2021; Ameyaw & Dzaka, 2016).

**Behavioral factors** - factors comprising of religion, peer influence, tax fairness, personal ethics, tax morale and personal traits that controls the taxpayer's behavior to either evade their tax obligations or be compliant (Efeeloo & Dick, 2018; Al Zeer, Alkhatib & Alshrouf, (2019) Owusu, Bart-Plange, Koomson, & Arthur, (2022) Illahi & Sumarni, 2021).

**Demographic factors** - factors comprising of the taxpayer's age, gender and level of education that influences him or her to either evade their tax obligations or be compliant (Illahi & Sumarni, 2021; Rashid, 2020).

**Economic factors** – factors comprising of the level of tax rates, level of income and compliance costs that can motivate a taxpayer to either evade his or her tax obligations or be compliant (Mohamed, 2015; Ruth, 2019; Efeeloo & Dick, 2018; Majiwa, 2016).

**Economic factors** – factors comprising of the level of tax rates, level of income and compliance costs that can motivate a taxpayer to either evade his or her tax obligations or be compliant (Mohamed, 2015; Ruth, 2019; Efeeloo & Dick, 2018; Majiwa, 2016).

**Extra source of income**- for this research, extra source of income means other sources of income other than employment income.

**Individual** – As per the Income Tax Act (Cap 470) revised edition of 2021 an individual means a natural person or in other words a human being or organizational entity (ITA, 2021).

**Individual Taxpayer**-for purpose of this research, individual taxpayer means a natural person subject to payment of taxes from sources other than employment income (KRA, 2022).

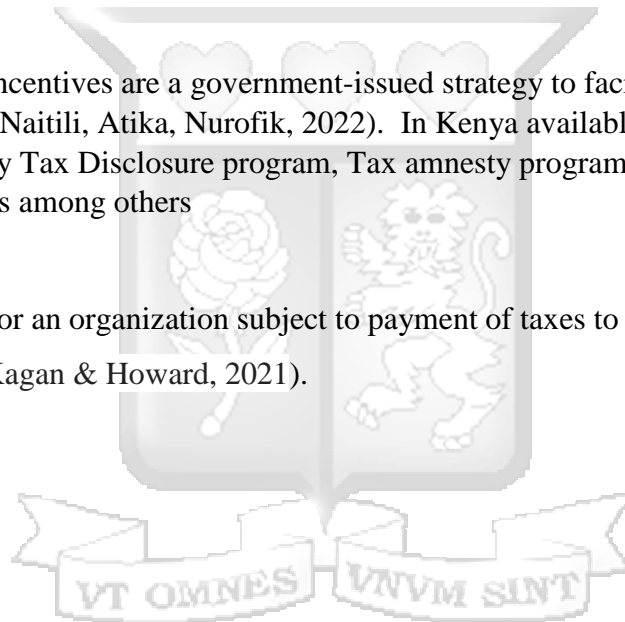
**Nairobi Metropolitan Region** - is the main economic and cultural region that accounts for 60% of Kenya's Gross Domestic Product (Mundia, 2017). The region comprises of 5 counties, they include, Nairobi County, Kajiado County, Kiambu County, Murang'a County and Machakos County (Mundia, 2017).

**Tax evasion** - is an intentional act perpetuated by a taxpayer to achieve a tax benefit at a loss of a given revenue authority in an illegal manner (KRA, 2022).

**Tax Evasion determinants** - These are demographic, economic, behavioral and administrative factors that encourages a taxpayer to either evade his/her tax obligations or be tax compliant (Efeeloo & Dick, 2018; Ameyaw & Dzaka, 2016).

**Tax Incentives**-Tax incentives are a government-issued strategy to facilitate and encourage taxpayer compliance (Naitili, Atika, Nurofik, 2022). In Kenya available tax incentives over time include Voluntary Tax Disclosure program, Tax amnesty program, personal relief, Investment Deductions among others

**Taxpayer** - A person or an organization subject to payment of taxes to a government, state, or county government (Kagan & Howard, 2021).



## DEDICATION

I dedicate this work to the Almighty Lord for giving me the health, knowledge and strength to produce this research proposal. Without you it would have been impossible.



## ACKNOWLEDGEMENTS

I thank God for gifting me life, knowledge and wisdom to produce this proposal. I also thank my family for providing me the necessary moral support that I needed to enable me to produce this work. I finally, thank Dr. Mathuva my supervisor for his unwavering guidance and constructive criticism in the production of this proposal.



## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

Many nations are losing approximately \$427 billion in tax every year due to tax evasion, whereby \$ 245 billion has been lost due to corporate tax evasion while 182\$ has been lost due to private tax evasion every year (Global Alliance for Tax Justice, 2020). Europe losses over \$184 billion through tax evasion every year, while North America losses over \$95 billion every year. On the other hand, Africa losses at least \$27 billion every year while Latin America has losses \$43 billion in tax evasion every year (Global Alliance for Tax Justice, 2020). Tax evasion threatens lowering down government revenues which would have an adverse ripple effect on a country's economy ranging from unemployment, inflation and inadequate provision of essentially public services (Whalen, 2020). This is even worse considering the negative effects of the recent COVID-19 pandemic (Whalen, 2020). In Kenya, the Kenya Revenue Authority has been pursuing approximately 132 billion Kenyan shillings lost through tax evasion involving both corporations and individual taxpayers by 2021 (Munda, 2021). This is because besides failing to declare tax returns, employers have been understating salaries earned by employees in order to lower down the tax dues (Munda, 2021).

The magnitude of the tax evasion in Kenya has made KRA to struggle achieving the revenue objectives set by the government through the National Treasury (Munda, 2021). On 29<sup>th</sup> October 2021, President Uhuru Kenyatta directed KRA and other agencies to work together and ensure that no tax revenue is lost through tax evasion (PSCU, 2021). Recently, KRA investigated and prosecuted 171 people and firms who engaged in tax evasion this year and \$13.7 million was recovered from the tax evaders in an out-of-court agreement (Owino, 2022). Presently, under Section 93 of Kenya's Tax Procedures Act it is an offence for someone to understate their tax returns or completely avoid declaring their tax returns when they are obliged to do so (CM Advocates LLP, 2021). Under Section 97 of TPA, a person found guilty of evading his or her tax obligations is fined at least 10 million Kenyan shillings or the double amount of the tax evaded, whichever that is higher (CM Advocates LLP, 2021). Alternatively, the tax evader can be imprisoned for not more than 10 years or can be fined and then imprisoned (CM Advocates LLP, 2021).

Tax evasion as defined by KRA is an intentional act perpetuated by a taxpayer to achieve a tax benefit at a loss of a given revenue authority in an illegal manner (KRA, 2022). The common forms of tax evasion according to KRA includes cooking books of accounts, failing to register as a tax entity, bribing a tax official, failing to withhold taxes, failing to pay taxes, failing to update tax returns, aiding a tax crime and understating returns (KRA, 2022). Confronting tax evasion is vital for curbing illegal financial cash flows and generating sufficient tax revenue and services such as education, health care, road infrastructure and public utilities (Mansor & Gurama, 2016). That is why it has become important to study and know the factors promoting or curbing tax evasion for effective policy formulation that will help curtail tax evasion (Mansor & Gurama, 2016). The earliest scholars to provide a comprehensive review of the determinants of tax evasion were Jackson and Million (1986). The scholars identified 14 determinants that comprised of income level, education, age, tax morale, gender, occupation, ethnics, status, compliant peers, probability of detection, marginal tax rates, fairness, income source, complexity and revenue authority-initiated contact.

Efeeloo and Dick (2018) grouped them into three primary categories, namely, demographic determinants proxied by gender, economic determinants proxied by income level and behavioral determinants proxied by tax morale. With respect to this study, we focused on the behavioral factors, administrative factors, economic factors and demographic factors.

### **1.1.1 Behavioral Factors and Tax Evasion**

There have been various studies (Illahi & Sumarni, 2021; Boone, Khurana & Raman, 2013; Alkhatib et al., 2019; AlAdham, M., Abukhadijeh, M. A., & Qasem, M. F. (2016), 2016; Faizal & Palil, 2015; Fellner, G., Sausgruber, R. & Traxler, C. (2013); Parwati, N. M. S., Adam, M. R., Totanan, C., Yamin, N. Y. & Din, M. (2021); Efeeloo & Dick, 2018; Owusu et al., 2022) that attempted to show how behavioral factors influences tax evasion. Whereby, the key behavioural factors assessed included religiosity, peer influence, tax fairness, personal ethics, tax morale and personality traits. Illahi and Sumarni (2021) observed that religiosity did not affect tax evasion though Boone *et al.* (2013) observed that religiosity curbs tax evasion. Torgler (2006) together with Trivedi and Chung (2003) posited that religiosity germinates a positive internal motivation among taxpayers to voluntarily pay and report their tax dues.

Taxpayers who are highly religious may not avoid being tax compliant since it will go against their religious moral belief (Heiner, 1983). Alkhatib et al. (2019) and AlAdham et al. (2016) noted that tax fairness curbs tax evasion. The intention to fulfil tax obligations is high when the taxation system is perceived to be fair (Abdul-Jabbar, Abuamria, Alkhatib & Marimuthu, 2020). Considering that a tax system is perceived to be fair only if the public benefits financed by the tax revenue truly matches with the tax imposed to the taxpayers (Abdul-Jabbar et al., 2020). Alkhatib et al. (2019) also observed that peer influence momentarily curbs down the tax evasion. A taxpayer will be willing to pay and file his or her tax dues if they perceive that their co-workers, family members or friends are also paying and filing their tax dues (Beck & Ajzen, 1991; Puspitasari & Meiranto, 2014). On the hand, when the taxpayers notice that their friends and family relations are not complying with their tax obligations then they will highly likely be less tax compliant (Kirchler, Hoelzl & Wahl, 2008; Traxler, 2010).

Based on the studies (Illahi & Sumarni, 2021; Boone, Khurana & Raman, 2013; Alkhatib *et al.*, 2019; AlAdham *et al.*, 2016; Faizal & Palil, 2015; Fellner *et al.*, 2013; Parwati *et al.*, 2021; Efeeloo & Dick, 2018; Owusu *et al.*, 2022) that were reviewed, there was contradictory findings on how all the behavioral factors (namely; religiosity, peer influence, personal ethics, tax morale and personality traits) identified by the aforementioned literature influences tax evasion of individual taxpayers in the context of Nairobi Metropolitan area, Kenya. Most of the reviewed studies were conducted in different countries which implies that specific studies in Kenya are missing. Moreover, some of the studies were general in nature and did not relate to the factors as in the present study. Therefore, this provided incentive for the study to bridge the existing knowledge void by establishing the influence of behavioral factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **1.1.2 Administrative Factors and Tax Evasion**

There have been studies (Ameyaw & Dzaka, 2016; Gemmell & Marisa, 2012; Amponsah et al., 2019; Irawan & Utama, 2021; Ariel, 2012; Alm, J., Martinez-Vazquez, & McClellan (2016).; Engida & Baisa, 2014; Islam et al., 2020; Yamen *et al.*, 2018) that have attempted to show how administrative factors influences tax evasion. Whereby the administrative factors pointed out included tax penalties, tax audits, Tax incentives, government spending and quality of governance. Ameyaw and Dzaka (2016) noted that administrative factors involving tax penalties and tax audits

discourages taxpayers from evading their tax obligations. Even though administrative measures involving tax audits and penalties are supposed to curb tax evasion (Allingham & Sandmo, 1972; Spicer & Lundstedt, 1976). It should be noted that unfairly high tax penalties will discourage taxpayers from voluntarily being tax compliant even if regular tax audits are conducted (Thomas, 2015).

At the moment, based on the studies (Ameyaw & Dzaka, 2016; Gemmell & Marisa, 2012; Amponsah *et al.*, 2019; Irawan & Utama, 2021; Ariel, 2012; Alm *et al.*, 2016; Engida & Baisa, 2014; Islam *et al.*, 2020; Yamen *et al.*, 2018) that were reviewed. The studies show contradictory findings of how all the administrative factors (namely; tax penalties, tax audits, tax incentives, government spending and quality of governance) identified by the aforementioned literature influenced tax evasion among individual taxpayers in the context of Nairobi Metropolitan area, Kenya. The studies that were reviewed in the study did not directly identify the role of administrative factors on tax evasion since they were general. Therefore, this provided an incentive for the study to bridge the existing knowledge void by establishing the influence of administrative factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **1.1.3 Economic Factors and Tax Evasion**

There have been studies (Ruth, 2019; Mohamed, 2015; Mughal & Akram, 2012; Jayeole, 2010; Fasina & Olowokere, 2013; Adebisi, & Gbegi (2013); Mansor & Gurama, 2016; Peter & Efiatoh, 2013; Efeeloo & Dick, 2018; Ameyaw & Dzaka, 2016; Majiwa, 2016) that have attempted to establish the influence of economic factors on tax evasion. Whereby, the economic factors focused on were tax rates, level of income and compliance cost. Mohamed (2015), Mughal and Akram (2012) together with Jayeole (2010) observed that tax rate encourages tax evasion. When the amount a taxpayer is going to pay is always increased yet the taxpayer is passing through economic hardships, then he or she won't see the reason to continue paying more taxes, leading them to underreport their tax returns or completely evade their tax obligations (Mansor & Gurama, 2016).

Ruth (2019) observed that low-income taxpayers are highly likely to be less tax compliant. While Birskyte (2013) noted that high income individuals usually show off their wealth by complying to filing their tax returns since in most cases they won't feel the pain of the tax sacrifice while the low income earners will conceal their actual income in order to avoid tax sacrifice that eats up their wages. Though Efeeloo and Dick (2018) together with Lutfi (2009) noted that the high,

moderate or low wages of a taxpayer does not really influence their decision to comply or evade their tax obligations (Ali, 2018). On the other hand, Majiwa (2016) observed that excessive costs involving registration and filing of tax returns could discourage or hinder people from being tax compliant.

Presently, based on the studies (Ruth, 2019; Mohamed, 2015; Mughal & Akram, 2012; Jayeole, 2010; Fasina & Olowokere, 2013; Nhano, Hove, Mhazo, Mudzura, Runyowa, Onias & Muropa, (2013); Adebisi *et al.*, 2013; Mansor & Gurama, 2016; Peter & Efiatoh, 2013; Efeeloo & Dick, 2018; Ameyaw & Dzaka, 2016; Majiwa, 2016) reviewed. The reviewed studies show mixed results even though they have attempted to show the influence of economic factors (tax rate, level of income and compliance cost) on tax evasion among individual taxpayers in the context of Nairobi Metropolitan area, Kenya. This is considering the study done by Ruth (2019) was only limited to SMEs in Nairobi County and not the individual taxpayers while Majiwa (2016) only focused on two constructs of economic factors (tax rate and compliance cost) without considering the level of income. Thus this opened a gap to be bridged in the context of the individual taxpayers in Nairobi Metropolitan area.

This motivated the study to seek to establish the influence of economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya. Whereby, the constructs of economic factors that were focused on included the tax rate, level of income and compliance cost.

#### **1.1.4 Demographic Factors and Tax Evasion**

Illahi and Sumarni (2021) in their study observed that gender moderated the significant negative association between religiosity and tax evasion. Women have been proved to be more tax compliant than men since women uphold high ethical standards and they always shy away from acts that could harm other people (Salwa, Sheikh, Shah, Bali & Hashim, 2018; D'Attoma, Volintiru & Malezieux, 2020). With respect to age as a demographic factor, Rashid (2020) observed that tax audits and enforcement initiatives would discourage older taxpayers from engaging in tax evasion, while the complexity of a tax system would make older taxpayers engage in tax evasion. Conversely, greater tax fairness, sufficient tax knowledge and increased enforcement initiatives would encourage both the old and the young to be tax compliant and avoid tax evasion acts while complexity in tax systems and discrimination would lead them to evade their tax obligations. When a tax system is too complex to be understood, taxpayers, irrespective

of their age, would be devoid of knowledge to properly compute and report their tax obligations (Oberholzer & Stack, 2014).

Discrimination based on ethnicity, race or religion will make taxpayers irrespective of their age, to justify tax evasion as ethical (McGee & Tusan, 2008). Besides that, Rashid (2020) noted that unmarried, jobholders, individual and undergraduate taxpayers would engage in tax evasion when the tax system is corrupt and complex. Besides that, individual, married and post-graduate taxpayers opined that fairness in tax-system, tax knowledge, tax audits and enforcement initiatives would discourage them from engaging in tax evasion. On the other hand, Ruth (2019) observed that that younger tax payers are highly risk takers and careless about tax evasion penalties, moreover, women are highly tax compliant than men.

At the moment based on the studies (Illahi & Sumarni, 2021; Rashid, 2020; Ruth, 2019; Cyan, Koumpias & Martinez-Vazquez, (2016).; Ameyaw & Dzaka, 2016; Oduro, Asiedu & Tackie, (2017) reviewed. There was limited research that attempted to show the moderating effect of age and level of education on the relationship between the factors and tax evasion in the context of Nairobi Metropolitan area, Kenya. This is because Ruth (2019) who had directed a similar study among the SMEs in Nairobi County, treated the demographic aspects as an independent variable. Conversely, studies such as Illahi and Sumarni (2021) together with Rashid (2020) operationalized the demographic aspects as dummy variables and interacted them with the determinants of tax evasion to show the moderation effect, though the studies had been conducted outside Kenya. This left a knowledge gap in the context of Nairobi Metropolitan area, Kenya.

Therefore, this study was motivated to establish the moderating effect of age and level of education on the relationship between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **1.1.5 Tax Evasion in Kenya**

Tax evasion has turned out to be a huge problem to KRA in Kenya, for example in 2018, KRA prosecuted a business person for engaging in creative accounting practices that enable the individual to evade paying a tax of Kshs. 7 billion (John, Kamau & Nzioki, 2018). Lately, KRA indicted approximately 171 people and firms who engaged in tax evasion this year and \$13.7 million was recovered from the tax evaders in an out-of-court agreement (Owino, 2022). Tax evasion in Kenya has crippled KRA's efforts to achieve the revenue objectives set by the National

Treasury (Munda, 2021). The Kenyan government through KRA demands for a number of taxes to be paid by the citizens, the include the Pay As You Earn tax, the value added tax, withholding tax, rental income, capital gains tax, turnover tax, advance tax and instalment tax (John et al., 2018). Since, Pay as You Earn tax is usually automatically deducted from the individual taxpayer's employment income, it is hard to evade this type of tax (KRA, 2022). Though the employed individual taxpayers receiving income from other sources especially in businesses operating in the informal sector are highly likely to evade payment of taxes such as the turnover tax, capital gains tax, withholding tax etc. (Omondi & Theuri, 2019). This is owing to the fact that most of the business activities in the informal sector are not easily monitored by KRA (Omondi & Theuri, 2019).

For instance, the turnover tax revenue collection has always been below 50% of the target since 2009 (Mathenge, 2021). Even though KRA managed to collect tax revenue that was over Kshs. 2 trillion Kenyan shillings that surpassed its target of Kshs. 1.882 for the financial year 2021/2022 despite the difficult economic environment that was occasioned by COVID-19, more can still be done (KRA, 2022). This is because there are 2.7 million small businesses that have not been registered for tax purposes from where the individual taxpayers obtain their extra income (Omondi & Theuri, 2019). This means that there is still a huge percentage of tax revenue that has been hidden away by the individual taxpayers in Kenya that needs to be collected. Thus, there is a need for KRA to review its policies in order to boost compliance and curb evasion among the taxpayers in order to meet its revenues (Omondi & Theuri, 2019). This calls for the need to establish the determinants of tax evasion among the individual taxpayers with other sources of incomes in Nairobi Metropolitan area, Kenya in order to formulate tax compliance policies to curb tax evasion based on the determinants identified.

## **1.2 Statement of the Problem**

More than 132 billion Kenyan shillings has been lost through tax evasion as at 2021 (Munda, 2021). This is because besides failing to declare tax returns, employers have been understating salaries earned by employees in order to lower down the tax dues (Munda, 2021). The magnitude of the tax evasion in Kenya has made KRA to struggle achieving the revenue objectives set by the government through the National Treasury (Munda, 2021). Even though KRA managed to collect tax revenue that was over Kshs. 2 trillion Kenyan shillings that surpassed its target of Kshs. 1.882

for the financial year 2021/2022 despite the difficult economic environment that was occasioned by COVID-19, more can still be done (KRA, 2022). This is because there are 2.7 million small businesses that have not been registered for tax purposes from where the individual taxpayers obtain their extra income (Omondi & Theuri, 2019). This means that there is still a huge percentage of tax revenue that has been hidden away by the individual taxpayers in Kenya that needs to be collected. This points for the need for KRA to review its policies in order to boost compliance and curb evasion among the taxpayers in order to meet its revenues (Omondi & Theuri, 2019).

Previous studies have indicated that behavioral, administrative and economic factors could influence tax evasion. Thus there was a need to establish the determinants of tax evasion among the individual taxpayers with other sources of incomes in Nairobi Metropolitan area, Kenya in order to formulate tax compliance policies to curb tax evasion based on the determinants identified. This is because based on the studies (Illahi & Sumarni, 2021; Boone, Khurana & Raman, 2013; Alkhatib *et al.*, 2019; AlAdham *et al.*, 2016; Parwati *et al.*, 2021; Efeeloo & Dick, 2018; Owusu *et al.*, 2022; Yamen *et al.*, 2018; Ruth, 2019; Majiwa, 2016) reviewed, there is evidence that research that has attempted to establish how the behavioral, administrative and economic factors as a determinant of tax evasion influenced tax evasion among individual taxpayers in the context of Nairobi Metropolitan area, Kenya is missing. The existing studies have mainly been conducted in foreign countries which have different tax policies. Moreover, most of the studies have studied factors affecting tax evasion in limited geographical contexts which exposes gaps.

Besides that, with reference to demographic aspects, it was not clear how age and level of education moderates the relationship between the determinants (administrative, behavioral and economic factors) and tax evasion. Since Rashid (2020) observed that administrative enforcement initiatives would discourage older taxpayers to engage in tax yet if the administrative tax system is complex it would lead to older taxpayers to evade taxes. Thus, this opened a gap on how really the level of education moderates the relationship between the determinants and tax evasion in the context of Nairobi Metropolitan Area, Kenya. Moreover, limited research attention was paid on how the level of education moderates the relationship between the determinants of tax evasion and tax evasion. Since Most studies (Illahi & Sumarni, 2021; Rashid, 2020; Cyan *et al.*, 2016; Ameyaw & Dzaka, 2016; Oduro *et al.*, 2017) were focused on other regions and not Kenya. This is considering that Ruth (2019) who had conducted her study in Kenya only focused on age assessed

as an independent variable instead of being measured as a moderating variable. Thus, this study was motivated to establish the moderating effect of age and level of education relationship between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **1.3 Research Objectives**

#### **1.3.1 General Objective**

In a broad-spectrum this study was purposed to establish the determinants of tax evasion and moderating role of age and education level among individual taxpayers in Nairobi Metropolitan area, Kenya.

#### **1.3.2 Specific Objectives**

The study precisely sought to;

1. To establish the influence of behavioral factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.
2. To establish the influence of administrative factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.
3. To establish the influence of economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.
4. To establish the moderating effect of age and level of education on the relationship between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **1.4 Research Questions**

Based on the aforementioned specific objectives, the study purposed to answer the following questions;

1. Do behavioral factors influence tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya?
2. Do administrative factors influence tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya?
3. Do economic factors influence tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya?

4. Does age and level of education moderate the relationship between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya?

### **1.5 Scope of the Study**

The study was limited to establish the determinants of tax evasion and moderating role of age and education level among individual taxpayers in Nairobi, Kenya. Whereby, the scope of the determinants of tax evasion was behavioral, administrative and economic factors. The scope of individual taxpayers was limited to those with other sources of income apart from the employment income. The scope of counties operating in Nairobi Metropolitan Area accounting for 60% of Kenya's Gross Domestic Product will comprise of Nairobi County, Kajiado County, Kiambu County, Murang'a County and Machakos County. The scope of the research instrument to be used for the data collection process was limited to structured questionnaires while the scope of the total sample size to be studied was limited to 768 individual taxpayers determined by the Krejcie and Morgan (1970) sample size calculator. Whereby, the scope of the sample size to be studied in Nairobi County was 324 individual taxpayers, 105 individual taxpayers for Machakos County, 83 individual taxpayers for Kajiado County, 178 for Kiambu County, and 78 for Murang'a County. Finally, the scope of data analysis tools was limited to descriptive and regression models. The study was conducted between 10<sup>th</sup> January 2023 and 25<sup>th</sup> February 2023.

### **1.6 Significance of the Study**

The findings of this study will be beneficial to KRA and the policy formulators since it will help them in identifying the factors that can help curb tax evasion be it administrative, economic or behavioral which can be considered when conceiving laws and policies. For instance, if the findings observe that administrative factors such as high tax rates, penalties and audits besides high level of tax fairness as a behavioral factor that boosts tax evasion among individual taxpayers in Kenya, policies can be conceived to make the tax rate system more fair and penalties can be reviewed in order to be more just and equitable. Moreover, it will help in identifying the group that is seriously engaging in tax evasion in Kenya with respect to the taxpayer's age (whether young or old) and level of education (whether less educated or highly educated). Such information can help KRA and the policies formulators to clearly model realistic guidelines that will help limit the identified groups from engaging in tax evasion.

The findings will also help the individual taxpayers by motivating them to seek more tax knowledge through proper education in order to avoid cases of tax evasion due to ignorance. It will also help the individual taxpayers to establish the economic factors such as high tax rates, punitive enforcement initiatives and behavioral factors that discourages them to be tax compliant. Through the identification of these factors, they can petition the legal systems to address them by ensuring that the punitive measures are streamlined and tax rates are equitable in order to encourage tax compliance. Finally, the findings of this study will help future researchers interested in the line of tax research by identifying the knowledge gaps to bridged in order to provide sufficient justification for their research goals. It will also help them with the much needed literature to build up their research reports.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter discussed the theories and past studies that attempted to establish the determinants of tax evasion and the moderating effect of age and level of education.

### **2.2 Theoretical Review**

This section discussed the four theories linked to the objectives of this study, namely, the economic deterrence theory, the theory of planned behavior, the classical growth theory and the social identity theory.

#### **2.2.1 Economic Deterrence Theory**

The earliest pioneer of the economic deterrence theory was Gary Becker who conceived the model in 1968 (Becker, 1968). The theory advocates for the notion that potential criminals are economically rational through comparing the benefit between conducting a wrongful act with the costs that comes forthwith such as punishment, social stigma etc. (Garoupa, 2018). In essence the theory postulates that a person can be willing to commit a wrongful act that is beneficial when there is lack of punishment/sanctions or the existing forms of punishments/sanctions are not severe and the vice versa (Otindo, 2019). The theory narrows down to the usage of coercion and threats as the most suitable incentives for people to be tax compliant (Feld & Frey, 2006). Allingham and Sandmo (1972) were among the earliest researchers that attempted to examine how deterrence initiatives can curb or escalate the level of tax evasion crime. The study noted that when the government implements stringent penalties and tough audit measures, then the people would be forced to be tax compliant and discourage tax evasion actions.

Therefore, the basic foundation of the theory is that rational taxpayers will participate in acts that yields optimum benefits at the lowest cost (Otindo, 2019). This means that when the costs of non-complying such as penalties, audits and sanctions outweighs the benefits of being compliant, then the tax evasion act won't be executed (Mengere, 2014). The theory has been harshly criticized for presuming that taxpayers are completely rational maximizers (Dlamini, 2017). Since Andreoni, Erard and Feinstein (1998) together with Erard and Feinstein (1994) observed that a significant number of people are honest taxpayers who have never evaded taxes even though it could have

been beneficial for them. Likewise, Wenzel (2004) argued that the theory is limited to taxpayers devoid of tax morals and is ineffective to taxpayers possessing high tax morals. Besides that, the complete reliance on deterrence through punishment can be counterproductive (Leonardo, 2011). This is because unfairly high tax penalties will discourage taxpayers from voluntarily being tax compliant even if regular tax audits are conducted (Thomas, 2015).

Ameyaw and Dzaka (2016) confirmed the assertions of Thomas (2015) based on a study conducted in Ghana, whereby they established that an increase of administrative factors comprising of tax penalties and audits escalated the level of tax evasion. Additionally, other studies conducted by Snow and Warren (2005) together with Gemmell and Marisa (2012) have observed that frequent, stringent and unfair tax auditing practices discourages taxpayers from being tax compliant. Though, in general most studies (Amponsah, Issahaq & Agyapong, 2019; Alm, 2019; Devos, 2008; Wahl, Kastlunger & Kirchler, 2010; Hoxhaj & Kamolli, 2022; Lewis, Cullis & Jones, 2009; Kirchler, Hoelzl & Wahl, 2008) seems to confirm that tax penalties, audits and sanctions as administrative factors reduces tax evasion among taxpayers.

This theory was linked to the second specific objective of the study that sought to establish the influence of administrative factors on tax evasion among the self-employed taxpayers in Nairobi Metropolitan area, Kenya. This study assessed if indeed tax penalties and tax audits as part of the administrative factors (independent variable) really curbs tax evasion (dependent variable) among the individual taxpayers in Nairobi Metropolitan area, Kenya as alluded by the economic deterrence theory.

### **2.2.2 Theory of Planned Behavior**

The theory of planned behavior was originally pioneered by Ajzen (1985) as an extension of an earlier conceived model by Fishbein and Ajzen (1975) known as the theory of reasoned action. According to the Theory of Reasoned Action, people are more likely to do a behavior if they evaluate the suggested behavior as having positive results (attitude) and if they think their significant others want them to perform the behavior (subjective norm) (Fredrick & Peter, 2019). A high correlation of attitudes and subjective norms to behavior has been confirmed in many studies (Fredrick & Peter, 2019). However, the same authors have raised a counter argument against the high relationship between attitude, subjective norms and behavior. They argued that

because of circumstantial limitations, attitude and subjective norms do not always lead to behavior. To improve on the predictive power of the Theory of Reasoned Action Ajzen added a new component "perceived behavioral control" to help account for behaviors that arise where an individual's control over the behavior is incomplete (Fredrick & Peter, 2019). By this, he extended the Theory of Reasoned Action to include the role of non-volition in predicting behavior. The extended version is called the theory of planned behavior (Fredrick & Peter, 2019).

The theory of planned behavior was linked to the first specific objective of the study that sought to influence of behavioral factors comprising of religiosity, peer influence, tax fairness, personal ethics, tax morale and personality traits on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **2.3 Empirical Review**

This section presented and discussed studies that sought to establish the influence of behavioral, administrative and economic factors on tax evasion together with the moderating effect of age and level of education.

#### **2.3.1 Behavioral Factors and Tax Evasion**

Illahi and Sumarni (2021) steered a study to establish the impact of religiosity as a behavioral factor on tax evasion behavior among IAIN Bukittinggi students who were soon going to become taxpayers. Religiosity and tax evasion were measured an aggregate of 21 questions quantified by a Likert scale with 5 ordered categories. 841 students were targeted though the research inquiry managed to study 754 respondents. The moderated regression model was used for analysis since gender was used to ascertain how it moderated the relationship between religiosity and tax evasion which will be discussed in the fifth subsection. Interestingly, the study noted that religiosity had no any considerable influence on tax evasion. The findings disagreed with the research outcomes of Boone, Khurana and Raman (2013) which noted that religiosity considerably decreases tax evasion. Illahi and Sumarni (2021) reasoned that the absence of a substantial impact on tax evasion by religiosity was occasioned by lack of public trust in the government. On the other hand, Torgler (2006) together with Trivedi and Chung (2003) posited that religiosity germinates a positive internal motivation among taxpayers to voluntarily pay and report their tax dues. Taxpayers who

are highly religious wont evade being tax compliant since it will go against their religious moral belief (Heiner, 1983).

This is because the more the individuals are conformed to their religious beliefs, the greater their characters, behaviors and ethics are shaped to produce morally upright people who would desist from participating in any wrong doings including tax evasion (Mohdali & Pope, 2014). Besides that, Alkhatib, Abdul-Jabbar, Abuamria and Rahhal (2019) directed a research inquiry to establish how behavioral factors comprising of peer influence and tax fairness influenced tax evasion in the context of Palestinian SMEs. This was unlike Illahi and Sumarni (2021) who focused on religiosity as a behavioral factor. Structured questionnaires with Likert scale of measurements encompassing 5 ordinal points of agreement were used to collect data from 500 SMEs with the SME owners/managers acting as units of observation. The study managed to obtain 184 usable responses from the field. Tax evasion was operationalized by 15 question items derived from Gilligan and Richardson (2005). Similarly tax fairness was also derived from Gilligan and Richardson (2005). Finally, peer influence was measured by 6 question items derived from Braithwaite (2001). Structural equation modelling through the application of Partial Least Square software was employed for analysis.

The research findings noted that tax fairness and peer influence momentarily decreases tax evasion among Palestinian SMEs. The findings concurred with the outcomes of AlAdham, Abukhadijeh and Qasem (2016) in Jordan though the findings disagreed with the outcomes of Faizal and Palil (2015) who observed no significant relationship between tax fairness and tax evasion among individual taxpayers in Malaysia. The intention to fulfil tax obligations is high when the taxation system is perceived to be fair (Abdul-Jabbar, Abuamria, Alkhatib & Marimuthu, 2020). Considering that a tax system is perceived to be fair only if the public benefits financed by the tax revenue truly matches with the tax imposed to the taxpayers (Abdul-Jabbar et al., 2020). Alkhatib et al. (2019) also observed that peer influence momentarily curbs down the tax evasion of the Palestinian SMEs. A taxpayer will be willing to pay and file his or her tax dues if they perceive that their co-workers, family members or friends are also paying and filing their tax dues (Beck & Ajzen, 1991; Puspitasari & Meiranto, 2014). On the hand, when the taxpayers notices that their friends and family relations are not complying with their tax obligations then they will highly likely be less tax compliant (Kirchler, Hoelzl & Wahl, 2008; Traxler, 2010).

Richardson (2006) who assessed personal ethics as a behavioral factor observed that the personal ethics significantly reduces tax evasion among the 45 countries studied. Though Fellner, Sausgruber and Traxler (2013) together with Ariel (2012) noted that ethics does not considerably reduce tax evasion. Personal ethics characterized by guilt feeling and shame as a result of tax evasion that is considered to be bad in the moral code will force taxpayers to be always compliant (Martinez-Vazquez & Torgler, 2009; Torgler, 2009; Alzeer, Alkhatib & Alshrouf, 2019). Interestingly, Slehat (2009) observed that ethics had a strong positive relationship with tax evasion. This means that ethics does not necessarily curb tax evasion (Bobek & Hatfield, 2003; McGee & Preobragenskaya, 2005). Aside from that, Parwati, Adam, Totanan, Yamin and Din (2021) sought to establish the influence of tax morale a behavioral factor on tax evasion among the Balinese taxpayers located in Palu City, Indonesia. The study employed an experimental design to study 56 taxpayers. Two-way ANOVA model was used for analysis. The findings observed that taxpayers exhibiting high tax morale would hardly participate in tax evasion compared with taxpayers with low tax morale.

Interestingly, Efeeloo and Dick (2018) confirmed that tax morale increases tax evasion in the Nigerian informal sector though in an insignificant fashion. This stems from the fact the Nigerian informal sector is based on a cash basis, a perfect recipe for businesses to hide their profits and evade taxes, besides poor record keeping noticed in most Nigerian businesses. Besides that, Owusu, Bart-Plange, Koomson and Arthur (2022) sought to establish how personality traits together with tax morale as behavioral factors affects the taxpayers' intention to evade from being tax compliant. Questionnaires were used to obtain responses from the targeted students for analysis. Partial least square structural equation modelling was used by the study for analysis. The study proved that personality traits (openness to experience, agreeableness and conscientiousness) and tax morale significantly curbs tax evasion intention.

Review of available literature established contradicting outcomes (Illahi & Sumarni, 2021; Boone et al., 2013; Alkhatib et al., 2019; AlAdham et al., 2016; Faizal & Palil, 2015; Fellner et al., 2013; Parwati et al., 2021; Efeeloo & Dick, 2018; Owusu et al., 2022) that sought to establish how behavioral factors influences tax evasion. Starting with the study conducted by Illahi and Sumarni (2021), the study only focused on one aspect of behavioral factor, religiosity. Interestingly, the

study observed that it had no significant influence of tax evasion. The study did not consider other behavioral factors including peer influence, personal ethics, tax morale and personality traits. Thus, this is the gap, the study seeks to bridge by seeking to establish how all the aforementioned factors influences tax evasion among the individual taxpayers in Nairobi Metropolitan area, Kenya. Alkhatib et al. (2019) also only focused on one behavioral factor which is peer influence, the other aspect which was tax fairness was actually an administrative factor and not a behavioral factor. On the same note, Ariel (2012) and Richardson (2006) only focused on personal ethics as the only behavioral factor while Parwati et al. (2021) only focused on tax morale as the only behavioral factor. Thus, all the reviewed aspects of behavioral factors had not been holistically studied that left a knowledge void to be bridged.

This study bridged the gap by establishing how all the behavioral factors (namely; religiosity, peer influence, personal ethics, tax morale and personality traits) identified by the aforementioned literature influenced tax evasion of individual taxpayers in the context of Nairobi Metropolitan area, Kenya.

Based on the studies (Illahi & Sumarni, 2021; Boone, Khurana & Raman, 2013; Alkhatib et al., 2019; AlAdham et al., 2016; Faizal & Palil, 2015; Fellner et al., 2013; Parwati et al., 2021; Efeeloo & Dick, 2018; Owusu et al., 2022) that were reviewed. There was limited research that have attempted to establish how all the behavioral factors (namely; religiosity, peer influence, tax fairness, personal ethics, tax morale and personality traits) identified by the aforementioned literature influences tax evasion of individual taxpayers in the context of Nairobi Metropolitan area, Kenya. Therefore, this provided an incentive for to study to bridge the existing knowledge void by establishing the influence of behavioral factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **2.3.2 Administrative Factors and Tax Evasion**

Ameyaw and Dzaka (2016) was motivated to establish the influence of administrative factors on tax evasion among individual tax payers in Ghana. The administrative factors though not clearly articulated by the study were the tax penalties and tax audits. The study purposively sampled self-employed business owners and salaried employees working in both the public and private

organizations. The study randomly chose 50 taxpayers from each regional capital in Ghana summing up to 10 capitals. This means that a total of 500 respondents were selected for the study. A survey methodology that involved printing and taking questionnaires to the targeted respondents to be fill was used. The type of measurement scale used to code statements into values for statistical analysis was the Likert scale with 5 orders of agreement. Factor analysis was used by the research inquiry to retrieve the variables to be used in regression analysis with administrative factors (independent variable) being one of them. The regression outcomes observed that administrative factors considerably escalates tax evasion among the individual taxpayers in Ghana. Even though administrative measures involving tax audits and penalties are supposed to curb tax evasion (Allingham & Sandmo, 1972; Spicer & Lundstedt, 1976). It should be noted that unfairly high tax penalties will discourage taxpayers from voluntary being tax compliant even if regular tax audits are conducted (Thomas, 2015).

The research findings of Ameyaw and Dzaka (2016) coincided with the observations made by Snow and Warren (2005) together with Gemmell and Marisa (2012) who actually confirmed that tax administrative policies involving auditing taxpayers enhances tax evasion. Ameyaw and Dzaka (2016) concluded that tax penalties should be fair in order to motivate taxpayers to be compliant. The tax administration should design considerably low and fair penalties for poor taxpayers and on the other hand design high penalties for wealthy taxpayers instead of committing to a standardized penalty system that could be detrimental to the low income or poor taxpayers. On the other hand, Amponsah, Issahaq and Agyapong (2019) conducted an almost similar study in Ghana just like Ameyaw and Dzaka (2016) though the difference was that Amponsah et al. (2019) focused on how administrative factors comprising of sanctions, tax audits and perceived fairness of tax stamp legislation influenced tax stamp evasion in the contexts of Hemang Lower Denkyira and Twifu Atti-Morkwa districts. Cross-sectional research design involving obtaining data through structured interviews from a target sample of 384 micro-taxpayers that been sampled through the application of multi-stage sampling design was used. Tax evasion was assessed in a terms of a binary form, whereby; 0 = no evasion if the number of tax stamps bought was more than the statutory amount and 1 = evasion of tax if the number of tax stamps bought was less than the statutory amount.

Since, Amponsah et al. (2019) quantified tax evasion in a binary form, it employed multinomial logistic regression model for analysis that would suitably establish how the identified administrative factors influenced tax evasion. Tax audit, an administrative factor was assessed in terms of the level of frequency the taxpayer has been audited. This was unlike Ameyaw and Dzaka (2016) who had used a Likert scale of measurement. Sanctions, as an administrative factor was assessed in a binary form, whereby; 1 = the taxpayer's shop has been forcibly closed before and 0 = the taxpayer's shop not being closed. This is considering that the targeted taxpayers were small business owners managing tailoring, butchery, masonry, welding and carpentry businesses among others. Perceived fairness of tax stamp legislation in terms of penalties for being non-compliant, deadline for payment and the amount of the tax to be paid was measured in terms of the level of agreement based on 5-point Likert scale. The findings concurred with Devos (2008) and Lewis, Carrera, Cullis and Jones (2009) who observed that administrative initiatives involving legal sanctions and audits considerably curbs tax evasion in the contexts of Australia, Italy and UK.

The findings of Amponsah et al. (2019) contrasted with the observations made by Snow and Warren (2005), Gemmell and Marisa (2012) together with Ameyaw and Dzaka (2016) who had observed that administrative factors involving penalties and tax audits only motivates taxpayers to evade being tax compliant. Doran (2009) argued that legal sanctions constituting of fines/penalties and imprisonment can effectively motivate taxpayers to avoid tax evasion when those sanctions turns out to be adversely costly than when one decides to be tax compliant. Though, Thomas (2015) contended that unfairly high tax penalties will discourage taxpayers from voluntary being tax compliant and possibly hide their income sources that attracts tax payment. Tax audit administrative initiatives decreases tax evasion by enforcing people to comply paying and filing their tax dues more than encouraging them to voluntary comply (Kirchler, Hoelzl & Wahl, 2008; Wahl, Kastlunger & Kirchler, 2010). Tax audits can only make people to voluntarily comply paying their tax dues only when they feel that the audit initiative is fair and can be trusted in terms of it decreasing tax evasion enabling more (Kirchler et a., 2008).

Irawan and Utama (2021) were motivated to establish how administrative factors comprising of tax audits influenced tax evasion. The study empirically investigated countries prescribed in two international reports, namely the Tax Administration Comparative Report and the World Competitiveness Yearbook. Unlike Ameyaw and Dzaka (2016) together with Amponsah et al.

(2019) the study relied on secondary data for statistical analysis. The observations covered the periods between 2002 and 2015. The data concerning tax audit was obtained from the Tax Administration Comparative Report. The tax audit was operationalized as the total number of tax audits done in a year and the number of tax audits that had been done in a year divided by the taxpayer population.. Tax evasion was operationalized as follows; a code of 0 denoted the presence of tax evasion while 10 denoted absence of tax evasion.

A panel data regression model with a fixed effect was used for analysis. Interestingly, the study observed that tax audit had no considerable impact on tax evasion. The findings matched with the research outcomes of Kleven, Knudsen, Kreiner, Pedersen and Saez (2011) together with Ariel (2012) who made similar observations in Denmark and Israel respectively. Irawan and Utama (2021) argued that the reason as to why tax audits may not momentarily affect tax evasion is because only a small fraction of taxpayers are audited (less than 10%). Since the tax administration does not possess enough resources to audit all taxpayers. Therefore, a huge population of taxpayers are not impacted by the experience of being audited which could consequently make them to promptly be tax compliant or evade taxes.

Engida and Baisa (2014) steered a study to establish how administration factors comprising of government spending, equity and fairness in the tax administration, penalty and the role of tax authority influences tax compliance in the context of Mekelle city, Ethiopia. Unlike other studies (Alm et al., 2016; Irawan & Utama, 2021; Ariel, 2012; Amponsah et al., 2019; Ameyaw & Dzaka, 2016), the dependent variable of interest was tax compliance and not tax evasion. The variables were assessed on a 5-point Ordinal Likert scale of degree of agreement in a structured questionnaire. Three major towns in Mekelle were targeted for the study, namely, Adi-haki, Semen and Hawiliti. The study targeted and distributed questionnaires to 102 Category C taxpayers who were simply the type of taxpayers that are hard to tax since they are not obliged by the law to declare their returns. Tax compliance was assessed in terms of 1 denoting low compliance, 2 denoting moderate compliance and 3 denoting high compliance. Interestingly, the findings observed that perception of equity and fairness, government spending, role of tax authority and penalty did not considerably influence tax compliance.

Islam, Rashid, Hossain and Hashmi (2020) sought to establish how administrative economic (government spending, regulatory efficiency encouraging fiscal/monetary freedom and rules of

law) and non-economic (quality of public sector governance) policies influenced tax evasion in the context of South Asian countries. The secondary data was obtained from the World Bank reports, the World Economic Forum 2015 report, the Heritage Foundation 2015 report and the government websites of the targeted nations. Unlike other studies (Alm et al., 2016; Engida & Baisa, 2014; Irawan & Utama, 2021; Amponsah et al., 2019; Ameyaw & Dzaka, 2016), tax evasion was assessed in terms of the size of the shadow economy as it had been earlier done by Yamen et al. (2018). The study was not clear on how it measured the economic and non-economic indicators of the administrative policies. The study used the Ordinary Least Squares together with the Generalized Least Squares regression models for analysis. The findings observed that the quality of public sector governance as a non-economic indicator of administrative policy decreases the level of tax evasion. The findings were consistent with the research findings of Yamen et al. (2018) together with Torgler and Schneider (2009).

Government administrations working for the interests of the citizens in a fair manner earns trusts from the citizens who then voluntarily becomes tax compliant (Feld & Frey, 2002; Umar et al., 2019). The findings of Islam et al. (2020) observed that administrative economic policies/factors involving regulatory efficiency that encourages fiscal/monetary freedom reduces tax evasion, moreover, increase of government spending also reduces tax evasion. Alasfour (2019) posited that when the government spends the tax revenue in a prudent and fair manner that is highly beneficial to the taxpayers in terms of enjoying the availed public goods, then the taxpayers would be consequently be discouraged from engaging in tax evasion.

Based on the studies (Ameyaw & Dzaka, 2016; Gemmill & Marisa, 2012; Amponsah et al., 2019; Irawan & Utama, 2021; Ariel, 2012; Alm et al., 2016; Engida & Baisa, 2014; Islam et al., 2020; Yamen et al., 2018) that were reviewed. There was limited research that attempted to establish how all the administrative factors (namely; tax penalties, tax audits, tax incentives, government spending and quality of governance) identified by the aforementioned literature influences tax evasion of individual taxpayers in the context of Nairobi Metropolitan area, Kenya. Therefore, this provided an incentive for to study to bridge the existing knowledge void by establishing the influence of administrative factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **2.3.3 Economic Factors and Tax Evasion**

Ruth (2019) sought to establish how economic factors in terms of income level and tax rates influences tax evasion among the SMEs operating in Nairobi County, Kenya. Tax rate was assessed in terms of tax rates being too high, increase of tax rates leading to escalation of underground economy and high tax rates encouraging tax avoidance and evasion to be considered ethical. The variable was measured on an ordinal Likert scale based on 5 degrees of agreement. On the other hand, the level of income was assessed in terms of high income earners being highly compliant, low income earners being lowly compliant and middle income earners being generally compliant to their tax obligations. Similarly the income level variable was quantified on an ordinal Likert scale based on 5 ordered categories of agreement. Tax evasion as the dependent variable of the study was also operationalized on a 5-point Likert scale of agreement, with its main constructs being filing returns, evading taxes due to less probability of getting caught, understanding tax returns and justifying tax evasion as being ethical.

Structured questionnaires were used to collect data from 100 SMEs operating in Nairobi County, Kenya with the managing directors acting as units of observation. The study settled for multiple linear regression model for analysis. The results observed that tax rate and income levels as economic factors substantially increases tax evasion among the SMEs in Nairobi County, Kenya. The findings were consistent with the research outcomes of Mohamed (2015) who observed through a survey conducted on 277 taxpayers in Libya, that the higher the tax rate, the greater the level of tax evasion. The findings also concurred with the research outcomes of Mughal and Akram (2012) together with Jayeole (2010) based on the studies they conducted in Nigeria, that tax rate encourages tax evasion. When the amount a taxpayer is going to pay is always increased yet the tax payer is passing through economic hardships, then he or she won't see the reason to continue paying more taxes, leading them to underreport their tax returns or completely evade their tax obligations (Mansor & Gurama, 2016).

The findings of Ruth (2019) however clashed with research results of Fasina and Olowokere (2013), Nhano et al. (2013) and Adebisi et al. (2013) which noted that tax rate considerably reduces tax evasion. This could be probably due to the fact that an upsurge of tax rates characterized by stringent penalties and audits will make the taxpayers to be afraid of engaging in tax evasion and constantly make efforts to be always tax compliant (Doran, 2009). Conversely, Mansor and

Gurama (2016) together with Peter and Efiatoh (2013) observed that tax rate had no considerable influence on tax evasion. The strong positive relationship between level of income as an economic factor and tax evasion among the SMEs in Nairobi County, as noted by Ruth (2019) was because most of the respondents had strongly agreed (Mean = 4.11) that low-income taxpayers are highly likely to be less tax compliant. The findings of the study were consistent with the observations made by Birskyte (2013) that high income individuals usually show off their wealth by complying to filing their tax returns since in most cases they won't feel the pain of the tax sacrifice while the low income earners will conceal their actual income in order to avoid tax sacrifice that eats up their wages.

Efeeloo and Dick (2018) investigated the influence of the taxpayers' income on tax evasion in the context of the informal sector in Nigeria. The study explored the Ex-post facto design to carry out the research inquiry. 50 SMEs business owners in the informal sector were purposively selected for the study in Rivers State. Structured questionnaires were constructed and used to obtain the responses from the selected respondents. Ordinary Least Square regression model was then used for analysing the primary data obtained from the research participants. The research findings were able to reveal that the level of income of SMEs business owners actually reduces the level of tax evasion in the informal sector, though the effect was not statistically significant. Even though the findings were consistent with the research outcomes of Ameyaw and Dzaka (2016) who conducted a similar study in Ghana, it must be noted that they had establish a significant negative relationship between the level of income and tax evasion. Moreover, the findings of Efeeloo and Dick (2018) agreed with the research outcomes of Lutfi (2009) who observed that income level does not significantly influence tax evasion.

The findings observed by Efeeloo and Dick (2018) together with Lutfi (2009) could mean that the high, moderate or low wages of a taxpayer does not really influence their decision to comply or evade their tax obligations (Ali, 2018). Majiwa (2016) sought to establish how economic factors comprising of tax rates and compliance costs influences the level of tax compliance for both corporate and individual taxpayers in Nairobi, County, Kenya. A survey methodology involving using structures questionnaires to obtain data from 100 respondents sampled through stratified random sampling design was used. Multiple linear regression was used by the researcher for analysis. The study observed that tax rates insignificantly reduces tax compliance for both

corporate and individual taxpayers while compliance costs considerably reduces tax compliance for both corporate and individual taxpayers. The findings were consistent with the research results of Mansor and Gurama (2016) together with Peter and Efiatoh (2013) who had observed that the rate of taxes had no considerable effect on tax evasion.

Besides that, the findings of Majiwa (2016) observed that costs involving registration and filing of tax returns could discourage or hinder people from being tax compliant. At the moment based on the studies (Ruth, 2019; Mohamed, 2015; Mughal & Akram, 2012; Jayeole, 2010; Fasina & Olowokere, 2013; Nhano et al., 2013; Adebisi et al., 2013; Mansor & Gurama, 2016; Peter & Efiatoh, 2013; Efeeloo & Dick, 2018; Ameyaw & Dzaka, 2016; Majiwa, 2016) reviewed. There was limited research that attempted to show influence economic factors (tax rate, level of income and compliance cost) on tax evasion among individual taxpayers in the context of Nairobi Metropolitan area, Kenya. This is considering the study done by Ruth (2019) was only limited to SMEs in Nairobi County and not the self-employed taxpayers while Majiwa (2016) only focused on two constructs of economic factors (tax rate and compliance cost) without considering the level of income. Thus this opened a gap to be bridged in the context of the individual taxpayers in Nairobi County.

The literature review noted that there are some areas of concern noted based on the reviewed studies (Ruth, 2019; Mohamed, 2015; Mansor & Gurama, 2016; Peter & Efiatoh, 2013; Efeeloo & Dick, 2018; Ameyaw & Dzaka, 2016; Majiwa, 2016) that sought to establish how economic factors influences tax evasion. Ruth (2019) who sought to establish how economic factors influences tax evasion among SMEs in Kenya did not measure tax evasion in a right way since some of its constructs comprised of filing returns which is linked to tax compliance and not evasion, understanding tax returns which is linked to tax knowledge and justifying tax evasion as being ethical which is really not a tax evasion action. This left a gap on how tax evasion should be truly measured. Thus, this study sought to bridge this void by assessing tax evasion as non-declaration of taxable income, under-declaration of taxable income and claim of non-business expenses. On the other hand, Efeeloo and Dick (2018) only focused on the taxpayers' level of income when assessing the effect of economic factors on tax evasion. Therefore, leaving out other

economic factors such as tax rates and compliance costs which this study considered when measuring the economic factors

This motivated the study to seek to establish the influence of economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya. Whereby, the constructs of economic factors that were focused on included the tax rate, level of income and compliance cost.

#### **2.3.4 Demographic Factors and Tax Evasion**

Various studies (Illahi & Sumarni, 2021; Rashid, 2020; Ruth, 2019; Cyan et al., 2016; Ameyaw & Dzaka, 2016; Oduro et al., 2017) have attempted to show how various demographic factors influences the relationship between the determinants of tax evasion and tax evasion. The main demographic aspects that the aforementioned studies focused on comprised of age, gender, level of education, marital status and employment status.

Illahi and Sumarni (2021) sought to establish the moderating effect of gender on the relationship between religiosity (as a behavioral factor) and tax evasion behavior. The research was conducted on students under the Islamic Economics and Business Faculty at the IAIN Bukittinggi who would soon be taxpayers. Quantitative analysis through the usage of structured questionnaires to collect numerical data to be analyzed by the moderated regression model was employed. A total of 754 respondents out of the targeted 841 were studied. The findings observed that gender moderated the significant negative association between religiosity and tax evasion. Women have been proved to be more tax compliant than men since women uphold high ethical standards and they always shy away from acts that could harm other people (Salwa, Sheikh, Shah, Bali & Hashim, 2018; D'Attoma, Volintiru & Malezieux, 2020).

Rashid (2020) directed a research inquiry with a motivation of seeking to know the moderating effect of demographic characteristics comprising of age, education, gender, marital status and employment status on tax evasion in the context of Bangladesh. Systematic stratified sampling design was used to sample private jobholders, public employees and self-employed business persons as units of observation totalling to 800 respondents. A 7-point Likert scale questionnaire (with 7 levels of agreement) was used to obtain data on the phenomena of interest from the respondents. The demographic factors were coded as dummy variables for moderation analysis. Age was coded as younger (below 45 years) = 1 and older (more than 45 years) = 2. With respect

to marital status, married was coded as 1 and 2 as unmarried. On the other hand, with respect to employment status; jobholder was coded as 1 and self-employed as 2. Besides that, with reference to education; undergraduate and below was coded as 1 while graduate and above was coded as 2.

Finally, with regard to the level of income, a person earning below USD 500 per month was coded as 1 while a person earning over USD 500 per month was coded as 2. Partial correlation and structural equation modelling through the Amos 22 software was employed for analysis. With reference to gender, fairness perception, tax authority's efficiency and tax audits would make males not to evade complying with their tax obligations. On the other hand, complexity in the tax system would make males to engage in tax evasion. Besides that, tax audits and administrative enforcement initiatives would make females fear engaging in tax evasion. Females are generally very ethical when compared to males, thus, will shy away from tax evasion practices (Alasfour, Samy & Bampton, 2016). With respect to age, the findings observed that tax audits and enforcement initiatives would discourage older tax payers from engaging in tax evasion, while the complexity of a tax system would make older taxpayers engage in tax evasion. Conversely, greater tax fairness, sufficient tax knowledge and increased enforcement initiatives would encourage both the old and the young to be tax compliant and avoid tax evasion acts while complexity in tax systems and discrimination would lead them to evade their tax obligations. When a tax system is too complex to be understood, taxpayers, irrespective of their age, would be devoid of knowledge to properly compute and report their tax obligations (Oberholzer & Stack, 2014). Discrimination based on ethnicity, race or religion will make taxpayers irrespective of their age, to justify tax evasion as ethical (McGee & Tusan, 2008).

Moreover, unmarried, jobholders, self-employed and undergraduate taxpayers opined that complexity in the tax system would make them engage in tax evasion. Besides that, self-employed, married and post-graduate taxpayers opined that fairness in tax-system, tax knowledge, tax audits and enforcement initiatives would discourage them from engaging in tax evasion. Ruth (2019) steered a study in the context of SMEs in Nairobi County, Kenya with one of its objectives being to establish the influence of demographic factors on tax evasion. The study had narrowed its focus to gender and age. The aforementioned demographic attributes were operationalized on a 5-point Likert scale of agreement in the questionnaire. This was unlike Rashid (2020) who had treated them as dummy variables. Tax evasion was also operationalized on a 5-point Likert scale of

agreement, with its main constructs being filing returns, evading taxes due to less probability of getting caught, understanding tax returns and justifying tax evasion as being ethical. Descriptive analysis limited to mean scores together with regression analysis were employed to address the research objective.

The results noted that younger tax payers are highly risk takers and careless about tax evasion penalties, moreover, women are highly tax compliant than men. The regression analysis results observed that demographic factors substantially escalate the level of tax evasion among the SMEs in Nairobi County, Kenya. The findings meant that men are highly likely to engage in tax evasion than women who are always willing to be tax compliant (Helmy, Dwita & Cheisviyanny, 2021). Moreover, the regression findings meant that younger taxpayers careless about tax penalties and are more willing to take risks involving tax evasion than their older counterparts (Braithwaite, Smart & Reinhart, 2006). McGee and Tusan (2008) argued that older taxpayers due to the knowledge and experience they have accumulated over the years would provide reasons against evading tax obligations when compared to the younger taxpayers. On the other hand, Cyan, Koumpias and Martinez-Vazquez, J. (2016) based on the study conducted in Pakistan observed that educated, older and female taxpayers possess greater tax morale and are willing to be more tax compliant when equated to the younger, illiterate and male taxpayers. Interestingly, Ameyaw and Dzaka (2016) who conducted a study in Ghana observed that age and gender had a negative though insignificant influence on tax evasion among the taxpayers. This meant that irrespective of someone's age or gender, one could still engage in tax evasion though the effects won't be substantial.

Besides that, Oduro, Asiedu and Tackie (2017) who also conducted a similar study in Ghana though focusing on three capital cities, three municipal assemblies and three districts observed that age, education and gender had no considerable impact on tax evasion among the individual taxpayers. Presently, it's not clear how age and level of education moderates the relationship between the determinants (administrative, behavioral and economic factors) and tax evasion. Since Rashid (2020) observed that administrative enforcement initiatives would discourage older taxpayers to engage in tax yet if the administrative tax system is complex it would lead to older taxpayers to evade taxes. Thus, this opened a gap on how really the level of education moderates the relationship between the determinants and tax evasion in the context of Nairobi Metropolitan

Area, Kenya. Moreover, limited research attention was paid on how the level of education can moderate the relationship between the determinants of tax evasion and tax evasion. Since Most studies (Illahi & Sumarni, 2021; Rashid, 2020; Cyan et al., 2016; Ameyaw & Dzaka, 2016; Oduro et al., 2017) were focused on other regions and not Kenya.

This is considering that Ruth (2019) who had conducted her study in Kenya only focused on age assessed as an independent variable instead of being measured as a moderating variable. Therefore, this study was motivated to establish the moderating effect of age and level of education on the relationship between the factors and tax evasion among self-employed taxpayers in Nairobi Metropolitan area, Kenya.

#### **2.4 Summary of Literature Review and Research Gaps**

This chapter discussed the theories linked to this study namely, the economic deterrence theory and the theory of planned behavior. It then presented and discussed studies that sought to establish the influence of behavioral, administrative and economic factors on tax evasion together with the moderating effect of age and level of education. Based on the studies (Illahi & Sumarni, 2021; Boone, Khurana & Raman, 2013; Alkhatib et al., 2019; AlAdham et al., 2016; Faizal & Palil, 2015; Fellner et al., 2013; Parwati et al., 2021; Efeeloo & Dick, 2018; Owusu et al., 2022) reviewed. There was limited research that attempted to establish how all the behavioral factors (namely; religiosity, peer influence, tax fairness, personal ethics, tax morale and personality traits) identified by the aforementioned literature influences tax evasion among individual taxpayers in the context of Nairobi Metropolitan area, Kenya. Therefore, this provided incentive for this study to bridge the existing knowledge void by establishing the influence of behavioral factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

Besides that, based on the studies (Ameyaw & Dzaka, 2016; Gemmell & Marisa, 2012; Amponsah et al., 2019; Irawan & Utama, 2021; Ariel, 2012; Alm et al., 2016; Engida & Baisa, 2014; Islam et al., 2020; Yamen et al., 2018) reviewed. There was limited research that attempted to establish how all the administrative factors (namely; tax penalties, tax audits, tax incentives, government spending and quality of governance) identified by the aforementioned literature influences tax evasion among individual taxpayers in the context of Nairobi Metropolitan area, Kenya. Therefore, this provided incentive for this study to bridge the existing knowledge void by establishing the

influence of administrative factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

Furthermore, based on the studies (Ruth, 2019; Mohamed, 2015; Mughal & Akram, 2012; Jayeole, 2010; Fasina & Olowokere, 2013; Nhano et al., 2013; Adebisi et al., 2013; Mansor & Gurama, 2016; Peter & Efiatoh, 2013; Efeeloo & Dick, 2018; Ameyaw & Dzaka, 2016; Majiwa, 2016) reviewed. There was limited research that attempted to show influence economic factors (tax rate, level of income and compliance cost) on tax evasion among individual taxpayers in the context of Nairobi Metropolitan area, Kenya. This is considering that the study done by Ruth (2019) was only limited to SMEs in Nairobi County and not the individual taxpayers while Majiwa (2016) only focused on two constructs of economic factors (tax rate and compliance cost) without considering the level of income. Thus this opened a gap to be bridged in the context of the self-employed taxpayers in Nairobi Metropolitan area.

This motivated the study to establish the influence of economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya. Whereby, the constructs of economic factors that were focused on included the tax rate, level of income and compliance cost.

Finally, it was not clear how age and level of education moderates the relationship between the determinants (administrative, behavioral and economic factors) and tax evasion. Since Rashid (2020) observed that administrative enforcement initiatives would discourage older taxpayers to engage in tax yet if the administrative tax system is complex it would lead to older taxpayers to evade taxes. Thus, this opened a gap on how really the level of education moderates the relationship between the determinants and tax evasion in the context of Nairobi Metropolitan Area, Kenya. Moreover, limited research attention had been paid on how the level of education can moderate the relationship between the determinants of tax evasion and tax evasion. Since Most studies (Illahi & Sumarni, 2021; Rashid, 2020; Cyan et al., 2016; Ameyaw & Dzaka, 2016; Oduro et al., 2017) were focused on other regions and not Kenya.

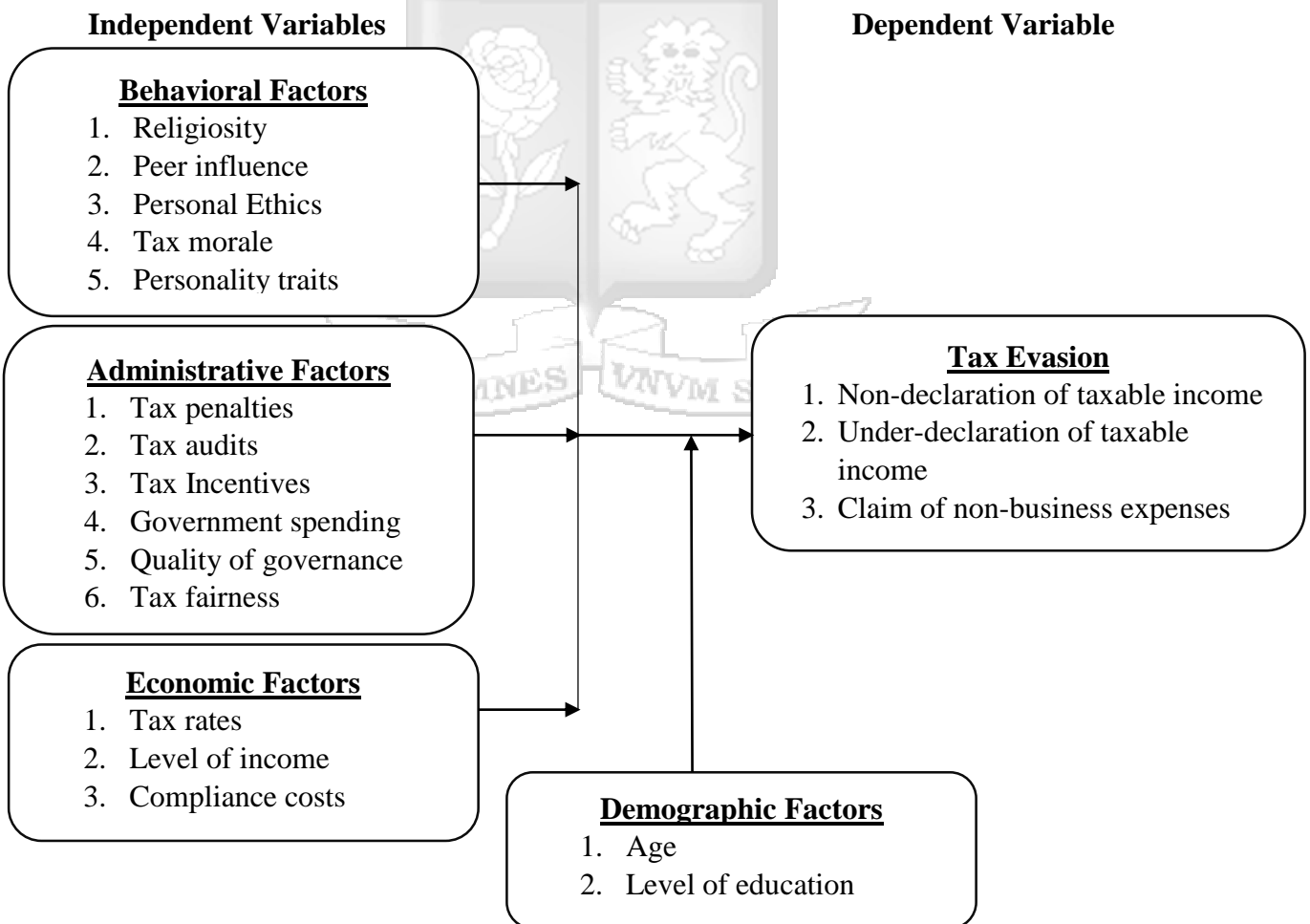
This is considering that Ruth (2019) who had conducted her study in Kenya only focused on age assessed as an independent variable instead of being measured as a moderating variable. Therefore, this study was motivated to establish the moderating effect of age and level of education on the

relationship between the factors and tax evasion among self-employed taxpayers in Nairobi Metropolitan area, Kenya.

## 2.5 The Conceptual Framework

The conceptual framework presented in Figure 2.1 in the next page showed the influence of behavioral factors, administrative factors and economic factors on the level of tax evasion among taxpayers in Nairobi Metropolitan area, Kenya. Whereby, the independent variables were the behavioral factors, administrative factors and economic factors while tax evasion was the dependent variable whose variability was reliant on the aforementioned independent variables. The conceptual framework also showed how demographic factors consisting of age and the level of education moderates the relationship between the aforementioned three factors and tax evasion.

**Figure 2. 1: The Conceptual Framework**



Source: Researcher (2022)

## 2.6 Operationalization of Variables

Table 2.1 presented below shows how the variables were operationalized.

**Table 2. 1: Operationalization of Variables**

Objective	Variable	Constructs	Scale of Measurement	Supporting Literature
To establish the influence of behavioral factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.	Behavioral Factors – Independent Variable	<ol style="list-style-type: none"> <li>1. Religiosity</li> <li>2. Peer influence</li> <li>3. Personal Ethics</li> <li>4. Tax morale</li> <li>5. Personality traits</li> </ol>	An ordinal Likert scale based on 5 degrees of agreement (Strongly Agree – 5; Agree – 4; Moderately Agree – 3; Disagree – 2; Strongly Disagree -1) was used.	Illahi and Sumarni (2021); Alkhatib et al. (2019); Slehat (2009); Parwati et al.(2021); Owusu et al. (2022)
To establish the influence of administrative factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.	Administrative Factors – Independent Variable	<ol style="list-style-type: none"> <li>1. Tax penalties</li> <li>2. Tax audits</li> <li>3. Tax Incentives</li> <li>4. Government spending</li> <li>5. Quality of governance</li> <li>6. Tax fairness</li> </ol>	An ordinal Likert scale based on 5 degrees of agreement (Strongly Agree – 5; Agree – 4; Moderately Agree – 3; Disagree – 2; Strongly Disagree -1) was used.	Ameyaw and Dzaka (2016); Amponsah et al. (2019); Devos (2008); Islam et al. (2020)
To establish the influence of economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.	Economic Factors – Independent Variable	<ol style="list-style-type: none"> <li>1. Tax rates</li> <li>2. Level of income</li> <li>3. Compliance costs</li> </ol>	An ordinal Likert scale based on 5 degrees of agreement (Strongly Agree – 5; Agree – 4; Moderately Agree – 3; Disagree – 2; Strongly Disagree -1) was used.	Ruth (2019); Mohamed (2015); Jayeole (2010); Mansor and Gurama (2016); Efeeloo and Dick (2018)
To establish the moderating effect of age and level of education on the relationship between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.	Age and level of education – Moderating Variables	<ol style="list-style-type: none"> <li>1. Age</li> <li>2. Level of education</li> </ol>	<p>A 5-point categorical scale of age (18-25 years = 1; 26-40 years = 2; 41-50 years = 3; 50-55 years = 4; Above 55 years = 5) was used.</p> <p>A 5-point categorical scale of level of education (Diploma – 1; Graduate – 2; Higher Diploma – 3; Masters – 4; PhD – 5) was used.</p>	Illahi and Sumarni (2021); Rashid (2020); Oduro et al. (2017)
	Tax Evasion – Dependent Variable	<ol style="list-style-type: none"> <li>1. Non-declaration of taxable income</li> <li>2. Under-declaration of taxable income</li> <li>3. Claiming non-business expenses</li> </ol>	An ordinal Likert scale based on 5 degrees of agreement (Strongly Agree – 5; Agree – 4; Moderately Agree – 3; Disagree – 2; Strongly Disagree -1) was used.	Amponsah et al. (2019); Ruth (2019); Birskyte (2013); Ameyaw and Dzaka (2016)

Source: Researcher (2022)

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

The methodological designs and statistical tools that this study used to address its objectives, derive its sample and how it collected the appropriate data for analysis were discussed in this chapter in the succeeding sections.

### **3.2 Research Philosophy**

A positivist philosophy was adopted to precisely address the objectives of the study. Positivist research design is justified by its emphasis on objectivity, empirical evidence, and methodological rigor. It employs quantitative methods, ensuring precise measurement and replicability. Ideal for testing hypotheses and large-scale studies, it provides robust, data-driven insights that inform policy and practice, leveraging a well-established scientific tradition (Panhwar, Ansari & Shah, 2017). The research paradigm advocates for collecting data from the field that is analysed to provide a general sense of the phenomenon on an objective sense (Wildemuth, 1993). The qualitative information derived from various scholarly sources was used to interpret the data and give the phenomenon a meaningful sense thus portraying the reality in a subjective manner (Wildemuth, 1993).

### **3.3 Research Design**

The research design that inspired this study with regard to accurately addressing its research purpose was the descriptive correlational research design. This type of research design always seeks to determine the association between two or several variables based on the present state of affairs of the variables being studied (McBurney & White, 2009). The design employees quantitative methods such as using a survey methodology through questionnaires to collect data that can be transformed into figures for statistical analysis in order to show the relationship between the variables (Bhandari, 2021). The researcher has no power of manipulating the independent variables, he or she can only observe and report how the independent variables are affecting the outcome variable (Bhandari, 2021). The correlational research design was used to establish how the independent variables comprising of behavioral, administrative and economic factors are influencing tax evasion among the individual taxpayers based on the quantitative data that was obtained by the questionnaires from the field.

### 3.4 Population of the Study

The target population for this research inquiry was the individual taxpayers with extra sources of income in addition to employment income residing in Nairobi Metropolitan area, Kenya. Since there is no available data containing the list of all the individual taxpayers with extra sources of income besides the employment income working in Nairobi Metropolitan area, an anecdote data from the Kenya National Bureau of Statistics (KNBS) was used as the population of the study. The Nairobi Metropolitan area in the context of this study covers 5 counties neighbouring each other, namely, Nairobi County, Machakos County, Kajiado County, Kiambu County and Murang'a County. According to KNBS (2019) there are a total of 10,411,220 people living in the 5 aforementioned counties. Whereby, Nairobi County, has a population of 4,397,073 people, Machakos County has 1,421,932 people, Kajiado County has 1,117,840 people, Kiambu County has 2,417,735 people and Murang'a County has 1,056,640 people. Therefore, the total figure of our target population from which the individual taxpayers were sampled from was 10,411,220 (KNBS, 2019).

### 3.5 Sample Design and Techniques

To scientifically determine the sample size of the individual taxpayers that the researcher was to study, the Krejcie and Morgan (1970) sample size calculator was used. The sample calculator was used to estimate the precise sample size to be studied from the target population of 10,411,220 people. The calculator is actually very proficient in determining the exact sample size that will truly represent the views of the target population (Kenya Projects Organization, 2012). The sample estimator formula has been presented below;

$$s = \frac{X^2 NP (1 - P)}{d^2 (N - 1) + X^2 P (1 - P)}$$

- Whereby;
- s = figure of the sample size.
  - $X^2$  = the value of the chi-square obtained from the table based on 1 degree of freedom and at a desired confidence level estimated to be 3.841.
  - N = total number of people living in the 5 counties covering the Nairobi Metropolitan area.
  - P = the percentage of population projected to be 0.5 believed to give a maximum sample size.
  - d = degree of accuracy where 0.05 error is permitted.

$$s = \frac{7.682 \times 10,411,220 \times 0.25}{d^2 (N - 1) + X^2 P (1 - P)}$$

$$0.0025 \times 10,411,220 + (7.682 \times 0.5 \times 0.5)$$

$$s = \frac{19,994,748.01}{26,028.05 + 1.9205}$$

$$s = 768$$

Thus, the total sample size of the individual taxpayers with extra sources of income to be studied was 768. To distribute the sample size in an equitable manner, the following formula was used;

$$\text{Sample size for County A} = \frac{\text{Target population of County A}}{\text{Total target population of Nairobi Metropolitan Area}} \times \text{Total sample size}$$

Table 3.1 below presented the sample size distribution of each county targeted;

**Table 3. 1: Sample Size Distribution**

County	Target Population	Sample Size
Nairobi	4,397,073	324
Machakos	1,421,932	105
Kajiado	1,117,840	83
Kiambu	2,417,735	178
Murang'a	1,056,640	78
<b>Total</b>	<b>10,411,220</b>	<b>768</b>

**Source: Researcher (2022)**

Random sampling design was used to select individual taxpayers with an extra source of income in the business in towns of the particular County. The use of random sampling was to avoid bias in sampling.

### 3.6 Research Instrument

There are a number of instruments that can be used to collect data, namely interview guides, focused group discussions, observations and questionnaires among others (Kothari, 2004). With respect to this study a structured questionnaire was used. The instrument was used to collect the responses from the respondents which will be quantitatively transformed for data analysis. Similar research studies (Illahi & Sumarni, 2021; Ruth, 2019; Efeeloo & Dick, 2018; Engida & Baisa, 2014; Alkhatib et al., 2019) employed this type of research instrument to collect primary data for numerical analysis. The questionnaire was divided into 5 main sections. The first section was concerned with obtaining demographic data that was used to address the fourth objective of the study that seeks to establish the moderating effect of age and level of education on the relationship

between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya. The second section consisted of question items on an ordinal Likert scale based on 5 degrees of agreement seeking to establish the level of behavioral factors in Nairobi Metropolitan area. The data obtained helped to address the first objective of the study that sought to establish the influence of behavioral factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya.

The third section consisted of question items on an ordinal Likert scale based on 5 degrees of agreement seeking to establish the level of administrative factors in Nairobi Metropolitan area. The data obtained helped to address the second objective of the study that sought to establish the influence of administrative factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya. The fourth section consisted of question items on an ordinal Likert scale based on 5 degrees of agreement seeking to establish the level of economic factors in Nairobi Metropolitan area. The data obtained helped to address the third objective of the study that sought to establish the influence of economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan area, Kenya. The fifth section consisted of question items on an ordinal Likert scale based on 5 degrees of agreement seeking to establish the level of tax evasion among individual taxpayers in Nairobi County, Kenya.

The researcher used the questionnaire to collect the data from the respondents immediately his proposal successfully passes through the first stage of defence and after obtaining a research permit from NACOSTI. 12 research assistants were hired to assist in the data collection process in the Nairobi Metropolitan area. The research assistants collected data from the individual taxpayers with extra sources of income they come across in their business set-ups at a particular County. The respondent that were willing to partake in the study were briefed told about the main aim of the survey before being given the questionnaire to be filled. The research assistant had to wait for the respondent to fill the questionnaire before retrieving it and going away to look for another respondent to be studied.

### **3.7 Reliability and Validity Tests**

The research quality of the questionnaire was evaluated in terms of its reliability and validity. A pilot test was carried out on 78 individual taxpayers before the main data collection exercise in

order to assess the reliability and the validity of the questionnaire. The subsections that followed discussed the statistical tools that were used by the researcher to assess the reliability and the validity of the questionnaire.

### 3.7.1 Reliability Test

In order to establish if the questionnaire was reliable the study conducted a Cronbach's alpha test to assess the internal consistency of the questionnaire items on a Likert scale in the survey tool. The values of the Cronbach's Alpha range between 0 and 1, whereby 0 indicates that the items in the questionnaire are not reliable while 1 denotes that the items are internally consistent thus reliable (Bolarinwa, 2015). A Cronbach's Alpha co-efficient of 0.7 and above indicates that the items in the questionnaire are internally consistent thus making the survey tool to be reliable (Bolarinwa, 2015). This was the rule of thumb that the study employed to measure the reliability of the questionnaire. The pilot data collected from the 78 respondents was coded in Excel and then the numerical data was transported into the SPSS software. The Cronbach's Alpha model was then used to analyse the data in line with each specific variable and the findings were summarized in Table 3.2 below. As it can be noted in Table 3.2, the 9 question items representing behavioral factors posted a Cronbach's Alpha figure of 0.974. The figure was greater than the yardstick figure of 0.7. Thus, meaning that all the 9 questions items were indeed internally consistent thus making the questionnaire to be reliable in regard to that particular variable.

**Table 3. 2: Reliability Test Results**

Variable	Cronbach's Alpha	No. of Items
Behavioral Factors	0.974	9
Administrative Factors	0.929	7
Economic Factors	0.964	6
Tax Evasion	0.946	5

**Source: Researcher (2023)**

Far from that, the 7 question items representing administrative factors posted a Cronbach's Alpha figure of 0.929. The figure was greater than the yardstick figure of 0.7. Thus, meaning that all the 7 questions items were indeed internally consistent in the sense that if the questionnaire was to be administered on the same respondents at different points of time, then similar results in regard to

those question items will be reproduced (Bryman & Bell, 2015; Sekaran & Bougie, 2016). Thus, making the questionnaire to be stable and reliable in regard to that particular variable. The findings also observed that the 8 question items representing economic factors posted a Cronbach's Alpha figure of 0.964. The figure was greater than the yardstick figure of 0.7. Thus, meaning that all the 8 questions items were indeed internally consistent in the sense that if the questionnaire was to be administered on the same respondents at different points of time, then similar results in regard to those question items will be reproduced (Bryman & Bell, 2015; Sekaran & Bougie, 2016). Finally, the findings also observed that the 5 question items representing tax evasion posted a Cronbach's Alpha figure of 0.946. The figure was greater than the yardstick figure of 0.7.

Thus, meaning that all the 4 questions items were indeed internally consistent in the sense that if the questionnaire was to be administered on the same respondents at different points of time, then similar results in regard to those question items will be reproduced (Bryman & Bell, 2015; Sekaran & Bougie, 2016).

### **3.7.2 Validity Test**

The content validity was assessed to ensure that all the items in the questionnaire sufficiently covered all the aspects it should have in regard to a specific variable. This was assessed by thoroughly reviewing the existing literature. Moreover, a pilot study was conducted in order to ensure that all items in the questionnaire were sufficient and that they clearly measured the study variables intended to be assessed. The construct validity was assessed to establish the degree to which the study's survey tool measured the construct intended to be evaluated. The factor analysis model was used by the study to assess the construct validity of the survey tool (Andreou et al., 2011). To establish if the dataset was satisfactory and sufficient for factor analysis the Kaiser-Meyer-Olkin (KMO) and the Bartlett's test of Sphericity were conducted. Barnett and Moore (2017) postulated that for factor analysis to be carried out, the KMO numerical figure should be equal to or above 0.6 and the Bartlett's test of Sphericity should be statistically significant.

The KMO and Bartlett's test results for the four study variables were displayed in Table 3.3 below. With regard to behavioral factors, it was established that the variable's dataset was suitable and sufficient for factor analysis. This is because the dataset of the aforementioned variable posted a KMO figure of 0.800 which was greater than the yardstick figure of 0.6. Moreover, the Bartlett's

test results of behavioral factors was actually statistically significant ( $p$ -value = 0.000 < 0.05). With respect to administrative factors, it was also similarly established that the variable's dataset was appropriate and adequate for factor analysis. This is because the dataset of the aforementioned variable posted a KMO figure of 0.845 which was greater than the yardstick figure of 0.6 that had been recommended by Barnett and Moore (2017). Additionally, the Bartlett's test results of administrative factors was actually statistically significant ( $p$ -value = 0.000 < 0.05). In regard to economic factors, it was also confirmed that the variable's dataset was appropriate and adequate for factor analysis. This is because the dataset of the aforementioned variable posted a KMO figure of 0.700 which was greater than the yardstick figure of 0.6 that had been recommended by Barnett and Moore (2017).

**Table 3. 3: KMO and Bartlett's Test Results for the Determinants of Tax Evasion and Tax Evasion**

<b>KMO and Bartlett's Test Results for the Determinants of Tax Evasion and Tax Evasion</b>					
		Behavioral Factors	Administrative Factors	Economic Factors	Tax Evasion
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.800	0.845	0.700	0.659
Bartlett's Test of Sphericity	Approx. Chi-Square	458.671	458.671	291.091	264.954
	df	15	21	8	6
	Sig.	0.000	0.000	0.000	0.000

**Source: Researcher (2023)**

Additionally, the Bartlett's test results of economic factors was actually statistically significant ( $p$ -value = 0.000 < 0.05). Finally, with reference to tax evasion, it was also similarly established that the variable's dataset was appropriate and adequate for factor analysis. This is because the dataset of the aforementioned variable posted a KMO figure of 0.659 which was greater than the yardstick figure of 0.6 that had been recommended by Barnett and Moore (2017). Additionally, the Bartlett's test results of tax evasion was actually statistically significant ( $p$ -value = 0.000 < 0.05).

In order to establish if the items in the Likert scales truly measured the constructs intended to be measured principal component analysis was conducted (Frederick, 2013). The aforementioned factor analysis model helps to condense large amount of data into few factors/variables (VOXCO,

2023). The model assists in extracting the maximum variance from a certain variable and then grouped into a common score for further analysis (Statistics Solutions, 2023). A question item with a factor loading that is at least 0.7 means that it has actually extracted sufficient variance from that variable (Rahn, 2012; Knekta, Runyon & Eddy, 2019). This in essence means that the particular question item truly represents the concept of that variable it was intended to represent, thus, it is grouped as a component of that particular variable/factor. This provides the justification for the researcher to retain the questionnaire items in the survey tool that managed to abide to the stipulated rule of thumb for descriptive and regression analysis. Moreover, it provides justification for the researcher to compress the given question items into one particular variable through the usage of averages in order for regression analysis to be made possible. Any question item posting a factor loading less than 0.7 should be dropped since it would affect the construct validity of the given variable, reason being that the question item does not truly relate to that given variable (Rahn, 2012; Knekta, Runyon & Eddy, 2019).

The principal component analysis results for behavioral factors was presented in Table 3.4 below.

**Table 3. 4: Principal Component Analysis Results for Behavioral Factors**

<b>Component Matrix<sup>a</sup></b>		
<b>No.</b>	<b>Question Item</b>	<b>Component 1</b>
1.	My religious beliefs strongly discourage me from engaging in tax evasion	0.938
2.	I believe that paying taxes is a moral obligation dictated by my faith.	0.916
3.	I am more likely to evade taxes if my friends or colleagues do the same.	0.866
4.	I feel social pressure to comply with tax regulations because most people I know do so	0.856
5.	I consider tax evasion to be ethically wrong, regardless of the circumstances	0.931
6.	My personal values make it difficult for me to justify evading taxes	0.940
7.	Paying taxes is an important duty that supports the common good and public services	0.856
8.	I feel a strong sense of responsibility to pay my taxes honestly	0.931
9.	I am generally a conscientious person who prefers to follow rules and regulations	0.940

Extraction Method: Principal Component Analysis.  
a. 1 components extracted.

**Source: Researcher (2023)**

As it can be noted from Table 3.4 presented in the previous page, it was established that all the 9 question items representing behavioral factors posted factor loadings that were greater than 0.7 and were grouped together as one variable being behavioral factors (Component 1) (Knekta, Runyon & Eddy, 2019; Statistics Solutions, 2023). This meant that all the 9 question items

extracted maximum variance from the given variable (behavioral factors). This meant that all the 9 question items actually conceptualized behavioral factors. Therefore, they were retained for further analyses (descriptive and regression analyses). This also provided justification for the researcher to compress the given question items into the behavioral factors variable through the usage of averages in order for regression analysis to be made possible. In conclusion we can authoritatively confirm that the construct validity of behavioral factors in the questionnaire was satisfactory (Frederick, 2013; VOXCO, 2023). Moreover, no question item representing behavioral factors was dropped since none of them posted factor loadings that were less than 0.7 (Rahn, 2012; Knekta, Runyon & Eddy, 2019).

The principal component analysis results for administrative factors was presented in Table 3.5 below.

**Table 3. 5: Principal Component Analysis Results for Administrative Factors**

<b>Component Matrix<sup>a</sup></b>		
<b>No.</b>	<b>Question Item</b>	<b>Component 1</b>
1.	The severity of tax penalties discourages me from evading taxes.	0.840
2.	The likelihood of being audited by tax authorities prevents me from evading taxes.	0.898
3.	Availability of tax incentives encourages me to declare all my taxes	0.870
4.	I am more willing to pay taxes if I believe the government is spending tax money wisely	0.813
5.	The quality of governance affects my willingness to comply with tax regulations	0.887
6.	I believe the current tax system is fair, which motivates me to pay taxes honestly	0.803
7.	If I perceive that everyone is paying their fair share of taxes, I am more likely to do the same.	0.771
Extraction Method: Principal Component Analysis.		
a. 1 components extracted.		

**Source: Researcher (2023)**

As it can be noted from Table 3.5 presented in the previous page, it was established that all the 7 question items representing administrative factors posted factor loadings that were greater than 0.7

and were grouped together as one variable being administrative factors (Component 1) (Knekta, Runyon & Eddy, 2019; Statistics Solutions, 2023). This meant that all the 7 question items extracted maximum variance from the given variable (administrative factors). This meant that all the 7 question items actually conceptualized administrative factors. Therefore, they were retained for further analyses (descriptive and regression analyses). This also provided justification for the researcher to compress the given question items into the administrative factors variable through the usage of averages in order for regression analysis to be made possible. In conclusion we can authoritatively confirm that the construct validity of administrative factors in the questionnaire was satisfactory (Frederick, 2013; VOXCO, 2023). Moreover, no question item representing administrative factors was dropped since none of them posted factor loadings that were less than 0.7 (Rahn, 2012; Knekta, Runyon & Eddy, 2019).

The principal component analysis results for economic factors was presented in Table 3.6 below.

**Table 3. 6: Principal Component Analysis Results for Economic Factors**

<b>Component Matrix<sup>a</sup></b>		
<b>No.</b>	<b>Question Item</b>	<b>Component 1</b>
1.	High tax rates make me consider evading taxes.	0.855
2.	I believe lower tax rates would increase my compliance with tax regulations	0.914
3.	My level of income influences my decision on whether to evade taxes	0.886
4.	I find it more difficult to pay taxes when my income is low	0.944
5.	The complexity of tax filing procedures makes me consider not complying fully with tax requirements.	0.864
6.	The costs associated with complying with tax regulations (e.g., time, money) are too high.	0.902
Extraction Method: Principal Component Analysis.		
a. 1 components extracted.		

**Source: Researcher (2023)**

As it can be noted from Table 3.6 above, it was established that all the 8 question items representing economic factors posted factor loadings that were greater than 0.7 and were grouped together as one variable being economic factors (Component 1) (Knekta, Runyon & Eddy, 2019; Statistics Solutions, 2023). This meant that all the 8 question items extracted maximum variance from the given variable (economic factors). This meant that all the 8 question items actually conceptualized economic factors. Therefore, they were retained for further analyses (descriptive and regression

analyses). This also provided justification for the researcher to compress the given question items into the economic factors variable through the usage of averages in order for regression analysis to be made possible. In conclusion we can authoritatively confirm that the construct validity of economic factors in the questionnaire was satisfactory (Frederick, 2013; VOXCO, 2023). Moreover, no question item representing economic factors was dropped since none of them posted factor loadings that were less than 0.7 (Rahn, 2012; Knekta, Runyon & Eddy, 2019).

The principal component analysis results for tax evasion was presented in Table 3.7 below.

**Table 3. 7: Principal Component Analysis Results for Tax Evasion**

<b>Component Matrix<sup>a</sup></b>		
<b>No.</b>	<b>Question Item</b>	<b>Component 1</b>
1.	I sometimes do not declare all my income to avoid paying taxes	0.868
2.	I often report less income than I actually earn to reduce my tax liability	0.902
3.	Under-declaring my income is a common practice for me to lower my tax payments.	0.881
4.	I sometimes claim personal expenses as business expenses to reduce my taxable income	0.944
5.	Expense claims is a strategy I use to minimize my tax payments	0.944
Extraction Method: Principal Component Analysis.		
a. 1 components extracted.		

**Source: Researcher (2023)**

As it can be noted from Table 3.7 above, it was established that all the 5 question items representing tax evasion posted factor loadings that were greater than 0.7 and were grouped together as one variable being tax evasion (Component 1) (Knekta, Runyon & Eddy, 2019; Statistics Solutions, 2023). This meant that all the 5 question items extracted maximum variance from the given variable (tax evasion). This meant that all the 5 question items actually conceptualized tax evasion. Therefore, they were retained for further analyses (descriptive and regression analyses). This also provided justification for the researcher to compress the given question items into the tax evasion variable through the usage of averages in order for regression analysis to be made possible. In conclusion we can authoritatively confirm that the construct validity of tax evasion in the questionnaire was satisfactory (Frederick, 2013; VOXCO, 2023). Moreover, no question item

representing tax evasion was dropped since none of them posted factor loadings that were less than 0.7 (Rahn, 2012; Knekta, Runyon & Eddy, 2019).

### 3.8 Data Analysis Techniques

Descriptive analysis involving mean scores and standard deviation were employed to describe the level of behavioral factors, administrative factors, economic factors and tax evasion among the individual taxpayers in Nairobi Metropolitan Area, Kenya. Additionally, it was used to describe the present status of the demographic attributes of the individual taxpayers. The Multinomial Logistic Regression (MLR) was used to estimate the effect of the determinants of tax evasion on tax evasion. According to Bagaya (2010), a multinomial logistic regression model is a form of regression where the outcome variable is binary or dichotomous and the independents are continuous variables, categorical variables, or both. The MLR is appropriate when the dependent variable has multiple categories and there is need to model and predict probabilities for each category. A multinomial logistic regression is used when the outcome variable being predicted is nominal and has more than two categories that do not have a given rank or order (Widianto, 2015).

Fidel and Tabachnick (2003) highlighted several significant advantages of using multinomial logistic regression (MLR). One major benefit is its robustness to violations of assumptions like multivariate normality and equal variance-covariance matrices across groups, making it more flexible in handling real-world data complexities. Additionally, MLR shares similarities with linear regression, but it provides more straightforward and interpretable diagnostic statistics. A key advantage is that MLR does not require a linear relationship between the dependent and independent variables, allowing for more complex modeling. Moreover, the independent variables in MLR do not need to be interval-scaled; they can be nominal or ordinal as well.

In the present study, since tax evasion was a categorical variable based on three categories of no evasion, minor evasion or major evasion, it was desirable the the MLR be used based on the model below:

$$\text{Logit}(\pi_{it}) = \beta_{0j} + \beta_{1j}X_1 + \beta_{2j}X_2 + \beta_{3j}X_3 + \varepsilon \dots\dots\dots \text{Model 3.1}$$

Where:  $\text{Logit}(\pi_{ij})$  is the natural logarithm of the odds of category  $j$  of the dependent variable for observation  $i$ .

$\beta_{0j}$  is the intercept for category  $j$  of the dependent variable.

$\beta_{1j}$ ,  $\beta_{2j}$ , and  $\beta_{3j}$  are the coefficients for the independent variables  $X_1$  (*Behavioural Factors*),  $X_2$  (*Administration Factors*), and  $X_3$  (*Administration Factors*) corresponding to category  $j$ .

$\varepsilon$  is the error term

Multinomial Logistic Regression was also employed to establish how the demographic attributes comprising of age and level of education moderates the relationship between the factors and tax evasion in Nairobi Metropolitan Area, Kenya based on the following model:

$$\text{Logit}(\pi_{ij}) = \beta_{0j} + \beta_{1j}X_i + \beta_{2j}M_i + \beta_{3j}(X_i \times M_i) + \varepsilon \dots\dots\dots \text{Model 3.2}$$

Where:

$\pi_{ij}$  is the probability that the  $i$ -th observation falls into category  $j$ .

$\beta_{0j}$  is the intercept for category  $j$ .

$\beta_{1j}$  is the coefficient for the independent variable  $X$  for category  $j$ .

$\beta_{2j}$  is the coefficient for the moderator  $M$  (Age and Education Level) for category  $j$ .

$\beta_{3j}$  is the coefficient for the interaction term  $X \times M$  for category  $j$ .

According to Widiyanto (2015), when conducting a moderation analysis in MLR, the decision criteria focus on the significance of the interaction term between the predictor and moderator variables. Specifically, the assessment is whether the interaction term's coefficient is statistically significant, typically using a p-value threshold of 0.05. If the p-value for the interaction term is less than 0.05, this indicates that the moderator significantly affects the relationship between the predictor and the outcome. Additionally, the direction and magnitude of the interaction term's coefficient provide insight into how the moderator influences this relationship. This evaluation helps determine whether and how the interaction between predictor and moderator variables impacts the likelihood of different outcomes in the MLR model, with a positive coefficient suggesting that the moderator strengthens the relationship, while a negative coefficient indicating a weakening effect.

### 3.8.1 Multinomial Logistic Regression Diagnostic Tests

As observed by Bagaya (2010), before conducting a multinomial logistic regression analysis, it's crucial to verify that the data meets the necessary assumptions to ensure valid results. This involves confirming that six key assumptions are satisfied; the dependent variable should be categorical with

more than two levels; observations must be independent, meaning each data point is not influenced by others; multicollinearity among independent variables should be minimal and that the relationship between the independent variables and the log odds of the dependent variable should be linear. Moreover, there must be an adequate sample size to provide reliable coefficient estimates, and, lastly, the categories of the dependent variable must be mutually exclusive and exhaustive, ensuring each observation falls into one and only one category.

The first assumption requires that the dependent variable must be measured at the nominal level, meaning it consists of categories that have no intrinsic order (Fidel and Tabachnick, 2003). Tax evasion, categorized as no tax evasion, minor tax evasion, and major tax evasion, fitted this criterion well since the categories represent distinct groups without implying a quantitative hierarchy between them. Moreover, the tax evasion categories are mutually exclusive and collectively exhaustive, capturing all possible states of the dependent variable in a non-ordinal manner. This categorization allowed for the modelling of the probability of each type of tax evasion relative to the others without assuming any order or equal spacing between the categories. Thus, tax evasion categorized in this manner met the requirement for the dependent variable in multinomial logistic regression, allowing for a nuanced analysis of the factors influencing different levels of tax evasion.

As observed by Bagaya (2010), the second assumption of multinomial logistic regression is that the independent variables can be continuous, ordinal, or nominal. This condition was met in the present study since the independent variables include behavioural factors, administrative factors, and economic factors, all measured on a Likert scale which were measured on an ordinal scale can be treated as either continuous or categorical. In this study, we consider these Likert scale measurements as continuous variables. This approach was justifiable as Likert scale data often approximates interval data. Treating these factors as continuous simplifies the model and allowed for the assumption of equal intervals between scale points, enhancing interpretability. This dual approach ensured that the model accurately reflected the relationships between these independent variables and the likelihood of different levels of tax evasion.

The third assumption of the MLR is independence of observations (Bagaya, 2010). This requires that the dependent variable consists of mutually exclusive and exhaustive categories. In this study,

the dependent variable is tax evasion, categorized as no tax evasion, minor tax evasion, and major tax evasion. Each category is distinct and non-overlapping, ensuring that an observation can only fall into one category, thereby meeting the requirement for mutually exclusive categories. Additionally, these categories are collectively exhaustive, covering all possible states of tax evasion behavior without leaving any scenario unaccounted for. The data collection process ensured that each observation was independent of others, meaning that the occurrence of tax evasion in one instance does not influence or relate to another, thereby satisfying the independence assumption. This structuring of the dependent variable allowed for an accurate and meaningful application of multinomial logistic regression, providing clear insights into the factors influencing varying levels of tax evasion.

The fourth assumption of the MLR is that there is no multicollinearity among the independent variables. Collinearity diagnostic test was also carried out through SPSS to establish if there was any case of Multicollinearity (Waswa, Mukras & Oima, 2018). It's of essence that there must be no cases of Multicollinearity in order for the assessed independent variables to be used in regression analysis (Nyongesa, 2018). Multicollinearity is a case whereby the independent variables are relying on each other instead of them being free from each other so that their influence on the given outcome variable can be relied on (Kim, 2018; Ambiyu, 2020; Mutegi, 2022). For a particular independent variable to be considered sovereign from the influence of another independent variable then it must post a minimum tolerance value of 0.1 (Pallant, 2007). In addition to that, it must also post a Variance Inflation Factor (VIF) figure that is less than 10 but at least greater than 1 (Pallant, 2007; Ambiyu, 2020). The Collinearity diagnostic test results of this study was presented in Table 3.11 below. With regard to behavioral factors, the variable posted a tolerance figure of 0.105 and a VIF figure of 9.490. From these findings we are able to note that there were no cases of multicollinearity and that the behavioral factors variable was indeed a sovereign independent variable that was not influenced by its peer variables such as the administrative factors and the economic factors.

**Table 3. 10: Collinearity Diagnostic Test Results**

Model	Coefficients <sup>a</sup>	
	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Behavioral Factors	0.105	9.490
Administrative Factors	0.163	6.145
Economic Factors	0.249	4.016

a. Dependent Variable: Tax Evasion

**Source: Researcher (2023)**

This is because behavioral factors posted a tolerance value that was greater than 0.1 and a VIF figure that was greater than 1 but less than 10. With regard to administrative factors, the variable posted a tolerance figure of 0.163 and a VIF figure of 6.145. From these findings we are able to note that there were no cases of Multicollinearity and that administrative factors were indeed a sovereign independent variable that was not influenced by its peer variables such as the behavioral factors and the economic factors. Finally, with regard to economic factors, the variable posted a tolerance figure of 0.249 and a VIF figure of 4.016. From these findings we are able to note that there were no cases of Multicollinearity and that economic factors were indeed a sovereign independent variable that was not influenced by its peer variables such as the administrative factors and the economic factors. In general, it can be concluded that the 3 explanatory variables did not dependent on each other, therefore, their influence on the outcome variable (tax evasion) could be relied on. Thus, the datasets of these three independent variables were suitable for regression analysis.

The fifth assumption of the MLR is that the continuous independent variables should exhibit a linear association with the logit transformation of the dependent variable. To test this assumption, procedures suggested by Bagaya (2010) were followed. Accordingly, dummy natural logarithm variables for the categorical dependent variable were created. These dummy variables were cross-interacted with the categorical independent variables and a MLR regression run. The test statistic for the output is an insignificant p value for the interaction term betas, which indicates that the continuous independent variables has a linear association with the logit transformation of the dependent variable. The output from the test is shown in Table 3.11 below.

**Table 3.11: Testing for Linearity**

TXEV <sup>a</sup>		B	Std. Error	Wald	df	Sig.
No	Intercept	-609.186	1337.732	.207	1	.649
Evasion	BHV	2381.122	1446.232	2.711	1	.100
	Ln_BHV	-2694.357	1382.983	3.796	1	.051
	BHV_LnBHV	-714.198	463.897	2.370	1	.124
	ADM	-686.730	1553.980	.195	1	.659
	Ln_ADM	713.787	1543.638	.214	1	.644
	ADM_LnADM	209.751	487.629	.185	1	.667
	ECON	-611.207	651.992	.879	1	.349
	Ln_ECON	442.538	523.734	.714	1	.398
	ECON_LnECON	217.592	224.954	.936	1	.333

**Source: Researcher (2023)**

Based on the results in Table 3.11 above, it is apparent that the continuous independent variables have a linear association with the logit transformation of the dependent variable since there are insignificant p values ( $p > 0.05$ ) for the interaction term betas for all the three independent variables.

### **3.9 Ethical Considerations**

The responses obtained from the research field were treated with utmost confidentiality by keeping the identities of the respondents anonymous. No respondent was coerced or forced to participate in the survey since their right to refuse to be involved in the study was respected. Integrity and honesty was adhered to by properly paraphrasing this work and acknowledging the information borrowed from various research articles.

## **CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS AND DISCUSSION**

### **4.1 Introduction**

The findings obtained from the SPSS analysis was presented in this chapter. The details of the findings pertain the response rate that the study was able to achieve, the demographic features of the unit of analysis and the descriptive findings concerning the determinants of tax evasion and tax evasion itself. The chapter closes by presenting the regression findings concerning the determinants of tax evasion and the moderating role of age and education level among individual taxpayers in Nairobi Metropolitan area, Kenya.

### **4.2 Response Rate**

The researcher was able to collect data from 500 respondents out of the targeted 768 respondents across all the 5 counties in the Nairobi Metropolitan Area. Based on these results, a response rate of 65.104% was achieved. This was actually adequate and good for reliable inferences to be made from it. Since Saunders, Lewis and Thornhill (2009), Mwangi (2019) and Mutegi (2022) posited that a response rate of 50% is sufficient to be used for analysis and interpretation while according to Mutegi (2022) a response rate of 60% and above is actually good and with no doubt reliable for inferences to be made from it. Therefore, the response rate was actually perfect for the appropriate inferences to be made from it without any form of reservation. The response rate comprised of 170 responses obtained in Nairobi County, 100 responses obtained from Machakos County, 50 responses obtained from Kajiado County, 120 responses obtained from Kiambu County and 60 responses obtained from Murang'a County. The study only managed to suffer a non-response rate of 34.896% (268 responses) which was not very considerable. Since it comprised of 78 respondents who had participated in the pilot study that had been carried earlier on.

Therefore, they could be allowed to partake in the main data collection exercise as a precautionary measure to avoid any form of biasness that could be birthed as a result of studying the same respondents twice. The non-response rate also comprised of 190 respondents whom the researcher was not able to study since they bluntly refused to participate as a result of fear that the information they would provide concerning tax evasion would be traced back to them for legal punishment for avoiding or evading taxes.

### 4.3 Demographic Results

The demographic features of the Kenyan individual taxpayers with other sources of income was presented in Table 4.1 below. The demographic features studied that were relevant to the phenomenon of this research inquiry were; gender, sector of employment, other sources of income, age and the level of education of the individual taxpayers. Frequencies and percentages through the descriptive statistical model in SPSS were employed for analysis and interpretation.

**Table 4. 1: Demographic Results of Individual Taxpayers with other Sources of Income**

Respondents' Demographic Information		Frequency	Percentage (%)
Gender	Male	357	71.4
	Female	143	28.6
Sector of Employment	Public Sector	210	42.0
	Private Sector	174	34.8
	NGO Sector	116	23.2
Other Sources of Income	Rental Income	146	29.2
	Income from sale of properties	22	4.4
	Income from supply of goods	70	14.0
	Income derived from consultancy services	40	8.0
	Income generated from online businesses	167	33.4
	Income generated from informal businesses	55	11.0
Age of the Respondent	25-30 years old	68	13.6
	30-35 years old	115	23.0
	35-45 years old	180	36.0
	45-55 years old	113	22.6
	55-60 years old	24	4.8
Level of Education	Certificate holder	61	12.2
	Diploma holder	59	11.8
	Bachelor Degree holder	296	59.2
	High Diploma holder	46	9.2
	Master Degree holder	21	4.2
	PhD holder	17	3.4

**Source: Researcher (2023)**

Based on the findings presented in Table 4.1 in the previous page, 71.4% of the total respondents studied were male, only 28.6% were female. This meant that most individual taxpayers in Kenya with business generating income aside from employment are men. This could possibly be that men as head of the family have huge financial responsibilities to cater for their families and other

relations when compared to women. Thus, the need to look of other sources of income. With regard to sector of employment, the findings observed that 42.0% of the respondents work in the public sector while 34.8% work in the private sector and finally 23.2% work in the NGO sector. This shows that the public and private sectors are the biggest employers in Kenya. The study was also able to establish that apart from employment income, most of the respondents derive their income from online businesses which accounted for 33.4% of the total responses. This was followed by 29.2% representing the employed individual taxpayers who also derive their income from rental businesses. Most Kenyans at the moment are in online businesses offering research writing consultancy services, data analysis services, digital creation and sale of goods through social media.

Moreover, most Kenyan employees have invested in real estate businesses, since it's a reliable source of income that can sustain them even after they have retired from active service. It's worth noting that most Kenyans doing online businesses do not usually declare the income they have realized from these businesses since there are no effective legal frameworks that can authoritatively establish that such businesses have been transacted. For instance, with regard to online writing, the money is usually sent to the writer via PayPal or MPESA without actually confirming that it is an income from an online business. Thus, one could argue that the money received was just a gift. This has provided an avenue for a lot of tax evasion cases to come to life. Taking a break from other sources of income, it's worth notetaking that most of the respondents were aged 35-45 years old accounting for 36.0% of the total respondents this was followed by 23.0% that accounted for the respondents who were aged 30-35 years old. This shows that most employees in Kenya with other sources of income are in the youth category.

Finally, most of the respondents studied accounting for 59.2% of the total responses were Bachelor degree holders. Only a few of the respondents were Master degree and PhD holders accounting for 4.2% and 3.4% of the total responses respectively. This denotes that most of the individual taxpayers in Kenya are really not concerned with furthering their education but are more focused in managing their other income generating sources with an aim to make ends meet or just to be financially stable.

#### 4.4 Descriptive Results

The descriptive results describing the behavioral factors, administrative factors, economic factors and tax evasion among individual taxpayers with other sources of income in Kenya is discussed in this section. Data was obtained from an ordinal Likert scale based on 5 degrees of agreement. Descriptive statistical tools comprising of mean scores and standard deviations were used by the researcher to synthesize the raw data into meaningful interpretable information. The subsections that follows presents the descriptive results of each study variable.

##### 4.4.1 Behavioral Factors

The descriptive results concerning the behavioral factors of individual taxpayers with other sources of income in Kenya is presented in Table 4.2 below.

**Table 4. 2: Descriptive and Factor Analysis Results of Behavioral Factors of Individual Taxpayers with other Sources of Income in Kenya**

No.	Question Item	Mean	Standard. Deviation	Factor Loadings
1.	My religious beliefs strongly discourage me from engaging in tax evasion	3.910	1.165	0.940
2.	I believe that paying taxes is a moral obligation dictated by my faith.	3.910	1.165	0.940
3.	I am more likely to evade taxes if my friends or colleagues do the same.	3.726	1.425	0.931
4.	I feel social pressure to comply with tax regulations because most people I know do so	3.726	1.425	0.931
5.	I consider tax evasion to be ethically wrong, regardless of the circumstances	3.726	1.425	0.938
6.	My personal values make it difficult for me to justify evading taxes	3.634	1.435	0.916
7.	Paying taxes is an important duty that supports the common good and public services	3.182	1.115	0.856
8.	I feel a strong sense of responsibility to pay my taxes honestly	3.182	1.115	0.856
9.	I am generally a conscientious person who prefers to follow rules and regulations	3.090	1.242	0.866
<b>Overall Score</b>		<b>3.565</b>	<b>1.279</b>	

**Source: Researcher (2023)**

As it has been prescribed in Table 4.2 in the previous page, it was observed that most of the respondents agreed that their religious beliefs strongly discourage them from engaging in tax

evasion. This was shown by a mean of 3.910 and a standard deviation of 1.165. In addition, the statement posted a considerably high factor loading of 0.940 that explained a great contribution in the data (Minitab LLC, 2023). This indicated that the question item was a highly influential behavioral factor that makes a tax payer to make a decision on tax evasion. The descriptive findings also revealed that the average taxpayer usually believes that paying taxes is a moral obligation dictated by their faith. This was supported by a mean of 3.910 and a standard deviation of 1.165, indicating that most of the respondents agreed with the given question item. In addition, the statement posted considerably a high factor loading of 0.940 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of most of the respondents agreeing with it.

Elsewhere, descriptive results indicated that most of the respondents agreed that they were more likely to evade taxes if their friends or colleagues did the same. This was supported by a mean of 3.726 and a standard deviation of 1.425. In addition, the statement posted considerably a high factor loading of 0.931 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of most of the respondents agreeing with it. The findings of the study agreed with Owusu *et al.* (2022) who found that personality traits embodied in a taxpayer such as openness to experience, agreeableness with the tax system and conscientiousness would hinder him or her from tax evasion. Besides that, the findings noted that the respondents felt social pressure to comply with tax regulations because most people they know do so. This was supported by a mean of 3.726 and a standard deviation of 1.425. In addition, the statement posted considerably a high factor loading of 0.931 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of most of the respondents agreeing with it.

Personal ethics characterized by guilt feeling and shame as a result of tax evasion that is considered to be bad in the moral code will force taxpayers to be always compliant (Martinez-Vazquez & Torgler, 2009; Torgler, 2009; Alzeer *et al.*, 2019). Most of the respondents also agreed that they consider tax evasion to be ethically wrong, regardless of the circumstances. This was supported by a mean of 3.726 and a standard deviation of 1.425. In addition, the statement posted considerably a high factor loading of 0.938 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of

most of the respondents agreeing with it. The findings also interestingly observed that respondent's personal values made it difficult for them to justify evading taxes. Since the question item was supported by a mean of 3.634 and a standard deviation of 1.435. In addition, the statement posted considerably a high factor loading of 0.916 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of most of the respondents agreeing with it. Torgler (2006) together with Trivedi and Chung (2003) posited that religiosity germinates a positive internal motivation among taxpayers to voluntarily pay and report their tax dues. Taxpayers who are highly religious wont evade being tax compliant since it will go against their religious moral belief (Heiner, 1983). This is because the more the individuals are conformed to their religious beliefs, the greater their characters, behaviors and ethics are shaped to produce morally upright people who would desist from participating in any wrong doings including tax evasion (Mohdali & Pope, 2014).

The descriptive results also revealed that the respondents neither agreed nor disagreed that paying taxes is an important duty that supports the common good and public services. This was supported by a mean of 3.182 and a standard deviation of 1.115. In addition, the statement posted considerably a high factor loading of 0.856 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of most of the respondents agreeing with it. Moreover, most of the respondents neither agreed nor disagreed that they felt a strong sense of responsibility to pay their taxes honestly. Since the question item was supported by a mean of 3.182 and a standard deviation of 1.115. In addition, the statement posted considerably a high factor loading of 0.856 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of most of the respondents agreeing with it.

Finally, the research outcomes confirmed that they were indifferent that they were generally conscientious people who prefer to follow rules and regulations. This was supported by a mean of 3.090 and a standard deviation of 1.242. In addition, the statement posted considerably a high factor loading of 0.856 that explained a great variability in the data. This showed that the given question item was indeed an actual behavioral factor that was highly influential in terms of most of the respondents agreeing with it. A taxpayer will be willing to pay and file his or her tax dues if they perceive that their co-workers, family members or friends are also paying and filing their tax

dues (Beck & Ajzen, 1991; Puspitasari & Meiranto, 2014). On the hand, when the taxpayers notice that their friends and family relations are not complying with their tax obligations then they will highly likely be less tax compliant (Kirchler, Hoelzl & Wahl, 2008; Traxler, 2010).

#### 4.4.2 Administrative Factors

The descriptive and factor analysis results concerning the administrative factors affecting individual taxpayers with other sources of income in Kenya is presented in Table 4.3 below.

**Table 4. 3: Descriptive and Factor Analysis Results of Administrative Factors of Individual Taxpayers with other Sources of Income in Kenya**

No.	Question Item	Mean	Standard. Deviation	Factor Loading
1.	The severity of tax penalties discourages me from evading taxes.	3.870	1.215	0.803
2.	The likelihood of being audited by tax authorities prevents me from evading taxes.	3.688	1.441	0.840
3.	Availability of tax incentives encourage me declare all my taxes	3.674	1.456	0.887
4.	I am more willing to pay taxes if I believe the government is spending tax money wisely	3.614	1.458	0.890
5.	The quality of governance affects my willingness to comply with tax regulations	3.190	1.167	0.813
6.	I believe the current tax system is fair, which motivates me to pay taxes honestly	3.104	1.279	0.870
7.	If I perceive that everyone is paying their fair share of taxes, I am more likely to do the same.	3.090	1.290	0.771
<b>Overall Score</b>		<b>3.461</b>	<b>1.329</b>	

**Source: Researcher (2023)**

As it has been presented in Table 4.3, it was established that the respondents agreed that the severity of tax penalties discourages them from evading taxes. This is because the given question item was supported by a mean of 3.870 and a standard deviation of 1.215. In addition, the statement posted a considerably high factor loading of 0.803 that explained a great variability in the data (Minitab LLC, 2023). This indicated that the question item was a highly influential administrative factor in terms of being effective and efficient in tax revenue collection. The results also indicated that the respondents agreed that the likelihood of them being audited by tax authorities prevented them from evading taxes, and that the availability of tax incentives made them more willing to declare their tax liabilities. This is because the given statements posted mean values of 3.688 and

3.674 respectively together with standard deviations of 1.441 and 1.456 respectively. In addition, the statements posted considerably high factor loadings of 0.840 and 0.887 respectively that explained a great variability in the data. This shows that the given question items were indeed actual administrative factors that were highly influential.

The findings coincided the research outcomes of Yamen *et al.* (2018) together with Torgler and Schneider (2009) who observed that quality of public sector governance as a non-economic indicator of administrative policy decreases the level of tax evasion. The descriptive results also found that the respondents agreed that they were more willing to pay taxes if they believed the government is spending tax money wisely. This was supported by a mean of 3.614 and a standard deviation of 1.458. In addition, the statement posted considerably a high factor loading of 0.890 that explained a great variability in the data. This shows that the given question item was indeed an actual administrative factor that was highly influential in terms of most of the respondents confidently agreeing with it. The descriptive results also observed that the respondents were indifferent that the quality of governance affects their willingness to comply with tax regulations. Supported by a mean of 3.190 and a standard deviation of 1.167. In addition, the statement posted considerably a high factor loading of 0.813 that explained a great variability in the data. This showed that the given question item was indeed an actual administrative factor that was highly influential in terms of most of the respondents moderately agreeing with it.

Moreover, it was observed that the respondents were indifferent that they believed that the current tax system is fair, which motivates them to pay taxes honestly. Since the question item was supported by a mean of 3.104 and a standard deviation of 1.279. In addition, the statement posted considerably a high factor loading of 0.870 that explained a great variability in the data. This showed that the given question item was indeed an actual administrative factor that was highly influential in terms of most of the respondents moderately agreeing with it. Finally, the findings observed that the respondents were indifferent that if they perceived that everyone is paying their fair share of taxes, they will be more likely to do the same. This was supported by a mean of 3.090 and a standard deviation of 1.290. In addition, the statement posted considerably a high factor loading of 0.771 that explained a great variability in the data. This showed that the given question item was indeed an actual administrative factor that was highly influential in terms of most of the respondents moderately agreeing with it.

#### 4.4.3 Economic Factors

The descriptive results concerning the economic factors affecting individual taxpayers with other sources of income in Kenya is presented in Table 4.4.

**Table 4. 4: Descriptive and Factor Analysis Results of Economic Factors of Individual Taxpayers with other Sources of Income in Kenya**

No.	Question Item	Mean	Standard. Deviation	Factor Loadings
1.	High tax rates make me consider evading taxes.	2.776	1.350	0.864
2.	I believe lower tax rates would increase my compliance with tax regulations	2.776	1.359	0.866
3.	My level of income influences my decision on whether to evade taxes	2.676	1.491	0.902
4.	I find it more difficult to pay taxes when my income is low	2.676	1.491	0.944
5.	The complexity of tax filing procedures makes me consider not complying fully with tax requirements.	2.668	1.504	0.855
6.	The costs associated with complying with tax regulations (e.g., time, money) are too high.	2.588	1.192	0.914
<b>Overall Score</b>		<b>2.693</b>	<b>1.398</b>	

**Source: Researcher (2023)**

The descriptive results showed that the respondents neither agreed nor disagreed that high tax rates made them consider evading taxes. Supported by a mean of 2.776 and a standard deviation of 1.350. In addition, the statement posted considerably a high factor loading of 0.864 that explained a great variability in the data. This showed that the given question item was indeed an actual economic factor that was highly influential in terms of most of the respondents agreeing with it. The findings also observed that the respondents moderately agreed that lower tax rates would increase their compliance with tax regulations. This was supported by a mean of 2.776 and a standard deviation of 1.359. In addition, the statement posted considerably a high factor loading of 0.866 that explained a great variability in the data. This showed that the given question item was indeed an actual economic factor that was highly influential in terms of most of the respondents moderately agreeing with it.

When the amount a taxpayer is going to pay is always increased yet the tax payer is passing through economic hardships, then he or she won't see the reason to continue paying more taxes, leading them to underreport their tax returns or completely evade their tax obligations (Mansor & Gurama, 2016). Besides that, most the respondents indicated that they were indifferent that the level of

income influences their decision on whether to evade taxes. The statement was supported by a mean of 2.676 and a standard deviation of 1.491. In addition, the statement posted considerably a high factor loading of 0.902 that explained a great variability in the data. This showed that the given question item was indeed an actual economic factor that was highly influential in terms of most of the respondents moderately agreeing with it.

They also moderately agreed that they found it more difficult to pay taxes when their income was low. This was supported by a mean of 2.676 and a standard deviation of 1.491. In addition, the statement posted considerably a high factor loading of 0.944 that explained a great variability in the data. This showed that the given question item was indeed an actual economic factor that was highly influential in terms of most of the respondents moderately agreeing with it. The results also revealed indifference among the taxpayers on the statement that the complexity of tax filing procedures makes them consider not complying fully with tax requirements. This was shown by a mean of 2.668 and a standard deviation of 1.504. This could be due to harsh economic times in Kenya, which has forced many Kenyan to participate in an underground economy, and developing creative ways to evade taxes (Ruth, 2019). In addition, the statement posted considerably a high factor loading of 0.855 that explained a great variability in the data. This showed that the given question item was indeed an actual economic factor that was highly influential in terms of most of the respondents moderately agreeing with it.

The findings of the study was also able to observe that the respondents were indifferent that the costs associated with complying with tax regulations (e.g., time, money) were too high. This was supported by a mean of 2.588 and a standard deviation of 1.192. In addition, the statement posted considerably a high factor loading of 0.914 that explained a great variability in the data. This showed that the given question item was indeed an actual economic factor that was highly influential in terms of most of the respondents moderately agreeing with it. This is because of the tax reforms in Kenya that led to the establishment of the iTax system which has made the registration process and the filing of returns to be free and efficient (Musyoka, 2019). Moreover, even in cases requiring a second party to assist in the registration and filing of returns, the costs involved are fair (Barako, 2015; Gichuki, 2015).

#### 4.4.4 Tax Evasion

The descriptive results concerning tax evasion among individual taxpayers with other sources of income in Kenya is presented in Table 4.5.

**Table 4. 5: Descriptive and Factor Analysis Results of Tax Evasion**

No.	Question Item	Mean	Standard. Deviation	Factor Loadings
1.	I sometimes do not declare all my income to avoid paying taxes	2.728	1.354	0.881
2.	I often report less income than I actually earn to reduce my tax liability	2.634	1.498	0.868
3.	Under-declaring my income is a common practice for me to lower my tax payments.	2.546	1.162	0.902
4.	I sometimes claim personal expenses as business expenses to reduce my taxable income	2.360	1.432	0.944
5.	Expense claims is a strategy I use to minimize my tax payments	2.360	1.432	0.944
<b>Overall Score</b>		<b>2.526</b>	<b>1.376</b>	

**Source: Researcher (2023)**

The descriptive results in Table 4.5 show that the respondents neither agreed nor disagreed that they sometimes do not declare all their income to avoid paying taxes. This is shown by a mean of 2.728 and a standard deviation of 1.354. In addition, the statement posted considerably a high factor loading of 0.881 that explained a great variability in the data. This showed that the given question item was indeed a tax evasion factor that was highly influential in terms of most of the respondents moderately agreeing with it. The findings was also able to observe that many taxpayers in Nairobi Metropolitan region often report less income than they actually earn to reduce their tax liability. This was supported by a mean of 2.634 and a standard deviation of 1.498. In addition, the statement posted considerably a high factor loading of 0.868 that explained a great variability in the data. This showed that the given question item was indeed a tax evasion factor that was highly influential in terms of most of the respondents moderately agreeing with it. The findings also revealed that they disagreed that under-declaring their income was a common practice for them to lower their tax payments. This was supported by a mean of 2.546 and a standard deviation of 1.162.

In addition, the statement posted considerably a high factor loading of 0.902 that explained a great variability in the data. This showed that the given question item was indeed a tax evasion factor that was highly influential in terms of most of the respondents moderately agreeing with it. The descriptive findings revealed that the respondents disagreed that sometimes they claim personal expenses as business expenses to reduce their taxable income as shown by a mean of 2.360 and a standard deviation of 1.432. In addition, the statement posted considerably a high factor loading of 0.944 that explained a great variability in the data. This showed that the given question item was indeed a tax evasion factor that was highly influential in terms of most of the respondents moderately agreeing with it.

Finally, the descriptive results observed that most of the individual taxpayers agreed to the statement that expense claims are a strategy they use to minimize their tax payments. Since the question item was supported by a mean of 2.360 and a standard deviation of 1.432. In addition, the statement posted considerably a high factor loading of 0.944 that explained a great variability in the data. This showed that the given question item was indeed a tax evasion factor that was highly influential in terms of most of the respondents moderately agreeing with it.

#### **4.5 Multinomial Logistic Regression Findings**

In the current study, the Multinomial Logistic Regression (MLR) analysis was applied by the researcher to establish the determinants of tax evasion among individual tax payers with other sources of income at Nairobi Metropolitan Area. The model was deemed suitable since it has the power of showing to what extent each of the three determinants, namely behavioral factors, administrative factors and economic factors influenced tax evasion either in a positive or negative manner. To actualize the MLR, the five-point Likert scale responses for the dependent variable of tax evasion was recalculated to give three categories as follows:

Responses between 1.0 and 2.3, no evasion

Responses between 2.4 and 3.7, minor evasion

Responses between 3.8 and 5.0. major evasion.

Similar research investigations conducted by Andoni, Osmani and Kambo (2017), Amponsah, Isshaq and Agyapong (2019), Widiyanto (2015) and Sale, Muharremi and Hoxhaj (2021) who used the same model in addressing their research objectives. The Multinomial Logistic Regression (MLR) was used in the present study since the dependent variable was categorical with more than

two levels and the aim was to understand how multiple independent variables influence the probability of different outcomes. MLR is particularly valuable because it does not assume a linear relationship between the independent variables and the outcome, making it suitable for modeling complex, non-linear interactions. Moreover, it allows for the estimation of odds ratios for each predictor, providing insights into the strength and direction of associations (Sale, Muharremi and Hoxhaj, 2021). Additionally, the method also accommodates more than two outcome categories, unlike binary logistic regression, making it ideal for studies where outcomes often naturally fall into multiple categories (Andoni, Osmani and Kambo, 2017).

Tables 4.6, 4.7 and 4.8 presented the MLR results concerning how the three determinants of tax evasion (behavioral factors, administrative factors and economic factors) influenced tax evasion. Table 4.6 below presented the model summary results.

**Table 4. 6: Model Fitting Results**

Model Fitting Information				
Model Fitting				
	Criteria	Likelihood Ratio Tests		
	-2 Log			
Model	Likelihood	Chi-Square	df	Sig.
Intercept Only	748.293			
Final	90.765	657.528	6	.000

**Source: Researcher (2023)**

Judging from the statistical presentation embedded in Table 4.6, it was observed that the Chi-Square value of 657.528 was significant ( $p = 0.000$ ). This suggests that the model provides a better fit. A  $p$ -value  $< 0.001$  means that there is less than a 0.1% chance that the observed association is due to random variation alone. This is a strong indication that the model, as a whole, fits the data significantly better than an intercept-only model (a model with no predictors) (Osmani and Kambo, 2017).

Table 4.7 below gives the Likelihood Ratio Test results for the MLR analysis of the effect of the determinants on tax evasion among individual tax payers with other sources of income at Nairobi Metropolitan Area. According to Andoni, Osmani and Kambo (2017), the Likelihood Ratio Test (LRT) is a statistical test used to compare the goodness of fit between two nested models: the full

model (with all predictors included) and the reduced model (a simpler model, typically the null model, that excludes one or more predictors). The test assesses whether the inclusion of additional predictors significantly improves the fit of the model therefore helping in determining if the predictors contribute meaningfully to explaining the variation in the outcome variable.

**Table 4. 7: Likelihood Ratio Test Results**

<b>Likelihood Ratio Tests</b>				
Model Fitting		Likelihood Ratio Tests		
Criteria				
-2 Log Likelihood of				
Effect	Reduced Model	Chi-Square	df	Sig.
Intercept	682.459	591.694	2	.000
BHV	137.767	47.002	2	.000
ADM	102.397	11.632	2	.003
ECON	410.895	320.131	2	.000

**Source: Researcher (2023)**

Results in Table 4.7 above show that the p-values for the predictor variables in the multinomial logistic regression model are all less than 0.05. This indicates that these variables are statistically significant, providing strong evidence to reject the null hypothesis that these predictors have no association with tax evasion behavior. The significance of these p-values suggests that changes in behavioral, administrative, and economic factors are significantly associated with changes in the likelihood of engaging in tax evasion. Specifically, the significant p-values indicate that each of these factors contributes meaningfully to explaining the variation in tax evasion outcomes. For example, behavioral factors such as attitudes towards tax compliance, administrative factors such as the efficiency of tax authorities, and economic factors such as income levels or tax rates significantly influence the propensity to evade taxes. The results support the inclusion of these variables in the model, suggesting that interventions aimed at reducing tax evasion should consider behavioral incentives, administrative improvements, and economic conditions.

Table 4.9 below presents the results of the MLR for the three categories of the response variable; no evasion, minor evasion and major evasion.

**Table 4. 8: Regression Coefficients**

EVASION_CATEGORY <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)
Evasion	Intercept	78.627	22.359	12.367	1	.000	
	BHV	-10.927	3.342	10.687	1	.001	1.797E-5
	ADM	-4.463	1.767	6.376	1	.012	.012
	ECON	-14.891	4.333	11.809	1	.001	3.410E-7
Minor Evasion	Intercept	.882	2.758	.102	1	.749	
	BHV	-.532	.750	.504	1	.478	.587
	ADM	-.001	.764	.000	1	.999	.999
	ECON	.224	.034	1.762	1	.077	.485

**Source: Researcher (2023)**

Based on the findings in Table 4.8, the fitted model is;

$$\text{Logit}(\pi_{it}) = 78.627 - 10.927\text{BHV} - 4.463\text{ADM} + 9.891\text{ECON}$$

The intercept of 78.627 in the Multinomial Logistic Regression output in Table 4.8 represents the baseline level of log-odds (chances) for major tax evasion when all predictor variables are zero. It implies that when all predictors (behavioral, administrative, economic factors) are absent, the log-odds of major tax evasion occurring are approximately 78.627 which means the chance of major tax evasion occurring is nearly 100% ((exp) 78.627). In practical terms, this indicates that major tax evasion is almost certain to happen given the extremely high log-odds. This indicates a substantial inherent propensity for major tax evasion in the absence of any specific influences or interventions. The intercept's significance, as indicated by its p-value less than 0.001, highlights that this baseline level is statistically different from zero, suggesting that even without any specific factors considered, there is a notable inherent propensity for major tax evasion. This underscores the importance of understanding and addressing the underlying factors contributing to tax evasion, as the baseline level itself is not negligible and warrants attention in devising effective anti-evasion measures.

#### **4.5.1 Influence of Behavioral Factors on Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The coefficient of -10.927 for behavioral factors (BHV) in the Multinomial Logistic Regression result in Table 4.8 signifies a significant negative impact on the likelihood of major tax evasion.

This means that for every one-unit increase in the behavioral factors score, the odds of major evasion decrease by 99.9% ((exp) -10.927) implying that improvements in taxpayer behavior, such as increased compliance or ethical tax practices, substantially reduce the probability of engaging in major tax evasion. The statistical significance of this coefficient ( $p = 0.001$ ) underscores the importance of addressing behavioral aspects in designing effective anti-evasion strategies, as they play a significant role in mitigating major tax evasion risks. Additionally, the coefficient of -0.532 for Behavioral Factors in the minor evasion category along with a standard error of 0.750 and a p-value (Sig.) of 0.478, indicates that behavioral factors are not significantly associated with minor tax evasion. This means that changes or variations in behavioral factors do not have a statistically significant impact on the likelihood of minor tax evasion.

#### **4.5.2 Influence of Administrative Factors on Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The coefficient of -4.463 for administrative factors in the Table 4.8 indicates a significant negative impact on the likelihood of major tax evasion. Specifically, for every one-unit increase in the administrative factors score, the odds of major evasion decrease by approximately 98.8% ((exp) – 4.463). This substantial reduction in the odds of major evasion underscores the critical role of administrative factors such as tax enforcement efficiency, audit effectiveness, and regulatory measures in deterring tax evasion implying that improvements in administrative factors lead to a more robust tax compliance environment, making it harder for individuals or entities to engage in major evasion practices. The statistical significance of this coefficient ( $p = 0.012$ ) further supports the importance of implementing strong administrative policies and procedures to combat major tax evasion effectively. Further, the coefficient of -0.001 for administrative factors in the minor evasion model, with a standard error of 0.764 ( $p = 0.999$ ), indicates that administrative factors are not significantly associated with minor tax evasion. This suggests that variations or changes in administrative factors do not have a statistically significant impact on the likelihood of minor tax evasion occurrences. The odds ratio of 0.999, which is very close to 1, further supports this interpretation.

#### **4.5.3 Influence of Economic Factors on Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The beta value of 9.81 for economic factors in the Multinomial Logistic Regression model indicates a substantial positive influence on the likelihood of major tax evasion. This implies that

when the economic factors score increases by one unit, the odds of major evasion increase by up to 99. % ((exp) 9.891). This means that there is an extremely high chance of major tax evasion occurring, very close to certain with a unit increase in economic factors. This means that improvements in economic conditions, such as higher incomes or better economic policies, significantly enhance major tax evasion behaviors. The magnitude of this impact is underscored by the odds ratio associated with the beta value, suggesting a substantial increase in the odds of major tax evasion with each incremental improvement in economic factors. Additionally, the coefficient of 0.224 for economic factors in the minor evasion category model, with a standard error of 0.034 ( $p = 0.077$ ), indicates that economic factors are not significantly associated with minor tax evasion. This implies that they could be associated with major tax evasion. However, the marginally significant p-value suggests a potential trend where higher economic factors could increase minor evasion, albeit not meeting the conventional threshold of 0.05 for statistical significance. The odds ratio of 0.485 supports this interpretation, indicating that higher economic factors are associated with an increase in the odds of minor tax evasion, although this association is not strong enough to be considered statistically significant based on the p-value.

#### **4.5.4 Moderating Effect of Age and Level of Education on the Relationship between the Factors and Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The MLR results showing the moderating effect of age and level of education on the relationship between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya have been presented in Tables 4.9, 4.10 and 4.11 respectively. Table 4.9 below presents the moderating effect of age on the relationship between behavioral factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area.

As it can be demonstrated in Table 4.9, the interaction term BHV\_AGE has a coefficient of 0.523, a standard error of 0.231, a Wald statistic of 5.118, a p-value of 0.024, and an odds ratio (Exp(B)) of 1.697. This indicates that as the interaction between behavioral factors and age increases, the log-odds (chances) of major tax evasion also increase significantly. The p-value of 0.024, being less than 0.05, confirms the statistical significance of this interaction effect. This implies that the impact of behavioral factors on tax evasion varies by age, with older individuals being more likely to commit major tax evasion as behavioral factors increase.

**Table 4. 9: Moderating Effect of Age on the Relationship between Behavioral Factors and Tax Evasion**

EVASION_CATEGORY <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)
Evasion	Intercept	5.401	1.929	7.841	1	.005	
	BHV	-1.887	.612	9.502	1	.002	.152
	AGE	.770	.683	1.270	1	.260	2.160
	BHV_AGE	.523	.231	5.118	1	.024	.593
Minor Evasion	Intercept	-6.309	5.268	1.434	1	.231	
	BHV	.861	1.387	.386	1	.535	2.366
	AGE	1.569	1.707	.845	1	.358	4.801
	BHV_AGE	.473	.460	1.056	1	.304	.623

**Source: Researcher (2023)**

Table 4.10 presents the moderating effect of age on the relationship between administrative factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area.

**Table 4. 10: Moderating Effect of Age on the Relationship between Administrative Factors and Tax Evasion**

EVASION_CATEGORY <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)
Evasion	Intercept	3.080	1.231	6.260	1	.012	
	ADM	-1.096	.386	8.068	1	.005	.334
	AGE	.710	.440	2.607	1	.106	2.033
	ADM_AGE	.244	.138	3.127	1	.047	.783
Minor Evasion	Intercept	-5.190	4.680	1.230	1	.267	
	ADM	.571	1.240	.212	1	.645	1.771
	AGE	.881	1.558	.320	1	.572	2.413
	ADM_AGE	-.290	.420	.476	1	.490	.748

**Source: Researcher (2023)**

As depicted in Table 4.10, the interaction term ADM\_AGE has a coefficient (B) of 0.244, a standard error of 0.138, a Wald statistic of 3.127, a p-value of 0.047, and an odds ratio (Exp(B)) of approximately 1.276. This indicates that as the interaction between administrative factors and age increases, the log-odds of major tax evasion also increase significantly. The p-value of 0.047, being less than 0.05, confirms the statistical significance of this interaction effect. Practically, this

implies that the impact of administrative factors on tax evasion varies by age, with older individuals being more likely to commit major tax evasion as administrative factors increase.

The findings of the study observed that an increase of the individual taxpayer’s age would lead to a positive significant relationship between administrative factors and tax evasion among individual taxpayers with other sources of income in Nairobi Metropolitan Area, Kenya. This meant that older taxpayers can end up evading taxes willingly when the administrative tax system is too complex for them to understand especially in matters to do with iTax system which most of them do not understand when compared to younger taxpayers (Rashid, 2020).

Table 4.11 below presents the moderating effect of age on the relationship between economic factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area. Results in Table 4.10 indicate that the interaction term for economic factors and age (ECON\_AGE) has a coefficient (B) of 0.034, a standard error of 0.151, a Wald statistic of 0.052, a p-value of 0.819, and an odds ratio (Exp(B)) of approximately 1.035. This indicates that the interaction between economic factors and age has a positive but not statistically significant effect on the log-odds of major tax evasion. The p-value of 0.819, being greater than 0.05, suggests that the interaction effect is not significant. Practically, this implies that age does not significantly moderate the relationship between economic factors and major tax evasion. Consequently, interventions targeting economic factors to reduce tax evasion may not need to be specifically age-targeted. Policymakers can focus on broad economic policies and measures without differentiating by age group, as the impact of economic factors on tax evasion does not significantly vary with age.

**Table 4. 11: Moderating Effect of Age on the Relationship between Economic Factors and Tax Evasion**

EVASION_CATEGORY <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)
Evasion	Intercept	5.326	1.305	16.658	1	.000	
	ECON	-2.046	.461	19.712	1	.000	.129
	AGE	-.041	.431	.009	1	.925	.960
	ECON_AGE	.034	.151	.052	1	.819	1.035
Minor Evasion	Intercept	.236	3.234	.005	1	.942	
	ECON	-.999	.976	1.048	1	.306	.368
	AGE	-.721	1.193	.365	1	.546	.486
	ECON_AGE	.169	.346	.238	1	.626	1.184

**Source: Researcher (2023)**

Generally, the findings of the study observed that an increase of the individual taxpayer’s age would lead to a positive insignificant relationship between economic factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya.

Table 4.12 in the next page presented the moderating effect of level of education on the relationship between behavioral factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya.

**Table 4. 12: Moderating Effect of Level of Education on the Relationship between Behavioral Factors and Tax Evasion**

EVASION_CATEGORY <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)
Evasion	Intercept	10.190	2.427	17.623	1	.000	
	BHV	-3.917	.833	22.119	1	.000	.020
	EDN	-.473	.673	.494	1	.482	.623
	BHV_EDN	-.308	.221	1.942	1	.013	1.361
Minor Evasion	Intercept	1.206	3.871	.097	1	.755	
	BHV	-1.161	1.125	1.065	1	.302	.313
	EDN	-1.493	1.567	.909	1	.340	.225
	BHV_EDN	.348	.417	.693	1	.405	1.416

**Source: Researcher (2023)**

Table 4.12 above shows that the interaction term between behavioral factors and education has a coefficient (B) of -0.308, a standard error of 0.221, a Wald statistic of 1.942, a p-value of 0.013, and an odds ratio (Exp(B)) of approximately 0.735. This indicates that as the interaction between behavioral factors and education increases, the chances of major tax evasion decrease significantly. The p-value of 0.013, confirms the statistical significance of this interaction effect. Practically, this implies that education significantly moderates the relationship between behavioral factors and tax evasion, with higher levels of education reducing the impact of behavioral factors on the likelihood of major tax evasion. Policymakers could leverage this insight to design educational programs that specifically target behavioral tendencies related to tax evasion. By enhancing educational initiatives, especially those focused on ethical behavior and financial literacy, it is possible to reduce tax evasion rates effectively. The findings of the study observed that an increase of the individual taxpayer’s level of education would lead to a negative significant relationship between behavioral factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya.

Table 4.13 below presented the moderating effect of level of education on the relationship between administrative factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya.

**Table 4. 13: Moderating Effect of Level of Education on the Relationship between Administrative Factors and Tax Evasion**

EVASION_CATEGORY <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)
Evasion	Intercept	10.820	1.688	41.066	1	.000	
	ADM	-5.041	.710	50.357	1	.000	.006
	EDN	4.825	.733	43.347	1	.000	124.610
	ADM_EDN	-1.344	.188	51.220	1	.000	.261
Minor Evasion	Intercept	-.560	1.634	.117	1	.732	
	ADM	-.608	.397	2.344	1	.126	.544
	EDN	-.389	.932	.174	1	.676	.678
	ADM_EDN	.017	.205	.007	1	.935	1.017

**Source: Researcher (2023)**

Results shown in Table 4.13 above show that the interaction term between administrative factors and education has a coefficient (B) of -1.344, a standard error of 0.188, a Wald statistic of 51.220, a p-value of 0.000, and an odds ratio (Exp(B)) of approximately 0.261. This indicates that as the interaction between administrative factors and education increases, the chances of major tax evasion decrease significantly. The p-value of 0.000, being less than 0.05, confirms the statistical significance of this interaction effect. Practically, this implies that education significantly moderates the relationship between administrative factors and tax evasion, with higher levels of education reducing the impact of administrative factors on the likelihood of major tax evasion. Policymakers could leverage this insight to design educational programs that specifically target administrative aspects related to tax compliance. By enhancing education on tax laws, procedures, and ethical conduct, it is possible to reduce tax evasion rates effectively.

The findings of the study observed that an increase of the individual taxpayer's level of education would lead to a negative significant relationship between administrative factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. The findings meant that stringent tax penalties, tax audits, tax incentives, unfair tax policies and poor government spending

would reduce tax evasion if the taxpayer was more educated because they would feel that it is worthwhile to pay their taxes dues (Engida & Baisa, 2014; Thomas, 2015; Irawan & Utama, 2021). The findings of the study agreed with the research outcomes of Cyan *et al.* (2016) and Rashid (2020) who observed that educated taxpayers are less likely to engage in tax evasion. Though the results of this study disagreed with the findings observed by Oduro *et al.* (2017) that the level of education does not have a considerable impact on tax evasion among the individual taxpayers.

Table 4.14 below presents the moderating effect of level of education on the relationship between economic factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya.

**Table 4. 14: Moderating Effect of Level of Education on the Relationship between Economic Factors and Tax Evasion**

EVASION_CATEGORY <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)
Evasion	Intercept	6.331	1.349	22.041	1	.000	
	ECON	-2.335	.469	24.821	1	.000	.097
	EDN	-.368	.409	.811	1	.368	.692
	ECON_EDN	-.126	.140	.816	1	.366	1.134
No Evasion	Intercept	-2.627	3.290	.637	1	.425	
	ECON	-.024	.906	.001	1	.979	.977
	EDN	.395	1.056	.140	1	.708	1.485
	ECON_EDN	-.208	.304	.466	1	.495	.812

Source: Researcher (2023)

Based on results in Table 4.14. above, it is shown that the interaction term economic factors and education has a coefficient (B) of -0.126, a standard error of 0.140, a Wald statistic of 0.816, a p-value of 0.366, and an odds ratio (Exp(B)) of approximately 1.134. This indicates that the interaction between economic factors and education has a negative statistically insignificant effect on the log-odds of major tax evasion. The p-value of 0.366, being greater than 0.05, suggests that the interaction effect is not significant. Practically, this implies that education does not significantly moderate the relationship between economic factors and major tax evasion. Consequently, interventions targeting economic factors to reduce tax evasion may not need to be specifically education-focused.

The findings of the study observed that an increase of the individual taxpayer's level of education would lead to a negative insignificant relationship between economic factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. This means that as an individual taxpayer acquires more education then his or her behavior changes to agree with the tax policies of the country even if the tax rates are high, thus becoming more tax compliant since they know that the tax revenue generated would play a major role in developing their country (Cyan *et al.*, 2016; Islam *et al.*, 2020; Owusu *et al.*, 2022).



## **CHAPTER FIVE: SUMMARY OF DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

In this chapter, the major research findings together with the relevant discussions were presented first, this was then followed by the conclusions made in line with each specific objective that the study sought to address and then it concluded with the recommendations suggested together with the areas that needs further research.

### **5.2 Summary of Discussion of Findings**

This section summarizes what was discussed in the previous chapter in line with each specific objective.

#### **5.2.1 Influence of Behavioral Factors on Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The first specific objective was to establish the influence of behavioral factors on tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. The objective was addressed by descriptive analysis involving mean scores and multinomial logistic regression analysis. Descriptive results for the objective showed that most of the respondents agreed that their religious beliefs strongly discourage them from engaging in tax evasion; that the average taxpayer usually believes that paying taxes is a moral obligation dictated by their faith. Elsewhere, descriptive results indicated that most of the respondents agreed that they were more likely to evade taxes if their friends or colleagues did the same, and also agreed that they consider tax evasion to be ethically wrong, regardless of the circumstances. The descriptive results also revealed that the respondents neither agreed nor disagreed that paying taxes is an important duty that supports the common good and public services. Finally, the research outcomes confirmed that they were indifferent that they were generally conscientious people who prefer to follow rules and regulations.

The results above could be interpreted to indicate that lack of behavioral factors (such as personal ethics, religious principles and good personality traits), administrative factors (such as tax penalties and tax audits to enforce compliance, good government spending together with tax fairness) and economic factors (such as high level of income, low tax rates and compliance costs) would lead to

tax evasion. This was by what other previous studies conducted by Boone *et al.* (2013), Alkhatib *et al.* (2019), AlAdham *et al.* (2016), Owusu *et al.* (2022), Alasfour (2019), Amponsah *et al.* (2019) and Ruth (2019) had observed. The succeeding sections discusses the regression coefficient results of each particular variable in regard to how they influenced tax evasion.

MLR analysis based on the first objective showed that a significant negative impact on the likelihood of major tax evasion. Results showed that for every one-unit increase in the behavioral factors score, the odds of major evasion decreased by 99.9% implying that improvements in taxpayer behavior, such as increased compliance or ethical tax practices, substantially reduce the probability of engaging in major tax evasion. The statistical significance of this coefficient ( $p = 0.001$ ) underscored the importance of addressing behavioral aspects in designing effective anti-evasion strategies, as they play a significant role in mitigating major tax evasion risks. Additionally, it was shown that changes or variations in behavioral factors do not have a statistically significant impact on the likelihood of minor tax evasion. Generally, the MLR results for the variable indicated that behavioral factors had a negative considerable influence of tax evasion among individual taxpayers with other sources of income in Nairobi Metropolitan Area, Kenya. An increase to strict adherence to religious principles, positive tax morale, good personality traits and peer influence from friends and close relations would make an individual taxpayer with other sources of income to shy away from not declaring their taxable income or under-declaring their taxable income. The findings of this study agreed with the concept proposed by the Theory of Planned Behavior that a taxpayer's attitude linked to his or her personality traits and subjective norms such as good personal ethics and adherence to religious beliefs leads to a good behavior of always being tax compliant.

The MLR results for the variable indicate that behavioral factors had a negative considerable influence of tax evasion among individual taxpayers with other sources of income in Nairobi Metropolitan Area, Kenya. An increase to strict adherence to religious principles, positive tax morale, good personality traits and peer influence from friends and close relations would make an individual taxpayer with other sources of income to shy away from not declaring their taxable income or under-declaring their taxable income. The findings of this study agreed with the concept proposed by the Theory of Planned Behavior that a taxpayer's attitude linked to his or her personality traits and subjective norms such as good personal ethics and adherence to religious

beliefs leads to a good behavior of always being tax compliant (Fishbein & Ajzen, 1975; Ajzen, 1985; Frederick & Peter, 2019).

The findings disagreed with Illahi and Sumarni (2021) who observed that religiosity as a behavioral factor does not influence tax evasion. Though the findings of this study concurred with Boone *et al.* (2013) who observed that religiosity deteriorates tax evasion. This is because the more the individuals are conformed to their religious beliefs, the greater their characters, behaviors and ethics are shaped to produce morally upright people who would desist from participating in any wrong doings including tax evasion (Mohdali & Pope, 2014). The findings of the study also concurred with Alkhatib *et al.* (2019) who observed that peer influence as a behavioral factor decreases tax evasion. A taxpayer will be willing to pay and file his or her tax dues if they perceive that their co-workers, family members or friends are also paying and filing their tax dues (Beck & Ajzen, 1991; Puspitasari & Meiranto, 2014). The findings of the study also agreed with Richardson (2006) who observed that personal ethics as a behavioral factor considerably reduces tax evasion. Personal ethics characterized by guilt feeling and shame as a result of tax evasion that is considered to be bad in the moral code will force taxpayers to be always compliant (Martinez-Vazquez & Torgler, 2009; Torgler, 2009; Alzeer *et al.*, 2019). Conversely, the findings of the study disagreed with the research outcomes observed by Fellner *et al.* (2013) and Ariel (2012) who noted that ethics does not considerably reduce tax evasion.

The findings of the study also sharply disagreed with the research outcomes of Slehat (2009) who observed that ethics had a strong positive relationship with tax evasion. This probably means that personal ethics does not necessarily curb tax evasion since most of the people do not really put into practice their moral code beliefs (Bobek & Hatfield, 2003; McGee & Preobragenskaya, 2005). Besides that, the findings of the study concurred with the research outcomes of Owusu *et al.* (2022) who observed that personality traits consisting of openness to experience, agreeableness and conscientiousness reduces tax evasion. The findings of this study also agreed with the research outcomes of Parwati *et al.* (2021) and Owusu *et al.* (2022) who also noted that tax morale considerably reduces tax evasion since people will be motivated to pay and report their tax dues knowing that they will benefit from it as a result of increased public goods in the country.

### **5.2.2 Influence of Administrative Factors on Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The second specific objective was to establish the influence of administrative factors on tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. The objective was addressed by descriptive analysis involving mean scores and MLR analysis. The descriptive results observed that the respondents agreed that the severity of tax penalties discourages them from evading taxes. The results also indicated that the respondents agreed that the likelihood of them being audited by tax authorities prevented them from evading taxes, and that the availability of tax incentives made them less likely to evade taxes. The descriptive results also found that the respondents agreed that they were more willing to pay taxes if they believed the government is spending tax money wisely. Further it was also observed that the respondents were indifferent that the quality of governance affects their willingness to comply with tax regulations. Moreover, descriptive results showed that the respondents were indifferent that they believed that the current tax system is fair, which motivates them to pay taxes honestly. Finally, the findings observed that the respondents were indifferent that if they perceived that everyone is paying their fair share of taxes, they will be more likely to do the same.

Multinomial logistic regression results showed that for every one-unit increase in the administrative factors score, the odds of major evasion decrease by approximately 98.8% ( $(\exp) - 4.463$ ). This substantial reduction in the odds of major evasion underscored the critical role of administrative factors such as tax enforcement efficiency, audit effectiveness, and regulatory measures in deterring tax evasion implying that improvements in administrative factors lead to a more robust tax compliance environment, making it harder for individuals or entities to engage in major evasion practices. This suggests that variations or changes in administrative factors do not have a statistically significant impact on the likelihood of minor tax evasion occurrences. The odds ratio of 0.999, which is very close to 1, further supported this interpretation. The findings could be interpreted that tax administrative policies such as tax penalties, tax audits, government spending, tax fairness and quality of governance can make a tax payer with other sources of income not to evade reporting their tax dues. The findings concurred with the proposition of the economic deterrence theory, since it established that the taxpayers do strongly consider if the costs of non-complying such as tax penalties, tax audits and sanctions outweighs the benefits of being tax compliant.

The findings could be interpreted that tax administrative policies such as tax penalties, tax audits, government spending, tax fairness and quality of governance can make a tax payer with other sources of income not to evade reporting their tax dues. The findings concurred with the proposition of the economic deterrence theory, since it established that the taxpayers do strongly consider if the costs of non-complying such as tax penalties, tax audits and sanctions outweighs the benefits of being tax compliant (Mengere, 2014). This implies that the individual taxpayers with other sources of income in Nairobi Metropolitan area, Kenya are rational maximizers (Mengere, 2014; Ruth, 2019).

The findings of the study disagreed with those reported Ameyaw and Dzaka (2016), Warren (2005) together with Gemmell and Marisa (2012) who observed that administrative factors comprising of tax audits and penalties considerably escalates tax evasion among the individual taxpayers. This is because administrative measures involving tax audits and penalties are supposed to curb tax evasion (Allingham & Sandmo, 1972; Spicer & Lundstedt, 1976). It should be noted that unfairly high tax penalties will discourage taxpayers from voluntarily being tax compliant even if regular tax audits are conducted (Thomas, 2015). The findings of the study concurred with Engida and Baisa (2014) who observed that administrative factors comprising of government spending, equity and fairness in the tax administration, penalty and the role of tax authority did not considerably influence tax compliance in the context of Mekelle city, Ethiopia.

### **5.2.3 Influence of Economic Factors on Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The third specific objective was to establish the influence of economic factors on tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. The descriptive results based on the objective showed that the respondents neither agreed nor disagreed that high tax rates made them consider evading taxes. The findings also revealed that the respondents moderately agreed that lower tax rates would increase their compliance with tax regulations. Besides that, most the respondents indicated that they were indifferent that the level of income influences their decision on whether to evade taxes, and moderately agreed that they found it more difficult to pay taxes when their income was low. The results also revealed indifference among the taxpayers on the statement that the complexity of tax filing procedures makes them consider not complying fully with tax requirements. Moreover, the findings of the study showed that the respondents were

indifferent that the costs associated with complying with tax regulations (e.g., time, money) were too high.

Multinomial logistic regression results based on the third objective revealed a substantial positive influence on the likelihood of major tax evasion. Specifically, it was shown that when the economic factors score increases by one unit, the odds of major evasion increase by up to 99. % ((exp) 9.891). This means that there is an extremely high chance of major tax evasion occurring, very close to certain with a unit increase in economic factors. This means that changes in economic conditions, such as higher income taxes or compliance costs, significantly enhance major tax evasion behaviors. The magnitude of this impact was underscored by the odds ratio associated with the beta value, suggesting a substantial increase in the odds of major tax evasion with each incremental improvement in economic factors. The odds ratio of 0.485 supported this interpretation, indicating that higher economic factors are associated with an increase in the odds of minor tax evasion, although this association is not strong enough to be considered statistically significant based on the p-value. The findings concurred with the Classical Growth Theory based on the principle equity that high tax rates on all levels of income would unfairly eat up a huge portion of a taxpayer's income thus this would make him or her to conceal some of their sources of income in order to evade filing their tax returns.

The findings for this objective could be interpreted to imply that economic factors considerably escalate tax evasion among individual taxpayers with other sources of income in Nairobi Metropolitan Area, Kenya. The findings of the study are in consensus with the research outcomes of Ruth (2019) who observed that economic factors comprising of tax rates and income levels substantially increases tax evasion among the SMEs, in Nairobi County. The findings concur with the Classical Growth Theory based on the principle equity that high tax rates on all levels of income would unfairly eat up a huge portion of a taxpayer's income thus this would make him or her to conceal some of their sources of income in order to evade filing their tax returns (Inter-American Center for Tax Administrations, 2017).

This is because the given taxpayers would view the tax system as being not equitable since it won't allow them to keep a fair amount of income, enough to cater for their personal needs (Cedar, 2020; Britannica, n.d.; Hayes, Boyle & Eichler, 2022). However, it's interesting to note that the findings of this study are not in tandem with the research outcomes of Fasina and Olowokere (2013), Nhano

*et al.* (2013) and Adebisi *et al.* (2013) which noted that tax rate as an economic factor considerably reduces tax evasion. This could be probably due to the fact that an upsurge of tax rates characterized by stringent penalties and audits will make the taxpayers to be afraid of engaging in tax evasion and constantly make efforts to be always tax compliant (Doran, 2009). The findings of the study agreed with Majiwa (2016) who observed that compliance cost as an economic factor considerably decreases tax compliance among individual taxpayers. Besides that, the findings of the study disagreed with the research outcomes of Efeeloo and Dick (2018) together with Lutfi (2009) who observed that the level of income as an economic factor does not considerably affect tax evasion. This meant that taxpayers are not influence to evade taxes if they are either low-income earners, middle-income earners or high-income earners even if the tax rates are considerably high and are really eating up their income (Ali, 2018).

#### **5.2.4 Moderating Effect of Age and Level of Education on the Relationship between the Factors and Tax Evasion among Individual Taxpayers in Nairobi Metropolitan Area, Kenya**

The fourth specific objective was to establish the moderating effect of age and level of education on the relationship between the factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. Results based on the MLR indicated that as the interaction between behavioral factors and age increases, the log-odds (chances) of major tax evasion also increase significantly. This implies that the impact of behavioral factors on tax evasion varies by age, with older individuals being more likely to commit major tax evasion as behavioral factors increase. The findings observed that as a taxpayer advances in age, his or her personal ethics, tax morale and religious beliefs fade away and they start to think more of themselves in regard to what can personally benefit them at whatever cost. This also means that the older taxpayers would use their professional knowledge and experience accumulated over the years to look go creative ways including cleverly navigating through the legal hurdles to conceal their other sources of income in order to evade taxes. Based on the social identity theory, the study confirmed that older taxpayers with other sources of income are more likely to evade taxes when compared to the younger taxpayers since their behavior changes into a self-centred trait.

Based on the social identity theory, the study confirmed that older taxpayers with other sources of income are more likely to evade taxes when compared to the younger taxpayers since their behavior changes into a self-centred trait (Trepte & Loy, 2017; Ruth, 2019). The study findings

however disagreed with McGee and Tusan (2008) together with Cyan *et al.* (2016) who observed that older taxpayers are highly unlikely to evade their tax obligations when compared to younger taxpayers. The findings of the study contrasted with the research outcomes of Oduro *et al.* (2017) who observed that age had no considerable effect on tax evasion among the individual taxpayers.

Results also showed that the interaction between administrative factors and age increases, the log-odds of major tax evasion also increase significantly implying that the impact of administrative factors on tax evasion vary by age, with older individuals being more likely to commit major tax evasion as administrative factors increase. The findings of the study observed that an increase of the individual taxpayer's age would lead to a positive significant relationship between administrative factors and tax evasion among individual taxpayers with other sources of income in Nairobi Metropolitan Area, Kenya. This meant that older taxpayers can end up evading taxes willingly when the administrative tax system is too complex for them to understand especially in matters to do with iTax system which most of them do not understand when compared to younger taxpayers. The findings meant that irrespective of whether a taxpayer is young or old, high level of tax rates and compliance costs would make him or her to be discouraged from fulfilling their tax obligations since they will end up saving little returns thus, making them to engage in tax evasion (Mughal & Akram, 2012; Mansor & Gurama, 2016; Ruth, 2019). Though in Kenya this is not a severe case because even when tax rates are raised, people still continue to be tax compliant since they fear that if they engage in tax evasion, then serious penalties involving fines or imprisonment can be subjected against them (Lewis *et al.*, 2009; Amponsah *et al.*, 2019; Rashid, 2020). The findings of this study agreed with the research outcomes of Oduro *et al.* (2017) who observed that age had no considerable effect on tax evasion among individual taxpayers. However, the findings of this study disagreed with the results observed by Cyan *et al.* (2016) in Pakistan that older taxpayers especially women would continue to be tax compliant despite high tax rates since they possess greater tax morale.

It was also revealed that the interaction term for economic factors and age had a positive but not statistically significant effect on the log-odds of major tax evasion which implies that age does not significantly moderate the relationship between economic factors and major tax evasion. Consequently, interventions targeting economic factors to reduce tax evasion may not need to be specifically age-targeted. Generally, the findings of the study observed that an increase of the

individual taxpayer's age would lead to a positive insignificant relationship between economic factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. The findings meant that irrespective of whether a taxpayer is young or old, high level of tax rates and compliance costs would make him or her to be discouraged from fulfilling their tax obligations since they will end up saving little returns thus, making them to engage in tax evasion.

Regression results showed that as the interaction between behavioral factors and education increased, the chances of major tax evasion decreased significantly which implies that education significantly moderates the relationship between behavioral factors and tax evasion, with higher levels of education reducing the impact of behavioral factors on the likelihood of major tax evasion. The findings of the study observed that an increase of the individual taxpayer's level of education would lead to a negative significant relationship between behavioral factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. This means that as an individual taxpayer acquires more education then his or her behavior changes to agree with the tax policies of the country and become more tax compliant since they know that the tax revenue generated would play a major role in developing their country.

It was also shown that as the interaction between administrative factors and education increases, the chances of major tax evasion decrease significantly which means that education significantly moderates the relationship between administrative factors and tax evasion, with higher levels of education reducing the impact of administrative factors on the likelihood of major tax evasion. This could imply that enhancing education on tax laws, procedures, and ethical conduct, it is possible to reduce tax evasion rates effectively. The findings of the study observed that an increase of the individual taxpayer's level of education would lead to a negative significant relationship between administrative factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya.

Results also showed that the interaction between economic factors and education has a negative statistically insignificant effect on the log-odds of major tax evasion. Practically, this implies that education does not significantly moderate the relationship between economic factors and major tax evasion. Consequently, interventions targeting economic factors to reduce tax evasion may not need to be specifically education-focused. The findings of the study observed that an increase of

the individual taxpayer's level of education would lead to a negative insignificant relationship between economic factors and tax evasion among individual taxpayers in Nairobi Metropolitan Area, Kenya. This means that as an individual taxpayer acquires more education then his or her behavior changes to agree with the tax policies of the country even if the tax rates are high, thus becoming more tax compliant since they know that the tax revenue generated would play a major role in developing their country. This means that as an individual taxpayer acquires more education then his or her behavior changes to agree with the tax policies of the country and become more tax compliant since they know that the tax revenue generated would play a major role in developing their country (Cyan *et al.*, 2016; Islam *et al.*, 2020; Owusu *et al.*, 2022). Though this does not apply to every taxpayer since other taxpayers could be tax compliant because they are older or because they fear tax penalties that can be instituted to them or simply because the tax system is fair (Devos, 2008; Engida & Baisa, 2014; Ruth, 2019; Islam *et al.*, 2020).

### **5.3 Conclusions**

The findings from the multiple linear regression (MLR) analysis based on the first objective highlight the critical role of behavioral factors in influencing tax compliance, particularly in reducing major tax evasion among individual taxpayers with additional sources of income in the Nairobi Metropolitan Area, Kenya. The analysis revealed a significant negative impact of behavioral factors on the likelihood of major tax evasion. It is concluded that enhancements in taxpayer behavior, such as increased compliance, ethical tax practices, adherence to religious principles, and positive tax morale, substantially reduce the probability of engaging in major tax evasion. The analysis also showed that variations in behavioral factors did not have a statistically significant impact on the likelihood of minor tax evasion. It is concluded that while behavioral improvements are highly effective in curbing major tax evasion, they do not significantly influence minor evasion. This could be attributed to the nature of minor evasion, which might be driven by different factors or considered less risky by taxpayers.

Results based on the second objective revealed a substantial reduction in tax evasion as a result of increase in administrative factors which highlights the effectiveness of robust administrative measures such as efficient tax enforcement, thorough audit processes, and stringent regulatory frameworks in deterring tax evasion. These findings imply that improvements in administrative factors create a more formidable tax compliance environment, making it increasingly challenging

for individuals or entities to engage in major evasion practices. Interestingly, the study also found that variations in administrative factors do not significantly impact the likelihood of minor tax evasion. Based on this, it is concluded that while administrative measures are highly effective in curbing major evasion, they do not have the same influence on minor evasion, possibly due to differing motivations and perceived risks associated with minor infractions. It is also concluded that effective administrative policies, including rigorous tax audits, substantial penalties for non-compliance, fair and transparent tax systems, and efficient government spending, play a crucial role in enhancing tax compliance. These measures ensure that taxpayers with other sources of income are less inclined to evade reporting their tax dues.

Based on results for objective three, it is concluded that economic factors play a significant role in influencing tax evasion behaviors, particularly major tax evasion among individual taxpayers with additional income sources in the Nairobi Metropolitan Area, Kenya. The analysis revealed that an increase in economic factors such as higher income taxes or increased compliance costs significantly drives taxpayers towards major evasion behaviors. This suggests that worsening economic conditions substantially increase the likelihood of major tax evasion. The findings indicate that economic pressures compel taxpayers to engage in evasion to protect their income from substantial tax liabilities. Furthermore, while economic factors also affect minor tax evasion, the impact is less pronounced, suggesting that minor evasion is influenced by different motivations and perceived risks compared to major evasion. The study aligns with the Classical Growth Theory, which posits that high tax rates disproportionately burden taxpayers, leading them to conceal income to evade filing tax returns. This principle of equity highlights how excessive taxation can erode the taxable base as individuals seek to protect their income.

The study's examination of the moderating effects of age and level of education on tax evasion among individual taxpayers in the Nairobi Metropolitan Area, Kenya, unveiled new insights critical for informing tax policy and enforcement strategies. The findings show a notable relationship between age and tax evasion, particularly highlighting that older individuals are prone to engaging in major tax evasion as behavioral and administrative factors intensify. This underscores the necessity for tailored interventions specifically designed to address the unique challenges faced by this demographic segment. The study shows that as individuals age, their propensity for major tax evasion rises significantly in tandem with escalating behavioral factors,

thereby necessitating targeted interventions to mitigate this trend effectively. Furthermore, the study delves into the intricate interplay between education and tax evasion, revealing that higher levels of education serve as a potent moderator, mitigating the influence of both behavioral and administrative factors on tax evasion. Educated taxpayers, armed with a deeper understanding of tax policies and procedures, exhibit greater compliance, thereby contributing positively to overall tax revenue. This underscores the transformative power of education in shaping taxpayer behavior and fostering a culture of tax compliance. However, the study notes that education's moderating impact on economic factors related to tax evasion is statistically insignificant, suggesting that while education plays a crucial role in enhancing tax compliance, it may not significantly influence the economic determinants of tax evasion.

It is recommended that there is need for targeted interventions that address the specific challenges faced by older taxpayers, such as simplifying tax systems and providing accessible educational resources tailored to their needs. Additionally, enhancing tax literacy and promoting ethical tax practices among individuals of all ages, particularly through educational initiatives, can yield substantial improvements in tax compliance rates. Moreover, the study underscores the importance of a multifaceted approach that combines behavioral, administrative, and educational strategies to effectively combat tax evasion. By understanding the intricate dynamics between age, education, and tax behavior, policymakers and tax authorities can devise more nuanced and effective measures to enhance tax compliance and revenue collection.

## **5.4 Recommendations**

### **5.4.1 Recommendations for Theory**

The findings suggest enhancing the theoretical framework by integrating models of rational choice and deterrence theory. Future research should consider the role of perceived risk and cost-benefit analysis in taxpayer behavior. Additionally, incorporating psychological and sociocultural factors could provide a more comprehensive understanding of the motivations behind major tax evasion.

### **5.4.2 Recommendations for Policy**

Based on the study findings and conclusions, the following recommendations are made. Policymakers should promote ethical tax practices and enhance taxpayer behavior through targeted education campaigns and community programs that emphasize compliance, religious principles, and positive tax morale. Additionally, fostering peer influence and social norms supportive of tax

compliance can further reduce major tax evasion. Authorities should consider differential strategies for minor evasion, addressing specific drivers and perceptions of risk associated with it. By focusing on behavioral interventions and creating a culture of compliance, tax authorities can significantly mitigate major tax evasion and improve overall tax compliance.

Based on the conclusions from the second objective, it is recommended that KRA should prioritize the enhancing of administrative measures to combat major tax evasion effectively. Key recommendations include increasing the efficiency and frequency of tax audits to ensure thorough oversight and deterrence. Implementing substantial penalties for non-compliance will raise the perceived costs of evasion, aligning with the economic deterrence theory. Additionally, improving the transparency and fairness of the tax system can foster taxpayer trust and compliance. Investing in advanced technology and data analytics can enhance audit effectiveness and identify potential evasion more accurately. It is also recommended that government spending is efficiently allocated to improve the perceived value of tax contributions, thereby encouraging voluntary compliance. While these measures primarily target major evasion, tailored strategies should be developed to address minor evasion, considering its different motivations and risk perceptions. By strengthening these administrative factors, the revenue authority can create a more robust compliance environment, significantly reducing major tax evasion and improving overall tax revenue.

Based on the conclusions for objective three, it is recommended that KRA adopts a multifaceted approach to address economic factors driving tax evasion. This can be done by first implementing equitable tax policies that balance revenue needs without excessively burdening taxpayers, reducing the incentive for major evasion. Moreover, lowering income tax rates or offering tax incentives can make compliance more attractive. Additionally, streamlining tax compliance processes to reduce administrative and compliance costs will further alleviate taxpayer burdens. It is also recommended that KRA should enhance taxpayer education programs to improve understanding of tax obligations and the benefits of compliance and investing in advanced data analytics and technology can help identify and address evasion more effectively. Finally, fostering a culture of tax compliance through community engagement and highlighting the positive impact of tax contributions on public services can build trust and encourage voluntary compliance.

Based on the study's findings, a multifaceted policy approach is recommended to address tax evasion among individual taxpayers in the Nairobi Metropolitan Area. Firstly, there is a critical need to simplify the tax system, particularly for older taxpayers, by providing clear guidelines and support tools that enhance their understanding and compliance. This could involve developing user-friendly interfaces for tax filing platforms and offering accessible educational materials tailored to different age groups and educational backgrounds. Secondly, targeted educational campaigns should be implemented to promote tax literacy and ethical tax practices across all demographics, emphasizing the importance of tax revenue in supporting public services and infrastructure development. Thirdly, enhancing tax enforcement mechanisms, especially concerning major tax evasion cases, is essential to deter non-compliance and uphold fairness in the tax system. By combining these strategies, policymakers can create an environment conducive to greater tax compliance, thereby increasing revenue collection and fostering sustainable economic growth in the Nairobi Metropolitan Area.

#### **5.4.3 Recommendations for Practice**

The substantial positive influence on the likelihood of major tax evasion identified through multinomial logistic regression suggests several practical recommendations. Tax authorities should enhance detection mechanisms and increase the perceived risk of getting caught. This could involve investing in advanced data analytics and cross-referencing financial transactions to identify suspicious patterns. Additionally, increasing the severity and visibility of penalties for major tax evasion could act as a stronger deterrent. Implementing targeted educational campaigns to raise awareness about the legal and moral consequences of tax evasion can also be effective. Tailored communication strategies that address specific demographics prone to evasion could improve compliance. Furthermore, simplifying the tax code and making compliance easier and more straightforward can reduce unintentional evasion and increase voluntary compliance. Collaborative efforts with other governmental and financial institutions can ensure a more robust and comprehensive approach to combating tax evasion.

#### **5.5 Limitations of the Study**

This study was limited in the context of Nairobi Metropolitan Area, Kenya. Future studies can embark on carrying out a similar research investigation in the context of the whole country or even

in other nations in Africa. Additionally, other demographic factors such as gender and area of residence can be explored in regard to how they moderate the relationship between the determinants of tax evasion and tax evasion. Finally, this study had exclusively relied on structured questionnaires to obtain data that was used to address its objectives. Future studies can use interviews and focused group discussion to obtain a more and deeper understanding of the determinants of tax evasion and the moderating effect of demographic factors.



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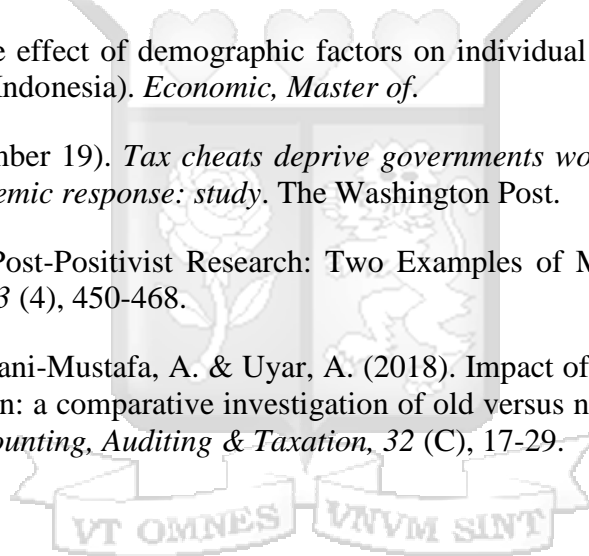
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## APPENDICES

### APPENDIX ONE: QUESTIONNAIRE

Dear respondent, this questionnaire seeks to establish the determinants of tax evasion and moderating role of age and education level among individual taxpayers in Nairobi, Kenya. Your responses that will be availed to the question items in this questionnaire will help the researcher in addressing the aforementioned research goal. You are kindly requested to partake in this study by answering all the questions presented in this research instrument. You are assured that you will not be profiled in any manner and the responses recorded in this questionnaire will only be used for scholarly purposes, thank you in advance. You are humbly requested to answer every question item by ticking (✓) inside the appropriate bracket [ ].

#### SECTION A: DEMOGRAPHIC INFORMATION

1. Gender: Are you a Male? [ ] Or a Female? [ ]
2. Kindly indicate the sector in which you are employed; Public Sector [ ] Private Sector [ ]  
NGO Sector [ ]
3. What are you other sources of income apart from employment?  
Rental income [ ] Income from sale of properties [ ] Income from supply of goods [ ]  
Income derived from consultancy services [ ] Income generated from online businesses [ ]  
Income generated from informal businesses [ ]
4. Kindly indicate the age bracket you fall in;  
25-30 years old [ ] 30-35 years old [ ] 35-45 years old [ ] 45-55 years old [ ] 55-60 years  
old [ ]
5. What is your level of education?  
Certificate holder [ ]  
Diploma holder [ ]  
Bachelor Degree holder [ ]  
High Diploma Holder [ ]  
Master Degree Holder [ ]  
PhD holder [ ]

**SECTION B: BEHAVIORAL FACTORS OF INDIVIDUAL TAXPAYERS IN NAIROBI METROPOLITAN AREA, KENYA**

You are humbly requested to answer every question item by ticking (√) inside the appropriate column. The rating scale used is as follows; sharply disagree (1), disagree (2), Not Sure (3), agree (4) and sharply agree (5).

No.	Statement	Sharply Disagree	Disagree	Not Sure	Agree	Sharply Agree
1.	My religious beliefs strongly discourage me from engaging in tax evasion					
2.	I believe that paying taxes is a moral obligation dictated by my faith.					
3.	I am more likely to evade taxes if my friends or colleagues do the same.					
4.	I feel social pressure to comply with tax regulations because most people I know do so					
5.	I consider tax evasion to be ethically wrong, regardless of the circumstances					
6.	My personal values make it difficult for me to justify evading taxes					
7.	Paying taxes is an important duty that supports the common good and public services					
8.	I feel a strong sense of responsibility to pay my taxes honestly					
9.	I am generally a conscientious person who prefers to follow rules and regulations					

**SECTION C: ADMINISTRATIVE FACTORS OF INDIVIDUAL TAXPAYERS IN NAIROBI METROPOLITAN AREA, KENYA**

You are humbly requested to answer every question item by ticking (√) inside the appropriate column. The rating scale used is as follows; sharply disagree (1), disagree (2), not sure (3), agree (4) and sharply agree (5).

No.	Statement	Sharply Disagree	Disagree	Not Sure	Agree	Sharply Agree
1.	The severity of tax penalties discourages me from evading taxes.					
2.	The likelihood of being audited by tax authorities prevents me from evading taxes.					
3.	Availability of tax incentives encourage me to declare all my taxes					
4.	I am more willing to pay taxes if I believe the government is spending tax money wisely					
5.	The quality of governance affects my willingness to comply with tax regulations					
6.	I believe the current tax system is fair, which motivates me to pay taxes honestly					
7.	If I perceive that everyone is paying their fair share of taxes, I am more likely to do the same.					

**SECTION D: ECONOMIC FACTORS OF INDIVIDUAL TAXPAYERS IN NAIROBI METROPOLITAN AREA, KENYA**

You are humbly requested to answer every question item by ticking (√) inside the appropriate column. The rating scale used is as follows; sharply disagree (1), disagree (2), not sure (3), agree (4) and sharply agree (5).

No.	Statement	Sharply Disagree	Disagree	Not Sure	Agree	Sharply Agree
1.	High tax rates make me consider evading taxes.					
2.	I believe lower tax rates would increase my compliance with tax regulations					
3.	My level of income influences my decision on whether to evade taxes					

4.	I find it more difficult to pay taxes when my income is low					
5.	The complexity of tax filing procedures makes me consider not complying fully with tax requirements.					
6.	The costs associated with complying with tax regulations (e.g., time, money) are too high.					






**SECTION E: TAX EVASION AMONG INDIVIDUAL TAXPAYERS IN NAIROBI METROPOLITAN AREA, KENYA**

You are humbly requested to answer every question item by ticking (√) inside the appropriate column. The rating scale used is as follows; sharply disagree (1), disagree (2), not sure (3), agree (4) and sharply agree (5).

No.	Statement	Sharply Disagree	Disagree	Not Sure	Agree	Sharply Agree
1.	I sometimes do not declare all my income to avoid paying taxes					
2.	I often report less income than I actually earn to reduce my tax liability					
3.	Under-declaring my income is a common practice for me to lower my tax payments.					
4.	I sometimes claim personal expenses as business expenses to reduce my taxable income					
5.	Expense claims is a strategy I use to minimize my tax payments					

**THANK YOU FOR ANSWERING ALL THE QUESTIONS**

# APPENDIX TWO: NACOSTI RESEARCH PERMIT

 <b>REPUBLIC OF KENYA</b>	 <b>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY &amp; INNOVATION</b>
Ref No: <b>368004</b>	Date of Issue: <b>30/June/2023</b>
<b>RESEARCH LICENSE</b>	
	
<b>This is to Certify that Mr.. SAMUEL NJUGUNA KURIA of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kajiado, Kiambu, Machakos, Muranga, Nairobi on the topic: DETERMINANTS OF TAX EVASION AND MODERATING ROLE OF AGE AND EDUCATION LEVEL AMONG INDIVIDUAL TAXPAYERS IN NAIROBI, KENYA for the period ending : 30/June/2024.</b>	
License No: <b>NACOSTIP/23/27260</b>	
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The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

**CONDITIONS OF THE RESEARCH LICENSE**

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
  - i. Endanger national security
  - ii. Adversely affect the lives of Kenyans
  - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
  - iv. Result in exploitation of intellectual property rights of communities in Kenya
  - v. Adversely affect the environment
  - vi. Adversely affect the rights of communities
  - vii. Endanger public safety and national cohesion
  - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
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5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
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9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
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13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

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