

**EFFECT OF AD VALOREM TAX VALUATION ON REVENUE  
PERFORMANCE, A CASE OF SECONDHAND MOTOR VEHICLE  
DEALERS IN NAIROBI COUNTY, KENYA**

**BY**

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## DECLARATION

### Student Declaration

This research project is my original work and has not been presented for a degree at any other University.

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## **DEDICATION**

I dedicate this entire piece of work to my immediate family members starting with my dear wife and the children. Without their constant moral and spiritual support as well as encouragement, I wouldn't have made it this far. May God bless you as we embark on greater journeys ahead of us together.

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## ABSTRACT

Tax revenues are a critical component of government resources in almost all economies as they support the role of government in providing public services, re-distribution of income, and implementing other fiscal policy concerns. However, tax revenue performance often faces challenges that deny many governments the ability to meet their economic growth and development ambitions. Some of these challenges are internal and while others emanate from the taxpayers. The study attempted to determine the effect of ad valorem tax valuation on secondhand motor vehicle dealers in Nairobi County. The specific objective of the study was to determine the effect of tax rates, the effect of the system of valuation, and the effect of policies and regulations on revenue performance. The study was anchored on the Laffer Curve theory, the technology acceptance model theory, and the theory of planned behavior. The study adopted an explanatory research design. The study targeted a population of 3055 employees of the department of customs and border control of the Kenya Revenue Authority segmented into various levels. A sample of 354 was drawn from the population using the Bridget and Lewin formula and the respondents' response rate of 72% was obtained. A questionnaire was used to collect primary data and analysis included both descriptive and inferential statistics. The study adopted Multiple Regression model for its inferential analyses. Descriptive statistics were presented in tables while correlation and regression analysis were used for inferential statistics. The findings of the study indicated that tax rates, system of valuation, and policies and regulations had positive and significant effect on revenue performance. These results were evidenced by the standardized beta values of 0.179 for tax rates, of 0.440 for system of valuation, and of 0.308 for policies and regulations. A unit change in tax rates increased revenue performance by 0.179. A unit change in the system of valuation increased revenue performance by 0.440. A unit change in policies and regulation increased revenue performance by 0.308. Further, the findings of the study revealed that the correlation coefficient of R was 0.697 and the R square was 0.486. The model revealed an R squared of 0.486 where the factors under the study, contributed to 48.6% of the revenue performance while the remaining 51.4% can be explained by other factors which were not part of this study. These factors could include but not limited to demographic, cultural, economic and other externalities. Based on the findings of the study, it was concluded that tax rates, system of valuation, and policies and regulations influenced revenue performance. The study, thus, recommended that Kenya Revenue Authority, and the government should put in place concrete policies & regulatory frameworks that are favorable to Kenyan motor vehicle dealers. This is to work in harmony with the effects of regional and community blocks import barriers and that affect the importation and sale of motor vehicles. The study suggests the need for more studies focusing on other factors determining revenue performance not included in the study such as cultural, economic, social and other externalities across other properties valuations in Kenya.

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**ABBREVIATIONS AND ACRONYMS**

<b>ADRL</b>	–	Auto-Regressive Distributed Lag
<b>ASYCUDA</b>	-	Automated Systems for Customs Data
<b>ATAF</b>	–	Africa Tax Administration Forum
<b>CFI</b>	–	Corporate Finance Institute
<b>CRSP</b>	–	Current Retailing Selling Price
<b>EAC</b>	–	East Africa Community
<b>EACCMA</b>	–	East Africa Community Customs Management Act
<b>ETR</b>	–	Electronic Tax Register
<b>FY</b>	–	Financial Year
<b>GDP</b>	–	Gross Domestic Product
<b>iCMS</b>	–	Integrated Customs Management System
<b>iTax</b>	–	Integrated Tax Management System
<b>KNBS</b>	–	Kenya National Bureau of Statistics
<b>KRA</b>	–	Kenya Revenue Authority
<b>MSMEs</b>	–	Micro-Small and Medium Enterprises
<b>OECD</b>	–	Organizations for Economic Corporation and Development
<b>PWC</b>	–	Price Water Coopers
<b>RECTS</b>	–	Regional Electronic Cargo Tracking System
<b>SPSS</b>	–	Statistical Package for Social Research
<b>VAT</b>	–	Value Added Tax

## OPERATIONAL DEFINITION OF TERMS

**Ad Valorem** – this is the valuation of property including land, buildings and other movable property based on their current retailing market values, for the purposes of computing the amount of taxes to be paid on such property by the taxpayer. Value based taxation is often affected by the tax rates applicable, systems of valuation used, and policies and regulations that operationalize such ad valorem tax administration (Stehr, 2017).

**Policies and Regulations** – these are the legal, statutory, and fiscal frameworks used by various governments to control both export and import trades between countries and within the country. These policies and regulations include import tariffs, import barriers, and import quotas which would affect revenue performance in one way or the other based on their formulation and operationalization (Chiumia & Simwaka, 2012).

**Revenue Performance** – the measurement of tax revenue collected through the use of rates, numbers, or changes that have occurred over a while usually in a given financial year. Performance is measured using the amount of tax collected, the number of tax returns filed, and the number of compliance certificates acquired (Ozturk & Karabati, 2017).

**System of valuation** – these are the technologically based tax instruments used by the tax authorities to facilitate the interaction of taxpayers with the tax authority for computing, filing, and paying taxes due. These systems of valuation include the current retailing selling price (CRSP) system, integrated tax management (iTax) system, and integrated customs management (iCMS) system which would have some impact on revenue performance (Oriaki & Ahuru, 2014).

**Tax Rates** – the percentage charged on property imported into the country in this case secondhand motor vehicles where these rates include customs duty rates, excise duty rates, and value-added tax rates. These rates impact the total tax burden born by taxpayers in the motor vehicles sales industry (Annur *et al.*, 2018).

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

The chapter covers the introduction to the study, the background of the study, the problem statement, the general objective of the study, the specific objectives of the study, the research hypothesis, the significance of the study, and ends with the scope of the study.

#### **1.1 Background of the Study**

Tax revenues are a critical component of government resources in almost all economies as they support the role of government in providing public services, re-distribution of income, and implementing other fiscal policy concerns, such as securing sustained growth and encouraging desirable social economic behavior when combined with non-tax revenue (Wahrig & Gancedo, 2011). According to OECD (2020), relative to non-tax revenue sources, tax revenue sources are typically larger, more stable, and less vulnerable to external shocks. Tel Velde (2014) pointed out that as such taxes are critical input to governance and development. How the government chooses to raise tax revenues, either through choices of taxes and their levels, itself also has social and economic implications. For these reasons, the consideration of the level of and structure of taxes in an economy is a critical first step in tax policies and domestic revenue performance (OECD, 2020). According to Addis Tax Initiative agreements, there is a need to measure and evaluate factors that affect revenue performance to measure the domestic resource mobilization efforts (International Tax Compact, 2015).

According to Addison & Levin (2012), the level of taxes in an economy gives an indication of the resources available to the government to fund public services, invest in infrastructure, and redistribute income. It also provides a rough estimate of the

burden placed on the economy by the tax system. The tax-to-GDP ratio is the foundational indicator of revenue tax revenue performance in the economy. It provides the scales of tax revenues against the underlying economy which generated the revenues and permits comparisons across countries and across time (OECD, 2014). The tax-to-GDP ratio is therefore a critical starting point for discussion of government finance, tax policy reform, and domestic resources mobilization efforts. The level of tax-to-GDP ratio is influenced by several, and different factors as posited by Egwake & Hammed (2018). These factors include among others economic factors, such as the level of income in a country, as countries with higher economic income per capita tend to have higher levels of tax revenues. Other factors include consumption, the openness of trade, the size of the informal sectors, the composition of the economy, the tax systems, and the level of association of tax revenue to economic growth and development (OECD, 2020).

Looking at the global performance of revenue from the lenses of the tax-to-GDP ratio, several indicators highlight revenue performance across global regions. There is a great deal of heterogeneity across various countries and there has been a large amount of change in many countries in recent decades. A comparison of tax-to-GDP ratios for the most recently available years shows the diversity of tax revenue performance across countries and regions ranging from 10.8% of GDP to 30.3% in Africa, 11.8% to 30.7% in Asia, 12.4% to 38.6% in Latin America and the Caribbean and 16.2% to 45.9% in the OECD (OECD, 2020). Denmark for instance has the higher tax-to-GDP ratio during the entire period between the years 1995-2015 with a minimum of 43.8% and a maximum of 48.6%. Indonesia has a tax-to-GDP ratio of between 14.2% and 11.8% in 2015. Japan has a tax-to-GDP ratio of between 24.5% and 30.7% and still runs below the OECD averages. In the LAC region, Guatemala has the lowest tax-to-GDP ratio in

2015 between 8.8% to 13.9%. Among African countries, the Democratic Republic of the Congo has had the lowest regional tax-to-GDP ratio since the year 2000, notwithstanding a sharp increase of 10% points over 16 years, starting at just over 0% in 2000 and increasing to 10.8% in 2015 (OECD/AfDB, 2020).

The tax to GDP ratio exceeded 25% in four countries that are Morocco, Seychelles, South Africa, and Tunisia, and was less than 10% in five countries that is in Chad, the Republic of the Congo, the Democratic Republic of the Congo, Equatorial Guinea, and Nigeria. There is, however, some increase even though small and there is a need for more efforts to be put in place to ensure that the ratio at least matches the set targets (OECD/AUC/ATAF, 2020). According to OECD/AUC/ATAF (2020), Southern African Customs Union, the average tax to GDP ratio was 19.6% in 2018 with variations from 12.1% in Botswana and 29.1% of GDP in South Africa. While in EAC countries, the tax to GDP ratio was 15.5% in 2018 which was below the African average. Tax to GDP ratios in Kenya and Rwanda exceeded 17.0% in 2018 and amounted to 11.8% in Uganda. Kenya specifically had ratios between 10% and 25%. These figures point to the fact that Africa and its regional tax authorities still perform poorly in tax revenue as compared to other nations. Kenya was behind some of the continent regions, especially the south. It is also noteworthy that the main sources of revenue currently for the continent and the country is from sales and consumption. However, the gap existing in target revenue collection can be narrowed by widening tax bases to include a tax on property, digital economy, and others (World Bank, 2018).

### **1.1.1 Revenue Performance in Kenya**

According to KRA (2020), the revised revenue estimates for the financial year 2019/2020 was Kenya shillings 2.7 trillion; however, KRA only collected a total of Kenya Shillings 1.607 trillion in the financial year under review, which was an increase



from the estimates of the FY 2018/2019 of 1.505 trillion (KRA, 2019). According to KRA (2021), Revenue Performance Report, FY 2020/21) total revenue collected was KES 1.669 trillion an improvement from KES 1.607 trillion collected in the FY 2019/2020. Out of this budget, the tax revenue accounted for Kenya shillings 1.5 trillion, non-tax revenue Kenya Shillings 149.2 billion, domestic borrowing Kenya shillings 664.4 billion while external loans and grants amounted to 301.2 billion Kenya shillings. Tax revenue accounts for over 55% of the total government budget. Compared to global figures in the OECD countries and regional blocks, tax revenue performance is still behind these countries and there is a need to do more (OECD, 2020). Even though, KRA (2021) reports that for the past ten years from KES 707 billion in FY 2011/12 to KES 1.669 trillion in FY 2020/21 which is more than double the revenue that has been collected, still the gap in financing the national budget deficits. Part of the efforts to double the collection has been the adoption of stakeholder engagement where KRA has become more approachable and ready to dialogue issues pertinent to taxpayers. This has created a productive and improved tax environment encouraging more compliance and multistakeholder agencies' cooperation to seal revenue loopholes (KRA, 2021).

Kenya's economy depends a lot on the movement of people and goods from one point to the other. This is necessitated using motor vehicles, motorcycles, trains, and aircraft. The majority of this movement is completed by motor vehicles (World Bank, 2019). For economic reasons, purchasing brand new cars has been a reserve of the few due to cost constraints leading to the majority resorting to owning secondhand vehicles (Pemberton, Jonathan & Leoprick, 2019). These secondhand vehicles are mainly imported from Japan, and they range in engine and seating capacities among other details. These secondhand vehicles are majority traded by motor vehicle dealers with

few individuals importing the cars of their choice (Bouzig & Bochir, 2017). The KNBS (2020) reported that the value of output from road transport increased by 11.9 percent from Kenya Shillings 783.1 billion in the year 2018 to Kenya Shillings 876.4 billion in 2019. The value output from passenger traffic increased by 11.7 percent from 390.6 billion in the year 2018 to Kenya Shillings 436.3 billion in 2019. This signifies the importance of value creation in Kenya's economy by the transport sub-sector, which could also immensely contribute to improved revenue performance.

As the country grapples with huge debts and deficits, there is a need to further enhance revenue collection by either making efficient existing tax systems or also harmonizing areas in taxation which could present potential legal challenges that deny the government the much-needed tax, especially in the taxation of secondhand motor vehicles (IMF, 2020). All motor vehicles imported into Kenya are subject to various taxes including import duty, value-added taxes, and excise duty among other levies (KRA, 2020). According to Britannica (2020), an ad valorem tax is a property tax that is imposed based on the value of the commodity or the product to which is assessed. tax is imposed primarily upon land and buildings. In some countries, however, including the United States and Kenya, the tax is also imposed on business and farm equipment and inventories including automobiles, jewelry, and furniture, and even on such intangibles as bonds, mortgages, and shares of stock that represent claims on, or ownership of, tangible wealth (Shah *et al.*, 2014). The magnitude of the taxes in different countries vary greatly, depending on legal factors, administrative realities, tradition, availability of other sources of revenue, the organization of the government, and the public services provided (Stehr, 2017). The Kenya Revenue Authority, however, does not explicitly refer to the taxation of automobiles in Kenya as founded on tax criteria; however, in practice and legal terms, it is (KRA, 2021).

Egwakhe *et al.*, (2018), conducted a study on trade openness and tax revenue performance in Nigeria. The study used secondary data from 42 countries across the four sub-regions of Sub-Saharan Africa from the period of 2005 to 2012 with 252 year-country observations in an unbalanced panel method. The findings of the study revealed that economic freedom promotes tax revenue performance, which is freedom of property rights, freedom from corruption, investment freedom as well as composite economic freedom exerted a positive significant impact on tax revenue performance. This implies that a country that has attained a high degree of economic freedom, is likely to have a higher tax-to-GDP ratio than a country with a low level of economic freedom. Nosakhare & Izevbigie (2019) conducted a study on sectoral composition and tax revenue performance in ECOWAS countries. The study examined taxable capacity, tax efforts, and tax structure of 13 ECOWAS countries while taking into account three major economic sectors including agriculture, service, and industrial sectors for the periods between 2000 and 2015. They further suggested that it is important to enhance the taxable capacity of businesses, increase tax collection efforts, and the tax structure to ensure that appropriate taxes are collected contributing to improved revenue performance.

Babawale, (2013) posits that to carry out a good valuation on property tax, in this case on motor vehicles, the government must put in place an effective tax system where tax payments are made by every citizen and that the canons of taxes are upheld. He further states that these canons must include convenience, certainty, economy, and equity in tax administration. Idowu *et al.*, (2016), stress that one of the characteristics of a good value assessment practice in tax administration is that the assessed value must be fair to all parties to minimize contentions and disputes. The findings of the study revealed that a low taxable capacity and tax efforts in the agricultural, industrial, and service

sectors do not have much impact on revenue performance. Further results revealed that these three sectors express more favorable responses to the tax revenue performance compared to the agricultural sector. This study would therefore investigate the effects of ad valorem tax valuation on revenue performance through tax rates, system of valuation, and finally through policy and regulatory frameworks that inform the taxation of secondhand motors vehicles imported into Kenya.

## **1.2 Problem Statement**

Drawing from the theory of the Laffer Curve, revenue performance is affected by several factors chief being the rates that are applied across various tax bases. For revenue authorities to maximize revenue performance, which is the amount of tax collected to the efforts put in place, rates must be affordable across economic sectors (Lin & Jia, 2019). Across many countries in Africa, revenue performance has been affected among various sectors through potentially high taxes. This situation can be improved by ensuring that factors that affect revenue performance such as tax rates, a system of valuation, and policies and regulations are set within the optimums, promoting efficient and effective revenue collection (Nosakhare *et al.*, 2020). Taxpayers' behavior as posited by the theory of planned behavior, is affected by among other perceptions about the notion of the government behind the collection of taxes. Negative perceptions hamper revenue collection and hence performance irrespective of the economic sector or tax base to which it is applied (Ajzen & Fishbein, 2005). However, revenue authorities could minimize these behaviors by adopting the strategies proposed by the technology acceptance model, to improve the interaction between the taxpayers and the tax authority for better revenue performance (Shafeek, 2011).

Gaudin & White (2014) conducted a study on unit versus taxes under revenue maximization. The study compared unit and commodity tax revenue. The study found that tax revenue welfare dominates unit tax revenue if and only when the elasticity of demand locally increases in price. The indications for the studies reviewed show that tax is a superior tax category that could be adopted to enhance revenue performance. However, in Kenya, the ad valorem tax valuation is still a contentious issue marred with distrust and legal tussles between the revenue authority and the imported car dealers (Levin & Sunderasan, 2014). Accordingly, KRA (2020) recorded a decline in all taxes imposed on secondhand motor vehicles in the year 2020. These include customs duty which declined by 2.8%, VAT declined by 7% and excise duty declined by 6.4% (KRA, 2021). These losses in economic figures translate to Kenya shillings 25 billion (KRA, 2020). This loss could be narrowed down if the revenue authority could work around the tax rates, system of valuation, and finally regulate policies and other guides that inform the valuation of property for property taxation which then would lead to improved revenue performance (Atilola, 2013). The study investigated the effect of ad valorem tax valuation on revenue performance in a case of secondhand motor vehicle dealers in Nairobi County. The study findings identified valuable insights into the challenging environment of improving revenue performance to meet both social and economic gaps currently experienced in Kenya.

### **1.3 Objectives of the study**

The objectives of the study were divided into the general objective and specific objectives which the study sought to achieve.

### **1.3.1 General Objective**

The general objective of the study was to investigate the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County.

### **1.3.2 Specific Objectives**

The specific objectives of the study were:

- i. To determine the effect of tax rates on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County
- ii. To establish the effect of systems of valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County.
- iii. To investigate the effect of policies and regulations on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County.

### **1.4 Research Hypothesis**

The research hypotheses were:

**H<sub>01</sub>:** Tax rates have no significant effect on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County.

**H<sub>02</sub>:** System of valuation has no significant effect on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County.

**H<sub>03</sub>:** Policies and regulations have no significant effect on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County.

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

The study investigated the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. The findings of the study

may be used by the Kenya Revenue Authority for the administration of ad valorem-based taxes for improved revenue performance. The findings of the study can be used to improve the relationship between secondhand motor vehicle dealers and the tax authority. The study also sought to investigate the effect of existing tax rates on revenue performance in the case of secondhand motor vehicle dealers. The findings of the study can be used to redesign more suitable rates that become effective and efficient in the collection of tax towards better revenue collection.

The study also investigated the effect of the system of valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. The findings can be used to improve the system of valuation and ensure that taxpayers find it easier to pay their taxes with fewer disputes which would improve compliance hence better performance of tax revenue. Lastly, the study will try also investigated the effect of policies and regulations that govern the importation and administration on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. The findings of the study can be used to improve policies and regulations for enhanced administration of ad valorem tax valuation towards better revenue collection around imported vehicles in Kenya. The study findings would also contribute to academic knowledge by enhancing the understanding of scholars around ad valorem tax valuation and its effect on revenue performance conceptually and contextually.

### **1.6 Scope of the Study**

The study investigated the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. The specific interest was in the ad valorem tax valuation and its effect on revenue performance. It focused on whether these tax rates lead to increased revenue performance or not, whether the system of valuation increase revenue performance or not, and whether policies and

regulations affect revenue performance or not. Nairobi County was purposely selected for the study because it is the headquarters where all revenue authority tax collection policies and regulations are made, the system of valuation is controlled, and overall decisions affect the direction in which ad valorem tax valuation takes. The study targeted employees at the department of Customs and Border Control of the Kenya Revenue Authority at the headquarter. The study was conducted in the financial year 2021/2022. The study assumed that the contextual scope within the designed concepts facilitated sufficient data for analysis, interpretation, and generalization to other motor vehicle dealers in the country.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter begins with the introduction of the chapter, discusses the conceptual review of variables, the theoretical frameworks that relate to and support the study, the empirical review of previous and present studies in the same study area, postulates the research gaps, summarizes the literature review and then concludes with the conceptual framework to the relationship between the dependent and independent variables.

#### **2.2 Concept of Revenue Performance**

The general concept of the study was to investigate the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicles dealers in Nairobi County, Kenya. The study assumed that there was a relationship between ad valorem tax valuation and revenue performance. This assumption was further evaluated across all the variables in the study.

##### **2.2.1 Revenue Performance**

A study by Nosakhare, Oriakhi & Iyoha (2020) on tax revenue performance in Sub-Saharan African Countries on whether there is empirical evidence from macroeconomic variables. The study examined the dynamic effects of macroeconomic factors on the overall tax revenue performance of thirty-three countries in the SSA regions for 18 years from the year 2000 to 2017. The study found out that macro-economic preconditions are important to be integrated within the tax systems to further boost the taxable capacity and fiscal surpluses. Ozturk & Karabati (2017) while studying the decision framework for evaluating revenue performance in sequential purchase contexts, found that revenue performance is affected by several factors within the

economy including the tax support system of valuation, tax rates, and the existing policies and legislative frameworks.

Krupa & Kriz (2021) while assessing property tax assessments, collections, and revenue performance in economic downturns: an examination of American large cities. The duo found that economic conditions affect valuations of property and reduce tax collection rates which further compound this negative fiscal effect. Britannica (2020) defines tax as a property tax that is imposed based on the value of the commodity or the product to which is assessed. In some countries, however, including the United States and Kenya, the tax is also imposed on business and farm equipment and inventories including automobiles, jewelry, and furniture, and even on such intangibles as bonds, mortgages, and shares of stock that represent claims on, or ownership of, tangible wealth (Shah *et al.*, 2014).

As noted by Ozturk & Karabati (2017) there are many aspects of tax that affect its administration to ensure successful revenue performance. In other words, better revenue performance is hinged onto the successful determination of the optimal tax rates as proposed by the Laffer Curve. It is also hinged onto the existing systems of valuation to which the revenue authority uses to determine the taxable value of motor vehicles. In the absence of these systems of valuation certainty and predictability, many businesses may view these systems of valuation as punitive and hence find way to circumvent the systems. This unfortunate habit may lead to poor performance of the revenue. It is also equally important to ensure that policies that promote increased collection of taxes should also take into consideration the existing stresses in the market to ensure that even if the economic performance indicators are not good, revenue collection goals can still be met.

### **2.2.2 Tax Rates**

Effiong, Udoayang & Adesola (2017) studied the relationship between tax rates and economic growth: a conjugal biopsy in Nigeria. The findings revealed that when tax rates are high, the volume of sales goes low, tax revenue dwindles, and the government cannot pursue the desired economic growth. Further, the study found that when tax rates charged are high, the government may miss the objectives of collecting taxes and work against economic growth and development. Annuar *et al.*, (2018) investigated the reduction of the corporate tax rate on corporate tax revenue. The findings revealed that corporate tax rates as a dual effect on corporate tax revenue over the study period. These tax rates vary in both tax bases and the actual percentage used as the base for taxing the property. Helcmanovska & Andrejovska (2021) found that the variables statutory and average effective tax rate does not have a decisive influence on corporate tax revenues. The study further discussed that tax rates and the economic competitiveness of a particular tax rate, do affect revenue performance across multiple sectors of the economy. Nsor-Ambala (2015) studied the distortionary effects of value-added tax on the economy and how VAT is critical to shifting governments away from donor dependencies. The study found that VAT is an important component of taxes in an economy and should be levied based on solid policies to enhance both collection and business competitiveness. The study assumes that tax rates have a relationship with revenue performance irrespective of the tax base. These tax bases may include VAT and excise which in this case are relevant to the study concepts.

### **2.2.3 System of valuation**

Strapuc & Cazacu (2016); studied the system of valuations used in the administration of various tax rates. The study concluded that the system of valuations must effectively interact with taxation and that taxpayers must understand all aspects and properties even

in the same market having differing peculiarities. Oriaki & Ahuru (2014) studied the impact of tax reform on federal revenue generation. Based on the findings of the study, it was recommended that tax reform should be used to improve the tax system and encourage the reduction of the tax burden, which then enables the government to collect more revenue. To aid in achieving that, Oriaki and Ahuru (2017) state further that the system of valuations should be considered in the overall planning of reducing tax avoidance and evasion.

Kollie & Prowd (2021) while assessing the impact of an automated system for customs data on customs revenue performance found that total trade including imports and exports, goods and service tax (GST) and ASYCUDA positively impact customs revenue performance in both the short and long run while export and inflation were found to negatively affect customs revenue performance in both the short and the long run. The study also found that the use of integrated tax management systems across all import and export entry and exit points significantly contributed to better revenue performance. The study assumed that the system of valuations has a relationship with revenue performance. These systems of valuations for this study include the *iTax* system, current retailing selling price (CRSP), and integrated customs management systems. These were of particular interest to the study because they related to secondhand motor vehicles import and sales in Kenya.

#### **2.2.4 Policies and Regulations**

Chiumia & Simwaka (2012) in their study on the effect of tax policy on tax revenue, found out that tax policies impact economic growth. A policy that reduces the tax burden by 1% would increase economic growth by 0.8% in Malawi. It concluded that policies that exert a lesser tax burden on taxpayers have a positive impact on the economy which leads to better revenue collection and performance. Gaalya, Hisali &

Edward (2017) studied trade openness and tax revenue performance. The study found that the average tariff rate used as a measure of trade openness positively influences total tax, indirect tax, and trade tax. The policy implication is that governments of EAC countries should asymmetrically implement trade openness policies, particularly the tariff rate to help improve tax revenue performance. Mueni, Wawire & Onono (2021) studied the political risk factors on tax revenue performance. The study found that an increase in bureaucracy quality and democratic accountability lead to an increase in tax revenue. That efficiency of institutions has been found to enhance tax collections. The study recommended that the government and the revenue authority should strengthen the quality and efficiency of institutions and effective control measures alongside tax reform policies to increase tax revenues. The study assumed that the concept of policies and regulations around the administration of tax has a relationship with revenue performance. The study particularly hypothesized that when issues such as import tariffs, trade quotas, and trade barriers are in place, they could affect the performance of tax revenue.

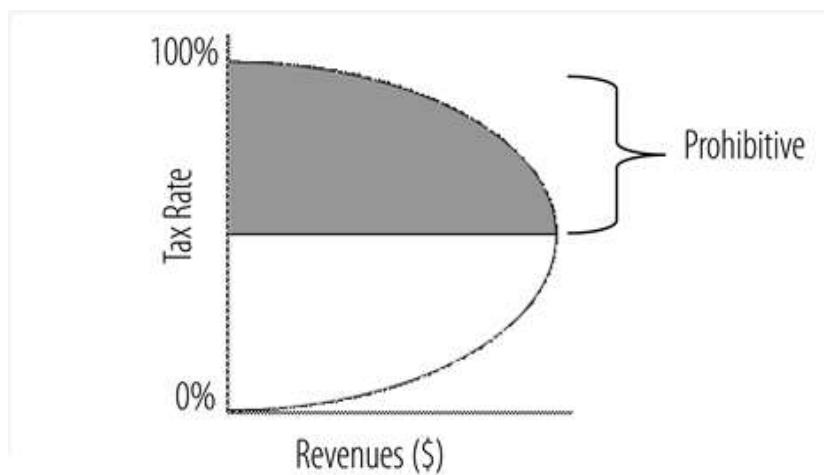
## **2.3 Theoretical Review**

The study was anchored on three theories that have been reviewed, found to be relevant, and supported the study variables. These theories include the Laffer Curve Theory, the Technology Acceptance Model Theory, and the Theory of Planned Behaviour. Each of the theories has been reviewed, critiqued, and shown their relevance and support to the study.

### **2.3.1 Laffer Curve Theory**

The term Laffer Curve was established by Jude Wanniski, an associate editor with Wall Street Journal in 1974 after meeting with Arthur Laffer where issues related to USA's tax rates were discussed. Arthur Laffer argued that there are always two tax rates that

yield the same revenues according to Winniski (1978). The Laffer Curve or simply referred to as the curve for this study is designed to depict two extreme ends when the level of tax revenue for the government will be zero. This is when the tax rates are between 0 and 100. Therefore, the government must find an appropriate tax rate at which the level of tax revenue is at its maximum. This is the optimal rate. While the actual shape of the curve is still a mystery according to Irvin (2013), it is generally believed to be a curve with an inverted U-shape with each tail end representing the two extreme ends. This is illustrated in figure 2.1 below.



**Figure 2.1: The Laffer Curve**

According to Laffer (2004), the basic behind the relationship between tax rates and tax revenues is that changes in tax rates have two effects on revenues: the arithmetic effect and the economic effect. The arithmetic effect is simply that if tax rates are lowered, tax revenues, of the respective tax base, will be lowered by the amount of the decrease in the rate. The reverse is also true for an increase in tax rates. The economic effect, however, recognizes the positive impact that a lower tax rate has on work, output, and employment. These impacts act on the tax base thereby providing incentives to increase these activities. However, when tax rates are raised, it has the opposite economic effect by penalizing participation in the taxed activities (Laffer, 2004). Laffer further

emphasized the relevance of the curve in corporate taxation while noting that historical evidence and macroeconomic modeling suggest that in the case of corporate income, taxes may not just be possible, but even likely (Laffer, 2012).

Many studies have conceptualized the Laffer Curve and its relevance to understanding many economic phenomena including taxation, public debts, and determining the relationship between debts and economic growth (Tatu, 2014; Tsuchiya, 2016). Most relevant among these studies and to the proposed study are those that have used the concept in its original domain in determining the appropriate tax rate that maximizes tax revenues (Fedeli, 2017; Megersa, 2015). Aksun *et al.*, (2017) investigated the impact of tax cuts in 34 OECD countries over 36 years between 1978 and 2014 using the Laffer curve. Even though there was strong evidence in line with the propositions of the curve, the responses of tax revenues to changes in tax rates varied among countries. The variation in responses was ascribed to the number of resources at the disposal of the respective tax authorities. Papp & Takat (2008) found an increase in tax revenue in Russia following a small cut in the tax rate in the country. Nutahara (2015) in his study on the labor and capital taxes in Japan found that when tax rates were cut among the laborers, more tax revenue was realized. SanzSanz (2016) also found that the Laffer curve was realistic in understanding the relationship between tax revenue and personal tax rates among Spanish taxpayers.

Latif *et al.*, (2019) while applying the Laffer Curve in Pakistan found that in situations where the rate of taxation is already too high, taxpayers may move towards an activity that is not subject to tax or, in general, to behavior in which the entity does not tax all its income. Thus, the taxpayers will transfer their activity to the so-called grey economy. The costs associated with these transfers represent transit costs. If these costs exceed the potential benefit or traditional income generated by changing the taxpayer's

behavior, the form of the Laffer curve will remain unchanged (Busato & Chiarini, 2013). However, once the value of additional income reaches at least the level of transit cost and the taxpayer begins to realize non-taxed income, the whole curve will shift toward the x-axis and the value of the minimum possible tax revenue will decrease. Fuller (2021) however critiqued the Laffer Curve and stated that the goal of using the curve has always been to maximize the government revenue which should not always be the case in the economy. He further notes that the curve constantly keeps on expanding and shifts to the right in the progressing economy even though the majority of economists use it as a static curve (Block, 2010).

The Laffer Curve theory was relevant to the study since when tax rates are considerably high, it discourages the import of secondhand motor vehicles which in turn leads to low revenue performance due to less collection of taxes. As the curve suggests there should be always an optimal level that will not discourage importers to shy away from doing business. Failure to import also leads to lower sales and hence the revenue is stifled. The theory supported the dependent variable of revenue performance and the independent variable of tax rates. These two variables from the current studies using the Laffer Curve showed cause-effect relationships. When tax rates are highly prohibiting, tax revenue will go also perform poorly. It is incumbent upon revenue authority to engage taxpayers to ensure that an optimal level within the curve is reached to optimize revenue collection while maintaining a progressive economy.

### **2.3.2 Technology Acceptance Model Theory**

The theory of technology acceptance model was developed by Davis in 1989. Technology Acceptance Model is one of the most popular theories that is used widely to explain information systems usage. The theory models how users come to accept and use technology. The model suggests that users are presented with new technology,



several factors influence their decision about how and when they will use it, notably perceived use, and perceived usefulness. Perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance. Davis (1989) defined perceived ease of use as the degree to which a person believes that using a particular system would be free from effort.

Studies have been conducted which have led to some changes to the originally proposed model. These include the TAB-TPB which integrated the theory of technology acceptance model and theory of planned behavior. Vankatesh & Davis (2000) proposed a new version of TAM called TAM2 which added new variables to the existing model. Vankatesh *et al.*, (2003) in a study published in MIS quarterly proposed the unified theory of acceptance and use of technology model. Agarwal & Prasad (1998) modified Tam by adding the construct of compatibility in the technology acceptance model. Moon & Kim (2001) has added a new variable playfulness factor to study the acceptance of the wide web. Lim (2000) proposed to modify TAM by adding variables like experience, self-efficacy, perceived risk, and social influence.

Franco & Roldan (2005) studied the relationship between perceived usefulness and the behavioral intention was strong among goal-oriented use of ICT. Chau & Hu (2000) compared three models Technology Acceptance Model, the Theory of Planned Behaviour, and a decompressed TPB model that is potentially adequate in the targeted healthcare professional setting in Hong Kong. The results indicated that TAM was superior to TPB in explaining the physicians' intention to use telemedicine technology. TAM has been used by researchers worldwide to understand the acceptance of different types of information and technology systems. Shafeek (2011) tried to evaluate the acceptance of eLearning systems by teachers by using TAM. Pavlou (2003) developed a model to predict the acceptance of e-commerce by adding new variables trust and

perceived risk and found that where users perceive risks to be minimal, there is increased utilization of technological systems to conduct their businesses either among themselves or with the government.

Even though the TAM theory is widely accepted and used, it has some critiques. Bagozzi, Davis & Warshaw (2007) argued that because new technologies such as personal computers are complex and an element of uncertainty exists in the minds of decision-makers concerning the successful adoption of the information communication technology system of valuations, people form attitudes and intentions toward trying to learn to use the new technology before initiating efforts directed at using the technological system. According to Chatur (2009), the Technology Acceptance Model's criticisms as a theory include its questionable heuristic value, limited explanatory and predictive power, triviality, and lack of any practical value. Other critics claim that Technology Acceptance Model has diverted researchers' attention away from other important research issues and has created an illusion of progress in knowledge accumulation (Benbasat & Barki, 2000).

The theory of the Technology Acceptance Model was relevant to the study because the acceptance of the possibilities of using technology to enhance revenue performance was one of the core concepts of the study. System of valuations such as current retailing selling price (CRSP), *iTax* system, and *iCMS* system are all technology-based efforts by the revenue authority to improve the collection of tax revenue. Technology has made it possible that taxpayers can easily interact, query, file, and pay for their respective taxes due within the comfort of their palms and offices. The majority of taxpayers in Kenya have accepted the use of technology and this has led to an increase in the tax revenue collected according to the annual revenue performance report (KRA, 2021). The theory of the Technology Acceptance Model supported the independent variable

of the system of valuations. It also supported the variable indicators CRSP, *iTax*, and iCMS systems of the study.

### **2.3.3 The Theory of Planned Behaviour**

The theory of planned action was founded by Fishbein and Ajzen in 1975. The model posits that people's attitudes are formed after careful consideration of available information. The theory further attempts to explain the relationship between beliefs and attitudes, and interposed a new variable, behavioral intention, between attitudes and behavior (Peak, 1995). The work of Fishben (1976), generated a powerful explanation of the conditions under which strong attitude-behavior relationships might be expected. This principle holds that each attitude and behavior have the four elements of action, target, context, and time, and states that correspondence between attitudes and behavior will be greatest when both are measured at the same degree of specificity concerning each element (Ajzen and Fishbein, 2005).

The theory is generally applicable to various fields and industries ranging from healthcare, politics, and even general businesses and organizations. According to Strack and Deutsch (2001), when someone has a negative attitude and feels that they do not have control of this action, that person is less likely to carry out that action. Also, if people within a society do not approve of the action to be carried out, then it would hurt a person's intention for the action. The theory is relevant to the study since the policies and regulations could necessitate the formation of taxpayers' behavior around a tax base. For instance, when taxpayers feel that import tariffs, import barriers, and import quotas are inhibiting trade, they will avoid such business areas and focus their attention elsewhere within the economy. This will affect revenue performance due to prohibitory policies and regulations. The theory supported the independent variable of policies and regulations and their indicators.

## **2.4 Empirical Review of Variables**

This section reviews studies that have been conducted by other scholars in the area of revenue performance and ad valorem tax valuation. Using each of the study variables from the variable revenue performance, tax rates, system of valuation, policies and regulations, the study reviewed both past and present studies to identify the gaps that existed and bring out the necessity of conducting the study both conceptually and contextually.

### **2.4.1 Ad Valorem Tax Valuation and Revenue Performance**

In the study of Obara & Tsugawa (2017) on the welfare comparison of tax and specific tax both quality and quantity choice of a consumer. The study found that tax decreases consumer demand for both quality and quantity while specific tax decreases demand quantity only. From the findings of this study, put in other words, where the charge is not dependent on the face value assessment, the consumers are most sure and will continuously demand the same quality and quantity. In cases where is used because of the quality of the product to be purchased as supported by the consumer behavior theory, the demand decreases and hence low sales volume. According to the study conducted by Cheng, Huang, Yinghua & Stanfield (2018) on specific versus taxes in the presence of cost and quality differences. The study findings revealed that a specific tax can be superior to an ad valorem tax if the quality difference is larger than the marginal-cost difference.

Krupa & Kriz (2021) conducted a study on property tax assessment, collections, and revenue performance in economic downturns: an examination of large American cities. The study implored the interactions between the property tax components and key socio-economic indicators in urban economies. The indicators measured included property tax levies, valuations, and collection rates. The study adopted a time series

analysis of the 147 largest American cities from 2003-to 2012. The regression model and stage-least square were used for statistical analysis of the gathered data. The findings of the study suggest that during hard economic times, revenue inelastically responds to the assessed values of property, leading to reduced tax collection. This suggested that tax jurisdictions take back the difference by resetting mileage rates. Because each part of levying taxes on property and collecting process is very sensitive to the economic environment, revenue estimation for large cities becomes more difficult during hard economic times.

Ozturk & Karabati (2017), studied on decision support framework for evaluating revenue performance in sequential purchase contexts. The study used the indicators of limited information sequencing strategies, optimal sequence based on detailed buyer information, limited information, and strategic buyer to seller and moderators of sequencing strategy. The study illustrated the framework through two applications in a business-to-business used car auction setting. The study adopted simulation, optimization, and econometric methods to analyze the observations. The result of the study suggested that the best-performing limited information sequencing strategy depends on buyers' bidding behavior. The study also found that the revenue difference is associated with the seller's limited information on buyers' budgets and product valuations. The study concludes the findings by noting that the seller's revenue and sequencing strategies are equally important to revenue performance. This was because when buyers pay for more of the cars auctioned or traded, then the government will have a better revenue.

#### **2.4.2 Tax Rates and Revenue Performance**

Lin & Jia (2019) conducted a study on the tax rate, government revenue, and economic performance. A perspective of Laffer Curve in China. The paper explored the

relationship between rates of taxation and the resulting levels of government revenue. The variables in the study included a direct tax on labor, government revenue, and economic performance. The study adopted Computable General Equilibrium (CGE) model based on Laffer Curve. The result showed that China's Laffer curve is about 40%. The government was suggested to consider changes in the entire taxation system and particularly indirect taxes. Annuar *et al.*, (2018) conducted a study on Malaysian corporate tax and revenue; the application of Ibn Khaldun's tax theory. The aim was to study the impact of the reduction of the corporate tax rate on corporate revenue performance. The study adopted a time series analysis of data for the period between 1996 to 2014, using the autoregressive distributed lag (ARDL) approach. The findings of the study revealed that the corporate tax rate has a dual effect on corporate revenue over the study period. The study was finalized by stating that the policy of gradual reduction of the corporate tax rate is suspected to have a positive impact on the productivity of companies, which in turn contributed to an increase in corporate tax revenue.

Helcmanovska & Andrejovska (2021) conducted a study on tax rates and tax revenues in the context of tax competitiveness among the EU member states. The variables in the study included tax rate, macroeconomic factors, and other indicators. Data was collected from corporate tax revenues in EU states from 2004 to 2019. The source was from databases of the European Commission (2021) and The World Bank (2021). The multiple regression model was adopted and used to analyze the data. The results of the study showed that the variables statutory and the average effective tax rate do not have a decisive influence on corporate tax revenues in the two models adopted in the study. Ndoricimpa (2021) conducted a study on tax reforms, civil conflicts, and tax revenue performance in Burundi. The study examined how tax performance is associated with

tax reforms and civil conflicts. Data was collected using a descriptive survey. A regression analysis model was adopted for the study. The findings of the study showed that total tax revenue, international trade taxes, and income taxes, are not associated with civil conflicts. The results of the study also showed that total tax revenue and the tax categories are not associated with tax reforms. Some of the reasons cited for the lack of association between tax revenue performance and tax reforms include the prevalence of fiscal corruption, the negative effects on the economy, abusive tax exemptions, and failure to focus on widening the tax base.

#### **2.4.3 System of Valuation and Revenue Performance**

Jackson and Milleron (1986) found that the increase of taxpayers not complying with taxes is because of the complexity of and evolution of the tax system over time. The various types of forms to fill for the payment of taxes also discouraged taxpayers from filing and hence this leads to an increase in the tax non-compliance. Sikka (2017), noted that government may lose revenue because of tax misconducts, wrong transfer invoicing, risk counterbalance, overuse of tax motives, and other tax planning systems. It is a crucial matter to ensure that system of valuation used to levy taxes is efficiently and effectively interacting with the taxpayers. Nassar & Taiwo (2005) conducted a study on the impact of personal income tax on internally generated revenue performance in Oyo state, Nigeria. The stepwise regression technique was used to select the revenue source that has the greatest impact on internally generated revenue. A multiple regression model was used to analyze personal income determinants. The findings of the study indicated that personal income has the highest contribution to internally generate revenues however, there was a need to improve the use of electronic revenue assessment, collection, and monitoring techniques together with unique

taxpayer identifiers in the database to attract the self-employed and salary earners into the personal income tax net.

Kyari, Ahmed & Ogu (2020) analyzed the impact of personal income tax on internally generated revenue in Kaduna state, Nigeria. The study empirically analyzed the impact of personal income tax (PIT) on internally generated revenue from 1988 to 2015 using time series data obtained from the revenue authority. The study employed the Engle & Granger (1987) two-stage Cointegration estimation techniques for the long-run equilibrium relationship and the associated Error Correction Mechanism (ECM) to estimate the multivariate model. The findings of the study revealed that there is a strong positive significant impact of PIT on internally generated revenue within the period under review. The values of R<sup>2</sup> and adjusted R<sup>2</sup>, as well as F-statistics, revealed that all variables in the study including DAT, PAYE, and WHT do significantly impact the IGR. The study recommended among others the implementation of mechanisms and systems which can integrate tax bases and automate the collection of taxes from sources of occurrence instantaneously to efficiently boost tax collection.

Shukla (2016) conducted a study on the effect of the electronic tax management system on tax collection by the Rwanda Revenue Authority. The variables in the study included the internet payment system, mobile payment system, and electronic billing machine. The study adopted descriptive qualitative and quantitative research methodology. The target population was 120 of which 75 were sampled using Yamane's formula. Multiple regression was used to analyze data. The findings of the study revealed that both electronic tax management system which consists of a tax payment system, mobile tax payment system, and electronic billing machine system contributes to timely tax payment and reduced operational cost for both the revenue authority and the taxpayers. The system has also made clients pay tax from any business location, enhanced



communication collaboration between taxpayers and the revenue authority, and improved tax auditing which generally contributed to improved revenue performance. The study concluded that electronic tax management systems positively and significantly impact revenue performance.

Migot & Paul (2019) conducted a study on determinants of successful implementation of integrated tax projects of the Kenya Revenue Authority. The study variables included stakeholder participation, project control, and project planning and resource management. The study adopted a descriptive design where a target population of 353 project managers, assistant project managers, and supervisors of the four integrated tax management projects were selected. A sample of 187 was selected using Yamane's formula and stratified accordingly. Data was quantitatively analyzed using a statistical package for social sciences (SPSS v20) for descriptive and inferential statistics. The findings of the study showed that stakeholder participation, project control, project planning, and resource management positively influenced the implementation of integrated tax management systems. From the foregoing empirically reviewed studies there is evidence that valuation systems such as current retailing selling price (CRSP) and systems such as integrated tax management systems (*iTax*), and integrated customs management systems (iCMS). The studies have shown that integrating tax management into an applicable system of valuation improves revenue collection across various tax bases.

#### **2.4.4 Policies and Regulations and Revenue Performance**

According to the study by IMF (2015) on the characteristics of good tax policies. It was observed that the underlying principle of good tax policy is that taxes should be neutral, or, in other words, the tax rate, tax base, and tax structure should not impact markedly on investment, production, or consumption. It certainly should not be used to 'target'

or ‘favor’ one industry, one particular product, or one particular taxpayer over another. However, in certain circumstances, there can be justification to levy ‘special’ taxes or discriminatory taxes such as excise, to correct negative externalities associated with the consumption of certain goods. Notwithstanding these externality factors, the simple fact of raising revenue also remains an important aspect of automobile tax policy, particularly in developing economies. According to (Rob, 2015). The study conducted by Chiumia & Simwaka (2012), while using data envelope analysis (DEA) and transcendental logarithm (Traslog) examined the impact of tax policy and donor inflows on economic growth in Malawi from 1970 to 2010 and found that a 1.0% decrease in tax burden can raise economic growth by 0.8% in Malawi while the similar reduction in collection of taxes through expenditure can raise growth by 0.6%. Reduction in tax burden is more potent in influencing economic growth than fine-tuning the proportion in which income and consumption are collected (Chiuma & Simwaka, 2012).

Ofori, Obeng & Mwinlaaru (2021) conducted a study on the effect of exchange rate volatility on tax revenue performance in Sub-Saharan Africa. The study analyzed macro-data spanning from 1984 to 2017 for 21 countries. The study adopted the autoregressive distributed lag technique for data analysis. The study findings revealed that rate volatility which is a policy and regulatory issue is directly harmful to tax performance, and indirectly through trade openness. This is more harmful in cases where these rates are determined by evaluating tax rates to apply to property when dictated by prevailing economic factors (Bird & Gendron, 2007). Gaalya, Hisali & Edward (2017) studied the openness and tax revenue performance in East African Countries. The study sought to establish the effects of trade openness on different categories of taxpayers. The variables included tariff rates, trade openness, and indirect taxes. The study adopted a panel data cointegration technique that used Fully Modified

Ordinary Least Squares and Dynamic Ordinally Least Squares. Data was sourced from annual cross-country panels of East African countries covering the period between 1994 and 2012. Data was obtained from IMF international financial statistics, the Africa Development Bank's Economic Outlook, and the World Bank's World Development Indicators. The findings of the study revealed that the tariff rate used as a measure for trade openness positively influences total tax, indirect tax, and trade tax. The policy implication of this finding is that governments of EAC countries should implement trade openness policies, particularly tariff rates to help in improving tax revenue performance.

Osadume & University Edinburg (2020) conducted a study on port revenue performance and economic growth: the Nigerian Ports Authority Experience. The study empirically reviewed the port's growth from 2010 to 2019. Secondary time series was used to source data from the Nigeria Ports Authority and the National Bureau of Statistics. Ordinary Least Square Regression and the Engle-Granger co-integration were used to test the variables at a 5% level of significance. The findings of the study showed that total revenue to gross registered tonnage had a positive and significant effect on economic growth while operating surplus revenue showed a negative but significant effect and operating surplus to cargo throughput showed an insignificant effect; there was no co-integration between the variables. The study also found that appropriate policies and implementable regulatory frameworks that address the need to increase revenue generation should be implemented across ports. Mueni, Waire & Onon (2021) studied the effect of political risk factors on tax revenue in Kenya. The study adopted a time series analysis of data from 1984 to 2016. The findings of the study revealed that the efficiency of institutions enhances tax collections. The study recommended that there is a need to strengthen institutions through policies and

frameworks including effective control measures on acts of war, terrorism, and civil disorder along with tax reforms to increase tax revenues and enhance performance

Salhi, Ritahi & Echaoui (2021) conducted a study on trade openness and tax structure in Morocco, evaluation, and impacts. The study used a time series analysis of tax periods between 1985 to 2019. The study used a Two-Stage Least Squares (2SLS) method to analyze data. The result of the study confirmed that the reduction of customs duties has a negative impact on foreign trade revenue and consequently total tax revenues. That reduction of customs duties reduces domestic revenues, notably value-added tax, and corporate tax. Additionally, the study found that the other channels of transmission of trade openness such as liberalization of imports, the promotion of exports, and the variability of the exchange rate, lead to a decrease in trade revenue, but also bring about an increase in domestic revenue. From the foregoing discussion, policies and regulations are important to enhancing tax revenue collection even though sometimes, if policies and regulations are not well-framed within the tax collection system, they may lead to a decrease in tax collection which then affects revenue performance.

## **2.5 Research Gaps**

Several studies have been conducted in the area of revenue performance using various approaches, different variables, and within different locations. Krupa & Kriz (2021) conducted a study on property tax assessment, and collections: an examination of large American cities. The study adopted a time series analysis of the 147 largest American cities from 2003 to 2012. A regression model and stage-least square were used. Ozturk & Karabati (2017), studied on decision support framework. Variables were limited information sequencing strategies, optimal sequence based on detailed buyer information, limited information, and strategic buyer to seller and moderators of

sequencing strategy. The study adopted simulation, optimization, and econometric methods to analyze the observations. Lin & Jia (2019) studied tax rates, government revenue, and economic performance. The variables were a direct tax on labor, government revenue, and economic performance. A computable General Equilibrium (CGE) model based on Laffer Curve was used. Annuar *et al.*, (2018) studied Malaysian corporate tax and revenue; the application of Ibn Khaldun's tax theory.

Helcmanovska & Andrejovska (2021) studied tax rates and tax revenues in the context of tax competitiveness among the EU member states. The variables were tax rate, macroeconomic factors, and other indicators. The multiple regression model was adopted for data analysis. Ndoricimpa (2021) studied tax reforms, civil conflicts, and tax revenue performance in Burundi. Data was collected using a descriptive survey. A regression analysis model was adopted for the study. Kyari, Ahmed & Ogu analyzed the impact of personal income tax on internally generated revenue in Kaduna state, Nigeria. Engle-Granger's (1987) two-stage Cointegration estimation techniques for the long-run equilibrium relationship and the associated Error Correction Mechanism (ECM) to estimate the multivariate model were used. Shukla (2016) studied the effect of an electronic tax management system on tax collection by the Rwanda Revenue Authority. The variables were the internet payment system, mobile payment system, and electronic billing machine. The descriptive qualitative and quantitative research methodology was employed. The target population was 120 of which 75 were sampled using Yamane's formula. Multiple regression was used to analyze data.

Migot & Paul (2019) conducted a study on determinants of successful implementation of integrated tax projects of the Kenya Revenue Authority. The study variables were stakeholder participation, project control, and project planning and resource management. The study adopted a descriptive design. Data was quantitatively analyzed

using a statistical package for social sciences (SPSS v20) for descriptive and inferential statistics. Ofori, Obeng & Mwinlaaru (2021) studied the effect of exchange rate volatility in Sub-Saharan Africa. Macro-data spanning from 1984 to 2017 for 21 countries was analyzed. The study adopted the autoregressive distributed lag technique for data analysis. Gaalya, Hisali & Edward (2017) studied the openness in East African Countries. The variables were tariff rates, trade openness, and indirect taxes. Panel data cointegration technique with Fully Modified Ordinary Least Squares and Dynamic Ordinally Least Squares was used. Data was sourced from annual cross-country panels of East African countries covering the period between 1994 and 2012.

The majority of the reviewed studies have concepts of property tax assessment, and collections; decision support framework; tax rates; electronic tax management system; stakeholder participation, project control, project planning, and resource management. These studies also concentrated in countries outside of Kenya and among the common tax categories such as income tax, personal income tax, and corporate tax. For this reason, the aimed at filling this gap by investigating the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicles dealers in Nairobi County, Kenya. The variables in this study were tax rates, system of valuation, policies and regulations that are used to administer the tax. None of the empirically reviewed studies had conducted a study with similar concepts and within the same contexts as the proposed study. The study added value to the imposition of ad valorem tax valuation improving the performance of revenue, especially from the rapidly growing secondhand motor vehicle industry.

## **2.6 Summary of Literature Review**

The chapter covered the review of the concepts in the study. The study generally assumed that there was a relationship between ad valorem tax valuation and revenue

performance, a case of secondhand motor vehicles dealers in Nairobi County. The study also assumed that tax rates, the system of valuation, and policies and regulations have a relationship with revenue performance, a case of motor vehicle dealers in Nairobi County. The chapter also reviewed three theories that are relevant and support the study variables. These theories included the Laffer Curve theory, technology acceptance model theory, and theory of planned behavior. These theories had been reviewed through the grounding of the study's current issues and as well as the criticisms. Laffer Curve theory supported the variables of revenue performance and tax rates. The technology acceptance model supported the variable of the system of valuation while the theory of planned behavior supports the variable of policies and regulations.

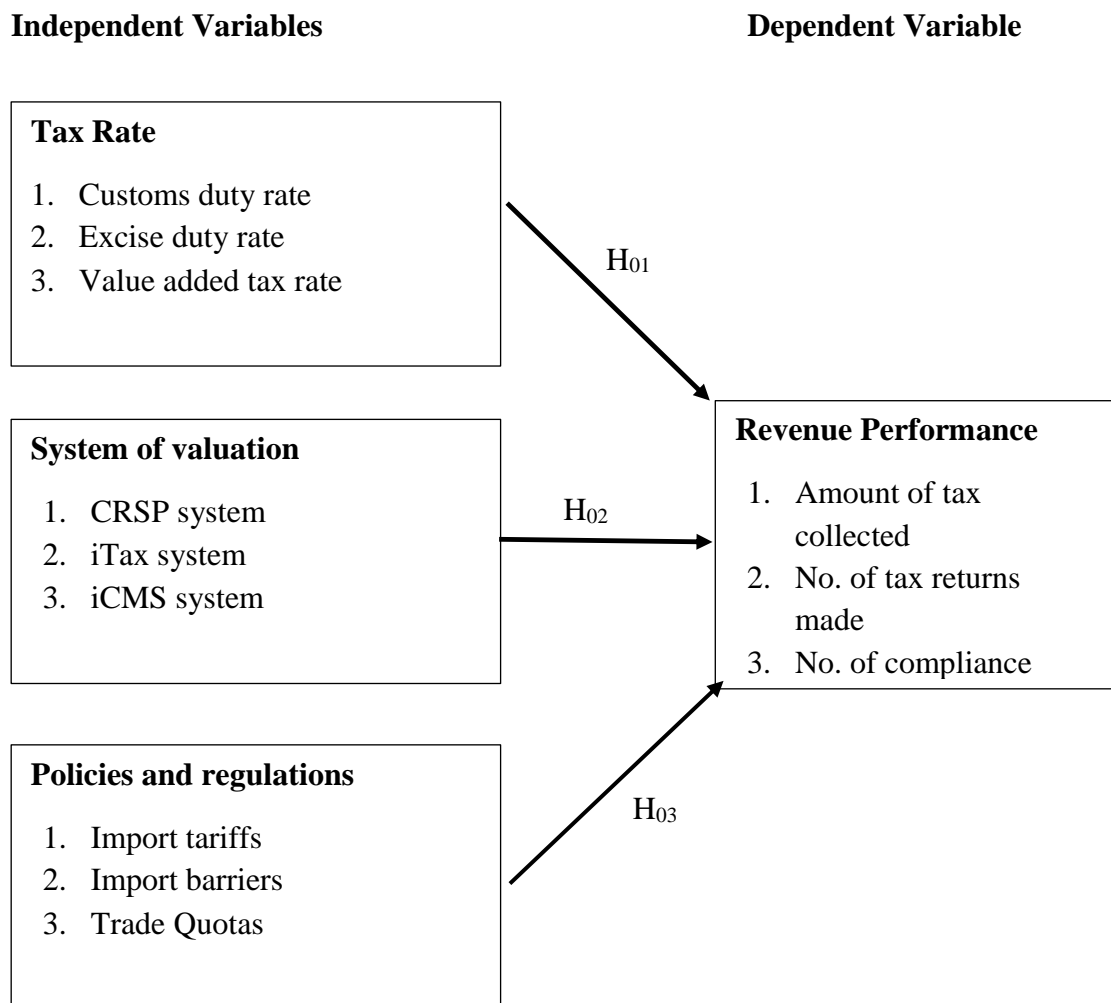
Several empirical studies had been reviewed on the general study area of revenue performance from scholars within and outside of Kenya. The majority of the studies have shown some relationship between tax rates and revenue performance, technology adoption, revenue performance, and usage of policies and regulations on revenue performance. However, not all these studies found a positive and significant relationship between their variables in these studies. Some found negative and insignificant relationships (Salhi, Ritahi & Echaoui, 2021) among others. From the reviewed literature, a gap was realized where the majority of these studies conceptually used variables that were mostly different from the variables used in this study. Contextually these studies reviewed have been mostly conducted in Europe, Asia, and West Africa with only a few conducted locally. This study attempted to fill these gaps by investigating the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County, Kenya. The chapter ended with the figurative illustration of the relationship between the study variable which included

revenue performance, tax rates, system of valuation, and policies and regulations with their respective indicators to measure each variable.

## 2.7 Conceptual Framework

The concept of the study was to investigate the influence of ad valorem tax valuation on revenue performance, a case secondhand motor vehicle dealer in Nairobi County.

The relationship between the study variable is further illustrated in Figure 2.2.



**Figure 2.2: Conceptual Framework**

Source: Author



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter covered the details of the research methodology that was used to accomplish the study. It started with the research design, the target population and sample, data types and sources, data collection procedure, measurement of variables, data analysis, and presentation. The chapter ended with model specifications and ethical considerations.

#### **3.2 Research Design**

Yin (2009) states that research design is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context. Yin further noted that a research design is all about establishing a systematic interface that ensures the interrelationship between the study's initial research questions and the empirical data that is accumulated thereon. An explanatory research design was adopted for this study. The primary purpose of explanatory research is to explain why phenomena occur, and also to predict future occurrences of that or similar phenomena. Explanatory studies are characterized by hypotheses that bring about the nature and direction of the relationship between or among the study variables. The goal is often to generalize the results to the population from which the sample is selected (Fowler, 2002). This design was appropriate for the study because it allowed the researcher to generalize the findings to a larger population (Schindler & Cooper, 2003).

#### **3.3 Population and Sample**

Cooper & Schindler define a population element as the subject on which the measurement is being taken and is the unit of study (Cooper & Schindler, 2003). On the other hand, Mugenda (2008), defines a sample as a smaller group or sub-group

obtained from the accessible or target population. The sample should be selected in such a way to ensure that certain sub-groups in the population are normally represented in the sample proportion (Mugenda, 2008).

### **3.3.1 Target Population**

The target population for this study comprised employees working at the Kenya Revenue Authority Department of Customs and Border Control who are directly involved with the dealings in secondhand motor vehicle importation, clearance, and taxation based at the headquarters, Nairobi. These employees occupied the positions of chief managers, managers, assistant managers, supervisors, and officers within the department. This population was purposely selected since they were in the best position to answer the to the study objectives. As per the KRA (2021) data, these employees occupy various levels of seniority. To better evaluate the subject under the study, this population was considered diverse as it spread across the entire Customs and Border Control Department. This was important to the study in that the data fetched and observations made, presented the true reflection of the realities on the ground. A total of 3055 employees were targeted with the study instrument within the department as per the commissioner's records and attached list of employees (KRA, 2021).

### **3.3.2 Sampling Procedure**

Sampling, according to Lohr (2010) is defined as the procedure by which elements of a population are selected as representative of the total population. The study adopted a stratified sampling technique to select the eligible employee segments from which purposively, relevant employees were selected and then subjected to the study instrument. This ensured that there is a normal distribution of respondents within the entire department of customs and border control employees.

### 3.3.3 Sample Size

According to Zaied (2014), estimation of the sample size in research is a fundamental step in obtaining the intended research objects since it is a representation of the study population from which general observations can be made. The sample size for this study was determined using Bridget and Lewin's (2005) formula. This formula assumed a normal distribution on the assumption that the employees were normally distributed across various segments within the department of customs and border control with the Kenya Revenue Authority employment framework. Using the formula and a precision level of 5%, the desired sample size is determined using the formula thus.

$$n = \frac{N}{(1 + N(e)^2)} = n = \frac{3055}{(1 + 3055(0.05)^2)} = \mathbf{354 \text{ employees}}$$

where  $n$  = sample size,  $N$  = population size, then  $e$  = error of sampling or precision/error limit at 95% level of confidence,  $p = 0.5$  and 5% level of precision is required. This sample size was considered adequate since it was greater than 1% of the target population (Gravette & Forzano, 2012). According to the advice by Mugenda and Mugenda (2003) the larger the sample size the more accurate the findings of a given research. This sample was further distributed as per table 3.1.

**Table 3.1: Target Population and Sample Size Distribution**

<b>Employee Segmentation</b>	<b>Target Population</b>	<b>Percentage</b>	<b>Sample Size</b>	<b>Percentage</b>
Chief Managers	26	1	4	1
Managers	75	3	11	3
Assistant Managers	190	6	21	6
Supervisors	621	20	71	20
Officers	2143	70	247	70
<b>Total</b>	<b>3055</b>	<b>100</b>	<b>354</b>	<b>100</b>

### **3.4 Data Types and Sources**

Leedy and Ormrod (2013), define data as information obtained during an investigation or study. Data collection instruments refer to devices used to collect data such as questionnaires, tests, structured interview schedules, and checklists (Teddlie & Tashakkori, 2009). Primary data collection was accomplished using questionnaires. Primary data consists of a series of original data collected by the researcher. The questionnaire was self-administered having closed-ended questions set on a 5-point Likert scale. The closed-ended questions enable the collection of quantitative data for statistical analysis. The questionnaire was validated to help identify any ambiguous and unclear questions to the respondents.

### **3.5 Data Collection Procedure**

Primary data was obtained through a self-administered questionnaire that was delivered to the respondents and collected after one week. The respondent was administered a questionnaire through the drop and pick method. Questionnaires are used because they are straightforward and less time-consuming for both the researcher and the participants (Owens, 2002). Respondents were given instructions and assured of confidentiality after which they were given enough time to fill the questionnaires. A follow-up through personal visits was done to facilitate a good response rate. To reach each respondent a fixed interval technique was used. Starting from a fixed point, every 8<sup>th</sup> employee was subjected to the study, until all the sampled respondents were covered across the department of Customs and Border Control within the Kenya Revenue Authority framework.

### **3.6 Measurement of Variables**

There were four variables in the study, and each was measured using its indicators to enable the study to achieve its set objectives. Revenue performance was measured using

the amount of tax collected, the number of tax returns made, and the number of compliance certificates obtained. Data was collected using a five-point Likert scale questionnaire and data were analyzed using regression and correlation analysis. Krupa & Kriz (2021) measured revenue performance using property tax levies, valuation, and collection rates. Regression and stage-least squares were used for data analysis.

Tax rates were measured with customs duty rates, excise duty rates, and value-added tax rates. Data was collected using a five-point Likert scale questionnaire and data were analyzed using regression and correlation analysis. Lin & Jia (2019) measured tax rates using a tax on labor, government revenue, and economic performance. A computable General Equilibrium model was used for data analysis. Annuar *et.al.*, (2018) measured tax rates using corporate tax and used the autoregressive distributed lag (ADRL) model for data analysis.

The system of valuation was measured using the current retailing selling price (CRSP) system, integrated tax management (*iTax*) system, and integrated customs management (iCMS) system. Data was collected using a five-point Likert scale. The regression and Correlation model will be used for data analysis. Kyari, Ahmed & Ogu (2020), measured the system of valuation using personal income tax. Cointegration estimation technique and Error Correction Mechanism were used for data analysis. Shukla (2016) measured the system of valuation using an internet payment system, mobile payment system, and electronic billing machine. A multiple regression model was adopted for data analysis.

Policies and regulations were measured using import tariffs, import barriers, and import quotas. Data was collected using a five-point Likert scale questionnaire. The regression and Correlation Models were used for data analysis. Ofori, Obeng & Mwinlaru (2021)

measured policies and regulations using rate volatility, and trade openness. The autoregressive distributed lag (ADRL) model technique was adopted for data analysis. Salhi, Ritahi & Echaoui (2021) measured policies and regulations using customs rates reduction, imports liberalization, and exchange rate variations. Two-Stage Least Squares (2SLS) were adopted for data analysis.

The study adopted ordinal, normality, and multiple regression to measure the degree to which the dependent variable was affected by the independent variables. ANOVA t- and f- tests were used to measure the significance of the model while measuring the relationship between ad valorem tax valuation and revenue performance at a 95% confidence level and 5% significance level. A significance level of between 90% and 99% was sufficient to conclude the model's significance while tested at P-value. Pearson Correlation analysis (r) was used to determine and measure the strength and direction between the dependent variable and each of the independent variables. Coefficient of Determination ( $r^2$ ) was used to measure the proportion of variance in the dependent variable that can be explained by the independent variable.

### **3.7 Pilot Study**

A pilot study is a smaller version of the proposed study in preparation for the major study and does not form part of the eventual population group used in the final research study (Burns & Grove, 2002). It is used to refine the questionnaire so that respondents have no problems understanding and answering them (Saunders, 2012). It also helps in assessing the validity and reliability of the data that will be collected. The pilot study was conducted on 35 or 10% of the sampled employees at Jomo Kenyatta International Airport, border, and customs control office. This location presents the majority of similarities with the proposed study location. These sampled employees were not part of the main study sample. The main study sample was mainly drawn from the KRA

headquarters based at Times Tower Offices. This was purposefully done to ensure that the criteria for pilot study was effectively met by the researcher.

### **3.7.1 Validity of the Research Instruments**

Validity according to Komp & Tromp (2009), is a measure of how well a test measure what it is supposed to measure. Content validity was achieved when questionnaires are given to experts in the field of study for comments on the suitability and representativeness of the questions. Their comments and observations were incorporated into the study instrument to ensure that the content was valid.

Construct validity indicates the extent to which a measurement method accurately represents a construct that can be measured directly and produces an observation, distinct from that which is produced by a measure of another construct (Carmines & Zellar, 1979). The study measured the validity of the constructs using factor analysis and correlation tests to ascertain whether all the constructs produced distinct observations independent of each other. Should this had not been the case during the pilot study, the study instrument was to be adjusted to ensure that each construct was distinct from the other.

Criterion validity according to Liu (2010) is the measure of the extent to which the instrument's scores correlate with an external criterion which is usually another measurement from a different instrument either at concurrent validity or predictive validity. The study measured criterion validity by comparing the correlation coefficient of relevant and similar previous studies between the two instruments measures. A correlation of  $>.60$  indicated the existence of criterion validity.

### **3.7.2 Reliability of the Research Instruments**

Bell (2010) stated that reliability is the degree of consistency with which a research instrument measure whatever it is meant to measure. It is the extent to which a research instrument produces similar results on different occasions under similar conditions. In other words, it is concerned with the question of whether the results of a study are repeatable. For this study, reliability was determined by a test-retest technique where the researcher administered a pilot questionnaire twice in two separate instances to 10% of the sampled respondents who were not among the sampled respondents. Orodho (2012), noted that the pre-test should be 10% of the sample. The two scores were correlated to establish whether the contents of the questionnaire are consistent in eliciting the same responses every time the instrument was administered. The reliability of the instrument was assessed using Cronbach's alpha test. A construct composite reliability coefficient (Cronbach alpha) of 0.7 or above was considered adequate for the study (Rousson, Gasser & Seifer, 2012).

### **3.8 Tests for Statistical Assumptions**

Tests for statistical assumptions are usually carried out to empirically determine the quantitative effect of study design shortcoming of estimates of diagnostic accuracy according to Wheeler & Tiefelsdorf (2005). The study conducted diagnostic tests before the data was analyzed to validate the accuracy and reliability of the findings. These tests included normality test, linearity test, homoscedasticity, autocorrelation, and multicollinearity tests.

#### **3.8.1 Normality Test**

A normality test is used to determine whether a data set is normally distributed. Visual representation of the distribution of tests results determines whether it conforms to the bell-shaped normal curve (Amata, 2017). Using the Shapiro Wilk Test, when at an



alpha level of 0.05 and the p-value of less than 0.05, then the null hypothesis is rejected and there is evidence that the data tested are not normally distributed. When the p-value is greater than 0.05, then the null hypothesis is not rejected meaning that the data will have come from a normally distributed population. In this study, the Shapiro-Wilk test revealed that data come from a normally distributed population since all coefficients showed greater values above 0.05.

### **3.8.2 Linearity Test**

Multiple linear regressions models require that the relationship between dependent and independent variables be linear for analysis to be reliable and valid. One way to confirm linearity is by producing scatter plots of the relationship between each of the dependent and independent variables. The ANOVA results showed the F-value of 165.178 which was significant at  $p < 0.05$ . This signified that the model was statistically significant and that there was a linear relationship between the dependent and independent variables. Therefore, the assumption of linearity was not violated.

### **3.8.3 Homoscedasticity Test**

Homoscedasticity means that the variance or spread of errors from the regression line is constant. Wolfgang *et al.* (2017) note that in regression, an error is how distant a point deviates from the normal line of regression. A key assumption of linear regression is that the spread of the residual or the error term is constant across the graph and if this assumption is violated the statistical results may not be trustworthy due to biased coefficients.

Heteroscedasticity means that the variance of errors from the regression line is not constant and not homoscedastic. The Breusch-Pagan/Godfrey test was used to test heteroscedasticity in a linear regression model. The results showed that the significance

level (0.05) was less than the p-value (0.6547) hence there was no violation of the homoscedasticity principle in the data. Therefore, it was concluded that there is no heteroscedasticity problem.

#### **3.8.4 Autocorrelation Test**

This test was conducted to check whether the values of the residuals are independent and that was to ensure that the observations are independent of one another and uncorrelated. The Durbin-Watson test was conducted to indicate the level of autocorrelation. The results showed a Durbin Watson statistic value of 2.0763190. Chen (2016) noted that test statistic values in the range of 1.5 to 2.5 indicate no autocorrelations hence the conclusion was that there was no autocorrelation between the independent variables.

#### **3.8.5 Multicollinearity Test**

According to Alin (2010), when two or more independent variables are linearly dependent on each other, then one of them should be used in data analysis instead of the two or more as this increases the standard errors, making the results biased. Using a Variance Inflation Factor (VIF) of values to measure whether the independent variables (IVs) suffer multicollinearity problem, a VIF value  $\geq 10$  shows there is multicollinearity while any VIF value  $\leq 10$  with a tolerance factor of  $\geq 0.2$  is an ideal and acceptable measure of multicollinearity. Zainodin & Yap (2011) noted that it is important to test for multicollinearity among independent variables since the presence of multicollinearity leads to multiple errors in the analysis of data. The assumption was that there was a true linear relationship between revenue performance, tax rates, system of valuation, policies and regulations. The results showed that tax rates had a V.I.F value of 1.433 which was less than 10 while the system of valuation had a V.I.F value of 1.301 which was also less than 10. Lastly, policies & regulations had a V.I.F value

of 1.400 which was less than 10. Since all V.I.F for the three independent variables were less than 10, there was no multicollinearity and thus regression analysis was conducted.

### **3.9 Data Transformation**

According to Osborne (2002), data transformation is defined as the application of mathematical modification of the values of a variable including adding constants to multiplying, squaring or raising to a power, converting to logarithmic scales, inverting and reflecting, taking square root values, and even applying trigonometric transformations such as sine wave transformation. This is done to ensure that data conforms to assumptions of normality and or homoscedasticity/homogeneity of variance (Osborne, 2010). Data was not transformed in the study since the normality test confirmed that the data came from a normally distributed population.

### **3.10 Data Analysis and Presentation**

Data from the study were analyzed and tabulated by use of descriptive statistical and inferential analysis techniques. The completed questionnaires were edited for completeness and consistency before processing. The cleaned data were then entered into a computer for analysis using the statistical package for social sciences (SPSS v25). The result of the data analysis was presented in the frequency distribution table. Correlation analysis was used to determine the level of association of the variables in the study.

### **3.11 Model Specification**

The model that was used in the analysis provides the extent to which the independent variable affects the dependent variable. The multiple regression model was used as stated below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: Y represents revenue performance

$\beta_0$  = Constant term.

$X_1$  represents tax rates on revenue performance

$X_2$  represents the system of valuation on revenue performance

$X_3$  represents policies and regulations on revenue performance

$\varepsilon$  = error term.

$\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are coefficients of the various determinants of performance; and  $\varepsilon$  is the error term.

### **3.12 Ethical Considerations**

Ethical issues related to the privacy of possible and actual participants, voluntary nature of participation, the right to withdraw partially or completely from the process, consent, possible deception of participants, and maintenance of confidentiality of data provided by individuals or identifiable participants and their anonymity (Saunders, 2007). Permission was obtained from Moi University and NACOSTI to conduct data collection. The researcher adhered to all ethical issues of honesty, privacy, cultural sensitivity, informed consent, and voluntary participation. The ethics of the study was ensured by protecting the rights of the respondents which are anonymity and confidentiality. This was done by informing them in advance of the importance of the study and participation was on a willing basis. Respondents will be at liberty to pull out from the study any time they feel not comfortable proceeding with the survey. Personal particulars like names and addresses were not to be disclosed.

## CHAPTER FOUR

### DATA ANALYSIS AND INTERPRETATION OF FINDINGS

#### 4.0 Introduction

This chapter described the findings from the respondents and linked them to the objectives of the study. It included the descriptive and inferential statistics of the respondents, views of tax rates, the system of valuation, policies, and regulations on revenue performance

#### 4.1 Reliability of Research Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. It contributed to the standardization of research instruments which in turn enabled the results of a study to be generalizable to the larger population. As table 4.1 presents, tax rates ( $\alpha=0.918$ ) were found reliable with the Cronbach Alpha coefficients. Followed by frequency of system of valuation ( $\alpha=0.709$ ), policies and regulations ( $\alpha=0.842$ ), and Alpha coefficients of ( $\alpha=0.837$ ) revenue performance was also found reliable.

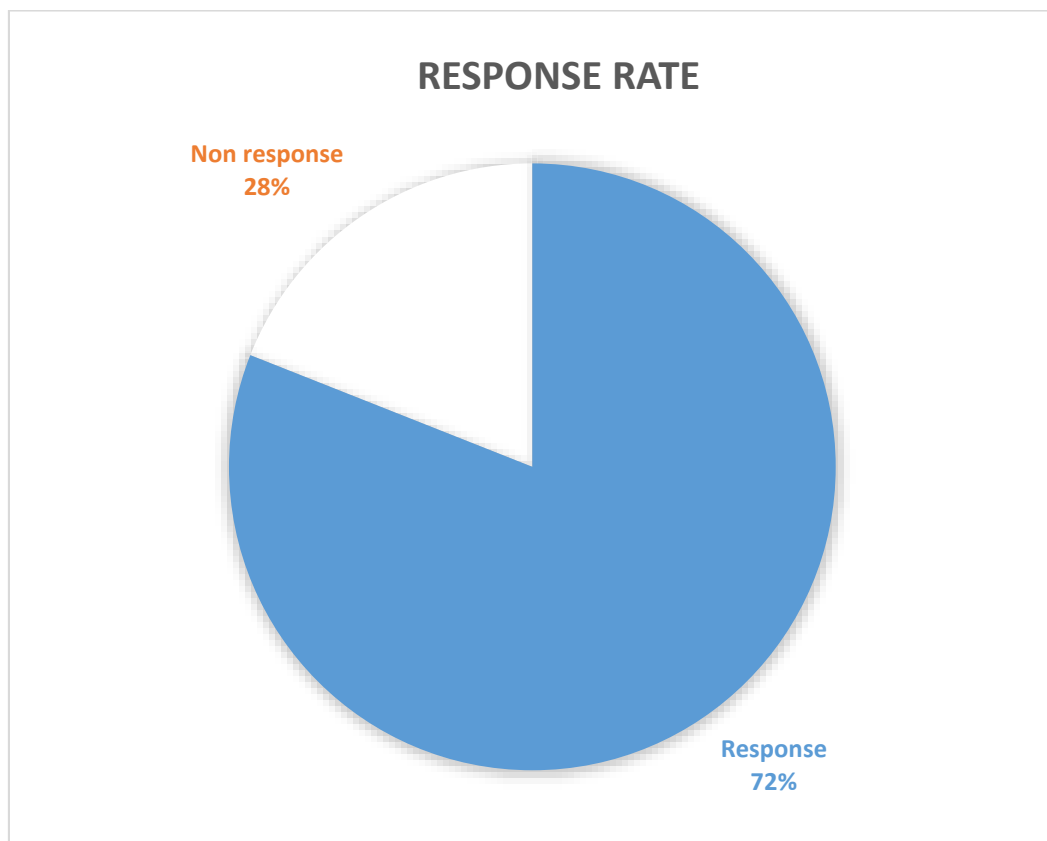
**Table 4.1: Test of Reliability of Questionnaire**

Factor	Number of Items	Cronbach Alpha score	Conclusion
Tax rates	5	0.918	Reliable
System of valuation	4	0.709	Reliable
Policies and regulations	5	0.842	Reliable
Revenue performance	5	0.837	Reliable

#### 4.2 Response Rate

The researcher distributed 354 questionnaires out of which 265 were received, and nine questionnaires were rejected as a result of improper completion. Thus 256

questionnaires were accepted as correctly filled. This represented a 72% response rate. Response rate is a key determinant of the performance of regression analysis, with a major effect on whether data met assumption tests or not. Seventy-two percent was good, and it was confirmed by Baruch and Holtom (2008), who contend that a response rate of over 70% is good. A response rate of 100% is excellent; however, it was not achieved in the study. This was imputed to the work interrelated challenges on part of the respondents as the study questionnaire was self-administered within a short time frame.



**Figure 4.1: Response Rate**

Survey Data (2021)

### 4.3 Demographic Characteristics

This section provides information that posits the basic characteristics such as gender, level in position, and units of cars.

#### 4.3.1 Gender

The study sought to establish the gender of the respondents. Results revealed that 60.6% were males while 39.4% were female. The results demonstrate that respondent males were the majority as shown in table 4.2.

**Table 4.2: Respondent Gender**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	155	60.6
Female	101	39.4
<b>Total</b>	<b>256</b>	<b>100</b>

#### 4.3.2 Levels in Position

The findings on the levels in the position of the respondents of the study are shown in Table 4.3. Results below show that the majority 36.3% had senior-level positions, 27.5% had a middle level, and 22.6% had lower-level positions. Lastly, 13.2% had other levels. It was deduced that the majority of the target population held senior levels.

**Table 4.3: Levels in Position**

	<b>Frequency</b>	<b>Percentage</b>
Lower level	58	22.6
Middle level	71	27.5
Senior level	93	36.3
Others	34	13.2
<b>Total</b>	<b>256</b>	<b>100</b>

### 4.3.3 Units of Cars

The study also implored units of cars approximately handle in a day. Results in 4.4 reveal that (34.3%) huddled cars between 11-15 cars, 28.9% huddled between 6-10 cars, additionally, 25.4% huddled cars above 16 units, while 11.3% huddled between 1-5 units.

**Table 4.4: Units of Car**

<b>No.</b>	<b>Frequency</b>	<b>Percentage</b>
1-5 units	29	11.3
6 – 10 units	74	28.9
11 – 15 units	88	34.3
Above 16 units	65	25.4
<b>Total</b>	<b>256</b>	<b>100</b>

### 4.3.4 Tax Rates

Table 4.5 illustrates the results from respondents to demonstrate that I understand that any imported motor vehicle attracts taxation using three major tax bases including customs duty, excise duty, and VAT with a (mean=4.47, standard deviation= 0. 587). Dealers can easily predict all the tax amount payable even before the imported motor vehicles land, using the applicable tax bases and rates with a (mean=3.85, standard deviation= 0. 748). I know that customs duty is charged at the rate of 30% of the value declared during the filing of the Import Declaration Form and that is final with a (mean=4.00, standard deviation= 0. 635). Dealers pay 25% excise duty based on the value that customs duty has been charged, and this excise duty amount is very predictable (mean=3.62, standard deviation= 0. 750). Dealers also pay 16% VAT based on the cost where both customs and excise duties, have been charged and one can certainly know what to pay with a (mean=3.96, standard deviation= 0. 751).



**Table 4.5: Tax Rates**

5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1= Strongly Disagree

	Mean	Std. Dev	Skewness	Kurtosis
I understand that any imported motor vehicle attracts taxation using three major tax bases including customs duty, excise duty, and VAT. Dealers can easily predict all the tax amounts payable even before the imported motor vehicles land, using the applicable tax bases and rates.	4.47	.587	-0.581	-0.598
I know that customs duty is charged at the rate of 30% of the value declared during the filing of the Import Declaration Form and that is final.	4.00	0.635	0.000	-0.471
Dealers pay 25% excise duty based on the value that customs duty has been charged, and this excise duty amount is very predictable.	3.62	0.750	0.298	-0.537
Dealers also pay 16% VAT based on the cost where both customs and excise duties, have been charged and one can certainly know what to pay.	3.96	0.751	-0.160	-0.648

#### 4.3.5 System of Valuation

The results in table 4.6 from respondents demonstrates that the authority has established several systems of valuation that dealers use to interact with the declaration, filing, and payment of taxes applicable (mean=4.12, standard deviation= 0.747). CRSP systems are unpredictable because it keeps on changing and has not been standardized for various models of imported vehicles (mean=4.08, standard deviation= 0.682). iTax system is a very useful, dependable, and easy to use by motor vehicle dealers and this supports the revenue collection effectively. (mean=4.10, standard deviation = 0.703). The integrated Customs Management System (iCMS) facilitates open and transparent dealings with motor vehicle dealers (mean =4.14, standard deviation = 0.764).

**Table 4.6: Systems of Valuation**

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1= Strongly Disagree

	Mean	Std. Dev	Skewness	Kurtosis
The authority has established several systems of valuation that dealers use to interact with the declaration, filing, and payment of taxes applicable	4.12	0.747	-0.318	0.786
CRSP systems are unpredictable because it keeps on changing and has not been standardized for various models of imported vehicles.	4.08	0.682	-0.107	-0.828
iTax system is a very useful, dependable, and easy to use by motor vehicle dealers and this supports the revenue collection effectively.	4.10	0.703	-0.142	-0.951
The integrated Customs Management System (iCMS) facilitates open and transparent dealings with motor vehicle dealers.	4.14	0.764	-0.199	-1.254

#### 4.3.6 Policy and Regulations

Table 4.7 illustrates the results from respondents and demonstrate that I know that there are customs policies and regulations that control the motor vehicle industry and may not necessarily be beneficial (mean= 3.23, standard deviation=1.279). I know that import tariffs are often some of the considerable barriers to the importation and dealership of motor vehicles (mean=4.48, standard deviation= 0.546). The motor vehicle industry is affected by regional and community blocks import barriers that affect the importation and sale of motor vehicles. (mean=3.70, standard deviation= 0.711). Restrictions on importation quotas as imposed by various policies and regulations are supportive of the business industry (mean=4.38, standard deviation=.613). I know that some policies and regulations give undue advantages to some businesses while hurting others (mean=3.29, standard deviation= 1.082).

**Table 4.7: Policy and Regulations**

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1= Strongly Disagree

	Mean	Std. Dev	Skewness	Kurtosis
I know that there are customs policies and regulations that control motor vehicle industry and may not necessarily be beneficial.	3.23	1.279	0.425	-0.584
I know that import tariffs are often some of the considerable barriers to the importation and dealership of motor vehicles.	4.48	0.546	-0.020	-0.841
Motor vehicle industry is affected by regional and community blocks import barriers that affect the importation and sale of motor vehicles.	3.70	0.711	0.349	-0.581
Restrictions on importation quotas as imposed by various policies and regulations are supportive of the business industry.	4.37	0.613	-0.178	-0.428
I know that some policies and regulations give undue advantages to some businesses while hurting others.	3.29	1.082	-0.497	-0.639

#### 4.3.7 Revenue performance

Table 4.8 illustrates the results from respondents and demonstrates that Motor vehicle industry is a crucial economic sector that should contribute to the general performance of revenue (mean=3.38, standard deviation= 0.918). The majority of the dealers declared and filed their due returns on time and as per the requirements of the applicable tax laws (mean=3.88, standard deviation= 0.737). Acquisition of compliance certificates is an indicator of taxpayers performing better as is required (mean=3.03, standard deviation= 0.956). I believe that high tax liabilities sometimes hinder motor vehicle dealers from maximizing trade (mean=3.77, standard deviation= 0.710). I have encountered situations where the valuation of taxes levied on motor vehicles makes the payment of taxes unrealistic to dealers (mean=3.96, standard deviation= 0.720).

**Table 4.8: Revenue Performance**

5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1= Strongly Disagree

	Mean	Std. Dev	Skewness	Kurtosis
Motor vehicle industry is a crucial economic sector that should contribute to the general performance of revenue.	3.38	0.918	0.072	-0.539
Majority of the dealers declared and filed their due returns on time and as per the requirements of the applicable tax laws.	3.88	0.728	0.081	-0.877
Acquisition of compliance certificates is an indicator of taxpayers performing better as is required.	3.03	0.956	-0.062	-0.521
Believe that high tax liabilities sometimes hinder motor vehicle dealers from maximizing trade.	3.77	0.710	0.102	-0.546
I have encountered situations where the valuation of taxes levied on motor vehicles makes the payment of taxes unrealistic to dealers.	3.94	0.718	-0.191	-0.375

#### 4.4 Test for Statistical Assumptions

Statistical tests rely upon certain assumptions about the variables used in the analysis where if these assumptions are not met the results may not be valid (Osborne and Waters (2014)). It was therefore important to pretest these assumptions for the validity and reliability of their results. In this research, assumptions for normality, linearity, homoscedasticity, autocorrelation, and multicollinearity, were conducted before data analysis. These statistical tests were conducted to ensure that the analyzed data was normal, equally distributed along the line, and the errors were within acceptable limits. The tests also ensured that each of the variables was interdependent and did not suffer from multicollinearity effects.

#### 4.4.1 Normality Test

The normality of data was tested using the Shapiro Wilk test. If the p-value is less than the chosen alpha level, then the null hypothesis is rejected and there is evidence that the data tested are not normally distributed. On the other hand, if the p-value is greater than the chosen alpha level, then the null hypothesis that the data came from a normally distributed population cannot be rejected. The outcome of this test was that the population was normally distributed. Results of the normality test are presented in table 4.9.

**Table 4.9: Tests of Normality**

	Shapiro-Wilk		
	Statistic	df	Sig.
Tax rates	.828	143	.89
System of Valuation	.703	143	.82
Policies & regulation	.781	143	.59
Revenue performance	.794	143	.61
Lilliefors Significance Correction			

The normality results showed that tax rates had a p-value of  $0.89 > 0.05$ . Also, the p-value for the system of valuation was  $0.82 > 0.05$ , for policies & regulation was  $0.59 > 0.05$  and for revenue, performance was found to be  $0.61 > 0.05$ . All the p values were greater than 0.05 and thus the normality test revealed that the data were normally distributed, and thus further analysis was conducted.

#### 4.4.2 Linearity Test

The test for linearity was conducted to check whether a linear relationship existed between the dependent variables and all the three independent variables. The assumption tested on table 4.10, and to indicate linearity if p value is  $> 0.05$ , if the p value is less  $< 0.05$  then there is non-linearity, and the assumption is violated.

**Table 4.10: Linearity Test**

		Sum of				
Model		Squares	df.	Mean Square	F	Sig.
1	Regression	13.877	4	3.469	165.178	.000
	Residual	3.991	252	.015		
	Total	17.867	256			

a. Dependent Variable: revenue performance

b. Predictors: (Constant), tax rates, system of valuation and policies & regulation

Source: Research, 2021

The ANOVA results in table 4.10 regression showed that there was p value of 0.000  $p < 0.05$  therefore the assumption of linearity hasn't been violated.

#### 4.4.3 Homoscedasticity Test

Homoscedasticity means that the variance or spread of errors from the regression line is constant. Wolfgang *et al.* (2017) note that in regression, an error is how distant a point deviates from the normal line of regression. A key assumption of linear regression is that the spread of the residual or the error term is constant across the graph and if this assumption is violated the statistical results may not be trustworthy due to biased coefficients. Heteroscedasticity means that the variance of errors from the regression line is not constant and not homoscedastic. The Breusch-Pagan/Godfrey test was used to test heteroscedasticity in a linear regression model. The results from Table 4.11 show the results from the Breusch pagan test analysis of the variance.

**Table 4.11: Breusch Pagan test**

Ho: Constant variance	
Chi2 (1)	0.74
Prob>chi2	0.6547

Concerning the results presented in Table 4.11, the significance level (0.05) was less than the p-value (0.6547) hence there was no violation of the homoscedasticity principle in the data. Hence it was concluded that there is no heteroscedasticity problem.

#### 4.4.4 Autocorrelation Test

This test was conducted to check whether the values of the residuals are independent and that was to ensure that the observations are independent of one another and uncorrelated. The Durbin-Watson test was conducted to indicate the level of autocorrelation. The statistic's value ranges from 0 to 4. Non-autocorrelation is shown by a number near 2; positive autocorrelation is indicated by a value near 0, and negative autocorrelation between independent variables is indicated by a value near 4.

**Table 4.12: Autocorrelation Test Durbin Watson**

<b>Model</b>	<b>Durbin-Watson</b>
1	2.0763190

Table 4.12 results show Durbin Watson statistic value is 2.0763190. Chen (2016) notes that test statistic values in the range of 1.5 to 2.5 indicate no autocorrelations hence the conclusion is that there is no autocorrelation between the independent variables.

#### 4.4.5 Multicollinearity Test

In statistics, multicollinearity is a phenomenon in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy (O'Brien 2007). In this situation, the coefficient estimates of the multiple regression may change erratically in response to small changes in the model or the data. Multicollinearity does not reduce the predictive power or reliability of the model as a whole, at least within the sample data set; it only affects calculations regarding individual predictors. That is, a multivariate regression model with collinear

predictors can indicate how well the entire bundle of predictors predicts the outcome variable, but it may not give valid results about any individual predictor, or about which predictors are redundant with respect to others. Multicollinearity exists when two or more of the predictors in a regression model are moderately or highly correlated thereby limiting the research conclusions to be drawn. In severe cases of perfect correlations between predictor variables, multicollinearity can imply that a unique least-squares solution to a regression analysis cannot be computed (Field, 2009). According to Field (2009), VIF values above 10 are an indication of the presence of Multicollinearity. Multicollinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors. Multicollinearity was assessed in this study using the Variance Inflation Factor (VIF) as shown in table 4.13.

**Table 4.13: Multicollinearity Test**

Item	Collinearity Statistics	
	Tolerance	V.I.F
Tax rates	.696	1.433
System of valuation	.783	1.301
Policies & regulation	.714	1.400

The results show that tax rates had a V.I.F value of 1.433 which is less than 10 while the system of valuation had a V.I.F value of 1.301 which is also less than 10. Lastly, policies & regulations had a V.I.F value of 1.400 which is less than 10. Since all V.I.F for the three independent variables were less than 10, there is no multicollinearity and thus regression analysis was conducted.

#### **4.5 Correlation Analysis**

Correlation analysis as aforesaid measures the degree of association between variables. Pearson correlation analysis was done to determine the relationship between study variables. A correlation coefficient value ( $r$ ) in the range of 0.1 to 0.29 is considered



weak, 0.3 to 0.49 is considered moderate while 0.5 to 1.0 is considered strong extracts from O'Brien, 2007. Table 4.14 indicates that tax rates had the highest correlation with revenue performance ( $r= 0.441$ ), the system of valuation is positively correlated with revenue performance ( $r= 0.380$ ), policies and regulations were positively correlated with revenue regulations ( $r= 0.294$ )

**Table 4.14: Summary of Correlations Statistics of Independent and Dependent Variables**

<b>Revenue performance</b>	<b>Tax Rates</b>	<b>System of Valuation</b>	<b>Policies &amp; Regulations</b>
Revenue Performance	1		
Tax Rates	0.441*	1	
System of Valuation	0.380	0.338	1
Policies & Regulations	0.294*	0.306*	0.114*

**Correlation is significant at the 0.05 level (2-tailed).  
Survey Data (2021)**

#### **4.6 Regression Analysis**

Regression analysis deals with the distribution value of a model summary with one random multivariate as any other variable held constant. The multivariate regression model is generally used to establish whether a relationship exists between variables. This regression is specified with the x value and y value of the variables under study. The equation is expressed in form of mathematical values linking variables. This mathematical equation was used to explain the relationship while other variables were adjusted with random variables to predict the variations in the dependent variable.

#### 4.6.1 Model Summary

The model summary consisted of R value, R square value, Adjusted R squared value, and a standard error of the estimate. The values obtained were recorded in table 4.15 as shown below.

**Table 4.15: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.697 <sup>a</sup>	.486	.476	.768

a. **Predictors:** (Constant), Tax rates, system of valuation, and policies & regulations

The regression model summary shows that the correlation coefficient of R was 0.697 and the R square was 0.486. An R squared of .486 shows that the model contributes to 48.6% of the revenue performance while the remaining 51.4% can be explained by other variables which were not part of this study.

#### 4.6.2 Analysis of Variance

The analysis of variance was done to generate the f- statistic which is used to assess the significance of R. That is, ANOVA was conducted to assess the goodness of fit in the model. The results are shown in Table 4.16.

**Table 4.16: Overall – ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	13.877	4	3.469	165.178	.000
	Residual	3.991	252	0.015		
	Total	17.867	256			

a. Dependent Variable: Revenue performance

b. Predictors: (Constant), tax rates, system of valuation and policies & regulation

*Source: Research, 2021*

The ANOVA results in table 4.16 show the robustness of the model relationship between the independent variable and dependent variable. The F-calculated value of 165.178 was greater than F-critical as depicted by the p-value (.000) < 0.05 signifying that the model is statistically significant.

#### 4.7 Model Summary

To test how well the model works in explaining the relationship between tax rates, the system of valuation, and policies & regulations on revenue performance, regression analysis was conducted.

**Table 4.17: Joint effect Analysis of Variance between Tax Rates, System of Valuation, and Policies & Regulation on Revenue Performance**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.192	.031		6.193	.000
Tax rates	.347	.069	.179	5.028	.003
System of Valuation	.204	.047	.440	4.340	.000
Policies & Regulation	.373	.107	.308	3.485	.001

a. Dependent Variable: Revenue performance

b. Independent Variables: (tax rates, system of valuation, and policies & regulation)

#### 4.8 Regression Equation

$$Y = 0.192 + 0.179X_1 + 0.440X_2 + 0.308X_3$$

Where:

Y is Revenue performance

X<sub>1</sub> = Tax rates

X<sub>2</sub> = System of valuation

X<sub>3</sub> = Policy & regulations

The Regression equation shows that the independent variables and the dependent variable were statistically significant. A unit change in tax rates increases revenue performance by 0.179. A unit change in the system of valuation increases revenue performance by 0.440. A unit change in policies and regulation increases revenue performance by 0.308.

#### **4.9 Hypothesis Testing**

**H<sub>01</sub>** stated that tax rates have no significant effect on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. According to the findings, the P-value was 0.003  $P < 0.05$  so the null hypothesis is rejected. This concludes that tax rates have a statistically significant effect on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. Revenue performance in light of value-based taxes is greatly impacted by the prevailing rates that are set by the revenue authority. From the Laffer's point of view, rates should be optimally set to benefit both the tax authority and the taxpayers.

**H<sub>02</sub>** stated that system of valuation has no significant effect on revenue performance a case of secondhand motor vehicle dealers in Nairobi County. According to the findings, the P-value was 0.000  $P < 0.05$  so the null hypothesis is rejected. This concludes that System of valuation has a statistically significant effect on revenue performance a case of secondhand motor vehicle dealers in Nairobi County. The system of valuation dependability and predictability facilitates the ease of payment of taxes and hence the improved revenue.

**H<sub>03</sub>** stated that policies and regulations have no significant effect on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. According to the findings, the P-value was 0.001  $P < 0.05$  so the null hypothesis is rejected. This

concludes that Policies and regulations have a statistically significant effect on revenue performance a case of secondhand motor vehicle dealers in Nairobi County. Good policies and regulations that administer ad valorem taxes are critical to ensure that the facilitate the smooth and health collection of revenue from secondhand motor vehicle dealers.

**Table 4.18: Summary of Hypothesis Testing**

<b>Hypothesis</b>	<b>P-value</b>	<b>Results</b>
<b>H<sub>01</sub></b> : tax rates have no significant effect on revenue performance a case of secondhand motor vehicle dealers in Nairobi County	0.003	Reject H <sub>01</sub>
<b>H<sub>02</sub></b> : System of valuation has no significant effect on revenue performance a case of secondhand motor vehicle dealers in Nairobi County	0.000	Reject H <sub>02</sub>
<b>H<sub>03</sub></b> : Policies and regulations have no significant effect on revenue performance a case of secondhand motor vehicle dealers in Nairobi County	0.001	Reject H <sub>03</sub>

**Source: Research, 2021**

#### **4.10 Discussion of the Findings**

This section presents a discussion of the results of various tests carried out in the study. The results of each of the questions in this study were discussed appropriately and further grouped into the study objectives to which the questions were meant to answer.

##### **4.10.1 Effect of Tax Rates on Revenue Performance**

The first objective of the study was to determine the effect of tax rates on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. The findings of this study were statistically significant at a p-value of 0.003 which is less than 0.05 the convectional probability significance level. The findings were in

agreement with Effiong, Udoayang & Adesola (2017) studied the relationship between tax rates and economic growth: a conjugal biopsy in Nigeria. The findings revealed that when tax rates are high, the volume of sales goes low, tax revenue dwindles, and the government cannot pursue the desired economic growth. Further, the study found that when tax rates charged are high, the government may miss the objectives of collecting taxes and work against economic growth and development.

It is important that tax rates are set either through policies or practice at levels that promote effective and efficient collection of revenue. When tax rates are optimally set, they do not only improve on revenue performance but create a culture in taxpayers that they do not feel oppressed by the tax authorities. This is in agreement with the Lin and Jia (2019) study that found that whereas China's Laffer curves rests at 40%, majority of the taxpayers felt that the rates were accommodative hence more payment of taxes and better revenue performance. It would be critical for developing economies to set the tax rates especially those that touch on international trade with acceptable limits to reduce the temptations undervaluation of movable property by the business owners.

#### **4.10.2 Effect of System of Valuation on Revenue Performance**

The second objective of the study was to establish the effect of system of valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. The findings of this study were statistically significant at a p-value of 0.000 which is less than 0.05 the conventional probability significance level. The findings concurred with Shukla (2016) conducted a study on the effect of the electronic tax management system on tax collection by the Rwanda Revenue Authority. The variables in the study included the internet payment system, mobile payment system, and electronic billing machine. The study adopted descriptive qualitative and quantitative research methodology. The target population was 120 of which 75 were sampled using

Yamane's formula. Multiple regression was used to analyze data. The findings of the study revealed that both electronic tax management system which consists of a tax payment system, mobile tax payment system, and electronic billing machine system contributes to timely tax payment and reduced operational cost for both the revenue authority and the taxpayers.

In the context of Kenya, KRA uses multiple system of valuation to arrive at the payable taxes on movable property into Kenya. The findings have shown that this system of valuation impact revenue performance significantly and positively. It is of importance that these systems such as CRSP are very predictable to the extent that the taxpayer is very certain of his or her tax liabilities before the imported property lands or bought in Kenya. These findings attest to the findings of Sikka (2017) which stressed on the predictability and certainty of systems of tax valuation to ensure timely preparedness and payment of taxes due on the part of the taxpayer. This has been shown to improve the revenue performance as per the findings.

#### **4.10.3 Effect of Policies and Regulations on Revenue Performance**

The third objective of the study was to establish the effect of policies and regulations on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. The findings of this study were statistically significant at a p-value of 0.001 which is less than 0.05 the conventional probability significance level. The findings were in agreement with, According to the study by IMF (2015) on the characteristics of good tax policies. It was observed that the underlying principle of good tax policy is that taxes should be neutral, or, in other words, the tax rate, tax base, and tax structure should not impact markedly on investment, production, or consumption. It certainly should not be used to 'target' or 'favor' one industry, one particular product, or one particular taxpayer over another.

However, in certain circumstances, there can be justification to levy ‘special’ taxes or discriminatory taxes such as excise, to correct negative externalities associated with the consumption of certain goods. Policies and regulations therefore should always be operationalized in a manner that businesses find it easier to trade with all parties in the economy and pay their taxes appropriately. This not only benefits the business owners but to greater extent, the revenue authority.



## **CHAPTER FIVE**

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

#### **5.1 Introduction**

The chapter presents a discussion for the summary based on the earlier established research questions. It further discusses major study findings, and conclusions and eventually provides directions in the form of recommendations.

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

The general objective was to investigate the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. With regards to that this study had sought to determine the effect of tax rates on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. To establish the effect of system of valuation on revenue performance a case of secondhand motor vehicle dealers in Nairobi County. To find out the effect of policies and regulations on revenue performance a case of secondhand motor vehicle dealers in Nairobi County.

##### **5.2.1 Effect of tax Rates on Revenue Performance**

The objective was sought to determine the effect of tax rates on revenue performance a case of secondhand motor vehicle dealers in Nairobi County. Correlation analysis showed that tax rates and revenue performance are positive as well as significantly related. Based on the results of the regression analysis, there was positivity as far as the relationship between tax rates and revenue performance was concerned with evidence of  $p=0.003$ ,  $p<0.05$ . These findings revealed further that when tax rates are set within the optimum levels, they closely impact revenue performance. This impact is positive. In other words, more revenue will be collected when the rates are set within

the acceptable limits that do not hinder the goals and objectives of businesses in the motor vehicle dealerships industry in Kenya.

### **5.2.2 Effect of System of valuation on Revenue Performance**

The objective was to establish the effect of system of valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. Correlation analysis showed that the system of valuation and revenue performance is positive as well as significantly related. According to the findings of the Regression analysis, there was also the sign was positive as far as the relationship between the system of valuation was concerned with evidence of  $p=0.000$ ,  $\rho<0.05$ . These findings further revealed that it is important to have proper, well understood, certain and predictable systems of valuation in order to gain the confidence of taxpayers. This confidence is crucial to ensure that businesses in the motor vehicle imports sector pay their taxes as required by the law without the necessity to enforce compliance.

### **5.2.3 Effect of Policies and Regulations on Revenue Performance**

The objective was to find out the effect of policies and regulations on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. Correlation analysis showed that policies and regulations and revenue performance are positive as well as significantly related. The findings of the regression analysis showed that there it was also positive as far as the relationship between policies and regulations was concerned with evidence of  $p=0.001$ ,  $\rho<0.05$ . The finding still revealed that when policies and regulations are formulated with both the taxpayer and the revenue authority as partners, then it contributes effectively to good revenue performance. Therefore, it is important and significant that tax policies and regulations conform to the to the needs of businesses and the revenue authority so that collection of revenue targets can be met.

### **5.3 Conclusions**

The study rejected the first null hypothesis and concluded that tax rates had a significant influence on revenue performance. Respondents agreed to a large extent that they understand that any imported motor vehicle attracts taxation using three major tax bases including customs duty, excise duty, and VAT. Respondents know that customs duty is charged at the rate of 30% of the value declared during the filing of the Import Declaration Form and that is final. The study further concluded that since there is presence of knowledge among the taxpayers on the existing taxes to be paid upon importation of secondhand motor vehicles.

The study also rejected the second null hypothesis and concluded that systems of valuation had a significant influence on revenue performance and that the Integrated Customs Management System (iCMS) facilitates open and transparent dealings with motor vehicle dealers. The authority has established several systems of valuation that dealers use to interact with the declaration, filing, and payment of taxes applicable. The study further concluded that even though there are several systems of valuation by the revenue authority, there is need to ensure that that their usage is efficient and effective in the collection of revenue.

The study finally rejected the third null hypothesis and found that policies and regulations had a significant effect on revenue performance. The majority of the respondents know that import tariffs are often some of the considerable barriers to importation in the business of secondhand motor vehicle dealerships. However, restrictions on importation quotas as imposed by various policies and regulations are supportive of the business industry. The study concluded as well that since the importation of motor vehicles is regulated by common market agreements, policies and

regulations are important to ensure that these contribute to improved revenue performance.

#### **5.4 Recommendation**

Based on the objectives of the study, the findings established that tax rates, valuation systems, policies, and regulations have a positive effect on revenue performance. The findings also revealed a statistically significant relationship between tax rates, systems of valuation, and policies and regulations that have a positive effect on revenue performance.

Drawing from the theory of Laffer that rates should be set at the optimal rate to enable the taxpayers to easily accept the charged rates, and also facilitate the revenue authority to collect the maximum taxes possible. This study recommends that Kenya Revenue Authority should fix tax rates that are aligned to the economic conditions prevailing in the country. This will not only enable the revenue authority to effectively capture the needs of the taxpayers but ensure that the government collects sufficient tax revenue from the taxpayers as posited by the Laffer's theory of tax rates and revenue performance. Otherwise, if any the rates are set to either extreme left or extreme right of the Laffer Curve, either of the two players in revenue collection will fail meet their goals and objectives in business and in revenue collection respectively.

Borrowing from the theory of Technology Acceptance Model, any technology deployed by the revenue authority to facilitate the collection of the tax, should be acceptable within the frameworks in which it was designed to operate. The theory posits furthers when the technology is well understood, is more predictable and does not constantly change, users are most likely to accept it and use it for the purpose for which it was meant. The practicability and certainty are key features, that would contribute to

the enhancement of revenue collection. Therefore, this study recommends that the Kenya Revenue Authority should design predictable systems of valuation, that can outrightly spell out the required taxes to be paid upon a motor vehicle by the importers to lessen the uncertainties that currently mar the importation and payment of taxes across various motor vehicle dealers in Kenya.

Last but not least consumers of policies and regulations meant to regulate, improve and maximize tax collection, have behaviours that inform their consumptions of such policies and regulations according to the theory of planned behaviour. These behaviours would go a long way to influence decision of purchasing motor vehicles in this case. Where consumers perceive those policies and regulations in place do not conform to their decision-making behaviours, they would tend to exchange purchase of property with other investments. This would then hinder the collection of revenue and hence affect the performance of the revenue in this economic subsector. This study finally recommends that the government should put in place concrete policy & regulatory frameworks that are favorable to Kenyan motor vehicle dealers since it's affected by regional and community blocks import barriers that affect the importation and sale of motor vehicles.

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

The study suggests the need for more studies focusing on other factors determining revenue performance not included in the study. The study was only limited to tax rates, system of valuation, and policies and regulations. Thus, apart from the above-mentioned factors, there are other variables that the current study did not focus on, therefore, future studies should be carried out to establish the effect of ad valorem taxes valuation systems and other procedures among land and housing property specifically those that are affected by capital gains taxes.

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## APPENDICES

### Appendix I: Introduction Letter

**Dear respondent,**

I am a student at the Kenya School of Revenue Administration conducting a study on **the effect of ad valorem tax valuation on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County, Kenya.** The study will contribute to the creation of a better understanding between motor vehicles dealers and the revenue authority, among other players in the secondhand motor vehicle sector. To accomplish the study, I request you to complete this questionnaire.

The information obtained will be used solely for academic purposes and therefore, will be treated with the utmost confidentiality and good faith. Thank you in advance for participating and making this study successful.

Yours sincerely

.....

Justin Mulwa

KESRA105/0100/2019

**Appendix II: Research Questionnaire***Instructions for Respondents*

This questionnaire is divided into four parts namely Part I, Part II, Part III, Part IV, and Part V. You are requested to be as truthful as possible while answering the questions. You are to put a tick or put an x mark in the spaces provided and as instructed under each section.

**PART I: GENERAL INFORMATION**

1. What is your gender?

Male  Female  Choose not to say

2. Describe your level in the position you currently occupy?

Lower-Level  Middle Level  Senior Level

Other

3. How many units of cars do you approximately handle in a day?

1 – 5 units  6 – 10 units  11 – 15 units

16 units and above

## **PART II: TAX RATES**

This section aims at understanding the effect of tax rates on revenue performance, a case of secondhand motor vehicle dealers in Nairobi County. To what extent do you agree or disagree with the following statements. Kindly put a cross (X) where applicable.

*Use a scale of 1-5 where; 1= Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.*

	1	2	3	4	5
I understand that any imported motor vehicle attracts taxation using three major tax bases including customs duty, excise duty, and VAT.					
Dealers can easily predict all the tax amounts payable even before the imported motor vehicles land, using the applicable tax bases and rates.					
I know that customs duty is charged at the rate of 30% of the value declared during the filing of Import Declaration Form and that is final.					
Dealers pay 25% excise duty based on the value that customs duty has been charged, and this excise duty amount is very predictable.					

Dealers also pay 16% VAT based on the cost where both customs and excise duties, have been charged and one can certainly know what to pay.					
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### **PART III: SYSTEM OF VALUATION**

This section aims at understanding the effect of system of valuation on revenue performance, a case of secondhand motor vehicles dealers in Nairobi County. To what extent do you agree or disagree with the following statements. Put a cross (X) in the spaces provided. Use a scale of 1-5 where; **1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.**

	1	2	3	4	5
The authority has established several systems of valuation that dealers use to interact with the declaration, filing, and payment of taxes applicable.					
CRSP systems are unpredictable because it keeps on changing and has not been standardized for various models of imported vehicles.					
<i>iTax</i> system is a very useful, dependable, and easy to use by motor vehicle dealers and this supports the revenue collection effectively.					
integrated Customs Management System (iCMS) facilitates open and transparent dealings with motor vehicle dealers.					

**PART IV: POLICIES AND REGULATIONS**

This section aims at investigating the effect of policies and regulations on revenue performance, a case of secondhand motor vehicle dealer in Nairobi County. To what extent do you agree or disagree with the following statements. Put a cross (X) in the spaces provided. *Use a scale of 1-5 where; 1= Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.*

	1	2	3	4	5
I know that there are customs policies and regulations that control motor vehicle industry and may not necessarily be beneficial.					
I know that import tariffs are often some of the considerable barriers to the importation and dealership of motor vehicles.					
Motor vehicle industry is affected by regional and community blocks import barriers that affect the importation and sale of motor vehicles.					
Restrictions on importation quotas as imposed by various policies and regulations are supportive of the business industry.					
I know that some policies and regulations give undue advantages to some businesses while hurting others.					

**PART V: REVENUE PERFORMANCE**

This section aims at understanding the position of revenue performance concerning ad valorem tax, a case of secondhand motor vehicle dealers in Nairobi County. To what extent do you agree or disagree with the following statements. Put a cross (X) in the spaces provided. *Use a scale of 1-5 where; 1= Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.*

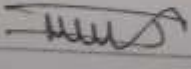
No.		1	2	3	4	5
	Motor vehicle industry is a crucial economic sector that should contribute to the general performance of revenue.					
	Majority of the dealers declared and filed their due returns on time and as per the requirements of the applicable tax laws.					
	Acquisition of compliance certificates is an indicator of taxpayers performing better as is required.					
	I believe that high tax liabilities sometimes hinder motor vehicle dealers from maximizing trade.					
	I have encountered situations where the valuation of taxes levied on motor vehicles makes the payment of taxes unrealistic to dealers.					

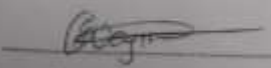
**THE END**

Thank you for your participation!

### Appendix III: List of Study Target Population

C&BC PROPOSED ORGANISATION STRUCTURE STATISTICS BREAKDOWN										
Designation	DIVISIONS, BTO, OPERATIONS OFFICE & REGIONS									TOTAL
	CARGO SCANNING & MONITORING	BORDER CONTROL	RISK MANAGEMENT	REVENUE & REGIONAL COORDINATION	TRADE FACILITATION	POLICY & INTERNATIONAL AFFAIRS	BUSINESS TRANSFORMATION OFFICE	COMMISSIONERS OFFICE	REGIONS	
1. Commissioner General	0	0	0	0	0	0	0	0	0	0
2. Commissioner	0	0	0	0	0	0	0	1	0	1
3. Deputy Commissioner	1	1	1	1	1	1	0	0	0	6
4. Chief Manager	2	4	3	9	3	3	1	1	0	26
5. Manager	4	12	5	36	8	5	3	2	0	75
6. Assistant Manager	18	58	11	84	7	8	-	4	0	190
7. Supervisor	46	289	21	214	17	20	0	8	0	621
8. Officer	200	894	53	936	29	12	8	11	0	2143
9. Secretarial	3	8	1	136	3	4	2	1	0	158
10. Support (S/A)	4	1844	13	310	12	6	3	15	0	2407
11. Driver	6	13	1	50	1	-	1	9	0	81
12. Staff on Temporary Contracts										
<b>GRAND TOTAL</b>	<b>284</b>	<b>3123</b>	<b>109</b>	<b>1976</b>	<b>81</b>	<b>59</b>	<b>24</b>	<b>52</b>	<b>0</b>	<b>5708</b>

  
 Commissioner, Customs & Border Control

  
 Deputy Commissioner, TLO

## Appendix IV: Data Collection Authorization Letter



REF: KESRA/NBI/036

14<sup>th</sup> October 2021

TO: WHOM IT MAY CONCERN

RE: REQUEST FOR RESEARCH PERMIT

JUSTIN MULWA- REG. NO.: KESRA105/0100/2019.

This is to confirm that the above named is a student at Kenya School of Revenue Administration (KESRA) Nairobi Campus pursuing Masters in Tax and Customs Administration.

The named student is undertaking Research on TOPIC: "EFFECT OF AD VALOREM TAX VALUATION ON REVENUE PERFORMANCE AMONG MOTOR VEHICLE DEALERS IN NAIROBI COUNTY, KENYA."

The purpose of this letter is to request your good office to assist the above student with the information he requires to enable him work on his project.

Your support to KESRA in this regard will be highly appreciated.

Thank you.

**Dr. Marion Nekesa, PHD,**  
Head Academic Research  
**KESRA**





### Appendix V: NACOSTI Research Permit



**REPUBLIC OF KENYA**  
NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY AND INNOVATION



**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **499420**

Date of Issue: **04/November/2021**

**RESEARCH LICENSE**



**This is to Certify that Mr. Justin Mulwa Mutungi of Kenya School of Revenue Administration, has been licensed to conduct research in Nairobi on the topic: EFFECT OF AD VALOREM TAX VALUATION ON REVENUE PERFORMANCE AMONG MOTOR VEHICLE DEALERS IN NAIROBI COUNTY, KENYA for the period ending : 04/November/2022.**

License No: **NACOSTI/P/21/13719**

*W. Mutumbi*  
Director General  
NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
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## Appendix VI: Plagiarism Certificate

### EFFECT OF AD VALOREM TAX VALUATION ON REVENUE PERFORMANCE, A CASE OF SECONDHAND MOTOR VEHICLE DEALERS IN NAIROBI COUNTY, KENYA

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