

**GOVERNMENT TRADE POLICIES AND SUPPLY CHAIN PERFORMANCE OF  
LOGISTICS FIRMS BASED IN MOMBASA COUNTY, KENYA.**

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KENYATTA UNIVERSITY.**

**FEBRUARY, 2023**

**DECLARATION**

This Research project is my authentic work and has not been presented for award of degree or any other award in any university.

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## **DEDICATION**

I wish to dedicate this project to my wife Linda and my children Martin, Florentina, and Simon and my entire family overwhelming support, morally, financially and their selfless assistance and prayers.

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## TABLE OF CONTENTS

<b>DECLARATION</b> .....	<b>ii</b>
<b>DEDICATION</b> .....	<b>iii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iv</b>
<b>TABLE OF CONTENTS</b> .....	<b>v</b>
<b>LIST OF FIGURES</b> .....	<b>ix</b>
<b>LIST OF TABLES</b> .....	<b>x</b>
<b>ABBREVIATIONS AND ACRONYMS</b> .....	<b>xi</b>
<b>OPERATIONAL DEFINITION OF TERMS</b> .....	<b>xii</b>
<b>ABSTRACT</b> .....	<b>xiii</b>
<b>CHAPTER ONE</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>1</b>
1.0 Background of the study .....	1
1.1.1 Supply Chain Performance.....	3
1.1.2 Government Trade Policies .....	4
1.1.3 Logistics Firms in Mombasa County .....	7
1.2 Statement of the Problem .....	9
1.3 Research objectives.....	11
1.3.1 General objective.....	11
1.3.2 Specific objectives.....	12
1.4 Research questions.....	12
1.5 Significance of the Study .....	12
1.6 Scope of the study.....	13
1.7 Limitations of the Study.....	14
1.8 Organization of the study .....	14
<b>CHAPTER TWO</b> .....	<b>16</b>
<b>LITERATURE REVIEW</b> .....	<b>16</b>
2.0 Introduction .....	16
2.2 Theoretical review .....	16
2.2.1 The theory of constraint.....	16
2.2.2 Porter’s value chain theory .....	18
2.1.3 Resource-Based View .....	19

2.3 Empirical review.....	20
2.3.1 Tax Policy on Supply Chain Performance.....	20
2.3.2 Licensing policy on supply chain performance .....	22
2.3.3 Price control policy on supply chain performance.....	25
2.3.4 Tariff Policy on Supply Chain Performance.....	26
2.3.5 Supply Chain Efficiency.....	28
2.4 Summary of Literature and Research Gaps .....	29
2.5 Conceptual Framework.....	34
<b>CHAPTER THREE .....</b>	<b>35</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>35</b>
3.1 Introduction .....	35
3.2 Research Design .....	35
3.3 Target Population .....	35
3.4 Sample Size .....	37
3.5 Sampling Technique .....	37
3.6 Operationalization of Variables.....	39
3.7 Data Source and Collection Instruments.....	39
3.7.1 Validity .....	40
3.7.2 Reliability .....	40
3.8 Data Collection Procedure .....	41
3.9 Diagnostic tests.....	42
3.9.1 Normality test.....	42
3.9.2 Linearity Test .....	42
3.9.3 Multicollinearity test .....	42
3.10 Data analysis Methods .....	43
3.10.1 Empirical Model.....	44
3.11 Ethical Issues .....	45
<b>CHAPTER FOUR.....</b>	<b>46</b>
<b>DATA ANALYSIS .....</b>	<b>46</b>
4.1 Introduction .....	46
4.2 Sample Characteristics .....	46
4.2.1 Response rate .....	46

4.2.2 Logistics Company.....	47
4.2.3 Level of education.....	48
4.2.4 Work Experience.....	48
4.3 Descriptive Statistics.....	49
4.5.1 Descriptive on advance taxation policy.....	50
4.5.2 Descriptive on licensing policy.....	53
4.5.3 Descriptive on Price Control Policy.....	57
4.5.4 Descriptive on tariff policy.....	60
4.5.5 Descriptive on supply chain performance.....	62
4.6 Inferential Results.....	66
4.6.1 Diagnostic analysis.....	66
4.6.2 Normality test.....	66
4.6.3 Linearity test.....	67
4.6.4 Multicollinearity test.....	68
4.6.5 Correlation analysis.....	69
4.6.6 Regression Analysis.....	71
4.6.7 Model Summary.....	72
4.6.8 Analysis of Variance (ANOVA).....	72
4.6.9 Regression Coefficient.....	73
<b>CHAPTER FIVE.....</b>	<b>78</b>
<b>SUMMARY, CONCLUSIONS AND RECOMMENDATION .....</b>	<b>78</b>
5.1 Introduction.....	78
5.2 Summary of the Study.....	78
5.2.1 The effect of advance taxation policy on supply chain performance of logistics firms based in Mombasa County, Kenya.....	79
5.2.1 Effect of licensing policy on the supply chain performance of logistics firms based in Mombasa County, Kenya.....	80
5.2.1 Effect of Price Control on the supply chain performance of logistics firms based in Mombasa County, Kenya.....	80
5.2.4 Effect of Tariff policy on supply chain performance of logistics firms based in Mombasa County, Kenya.....	81
5.3 Conclusions.....	82
5.4 Policy Recommendations.....	83

5.5 Areas for Further Study.....	84
REFERENCES .....	85
APPENDICES .....	90
APPENDIX I: QUESTIONNAIRE.....	90
APPENDIX II: WORK PLAN.....	95
APPENDIX III: LIST OF LOGISTICS COMPANIES .....	96
APPENDIX IV: BUDGET .....	97



## LIST OF FIGURES

<b>Figure 2. 1 Conceptual Framework .....</b>	<b>34</b>
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## LIST OF TABLES

Table 2. 1 summary of the literature review and knowledge gap.....	30
Table 3. 1 Target Population .....	36
Table 3. 2 Sample Size .....	38
Table 3. 3 Operationalization of Variables.....	39
Table 3. 4 Reliability coefficient .....	41
Table 4. 1 Response rate.....	46
Table 4. 2 Logistics Companies.....	47
Table 4. 3 Level of Education.....	48
Table 4. 4 Experience in the sector .....	49
Table 4. 5 Descriptive on advance taxation.....	50
Table 4. 6 Descriptive on Licensing Policy.....	53
Table 4. 7 Descriptive on Price Control.....	57
Table 4. 8 Descriptive Statistics on Tariff Policy .....	60
Table 4. 9 Descriptive on supply chain performance.....	62
Table 4. 10 Normality Test.....	67
Table 4. 11 Linearity test.....	68
Table 4. 12 Multicollinearity Test .....	69
Table 4. 13 Correlation Analysis .....	71
Table 4. 14 Model Summary .....	72
Table 4. 15 ANOVA .....	73
Table 4. 16 Regression Coefficient.....	76

## **ABBREVIATIONS AND ACRONYMS**

<b>GST</b>	Goods and Services Tax Environment
<b>NACOSTI</b>	National Commission for Science and Technology
<b>SCP</b>	Supply Chain Performance
<b>SCM</b>	Supply Chain Management
<b>SMEs</b>	Small and Medium Enterprises

## OPERATIONAL DEFINITION OF TERMS

<b>Government policy</b>	This is a government proclamation for political activity, which includes taxation, licensing, price control, and tariffs, in terms of policy options, decision-making, implementation, and evaluation.
<b>Government trade policies</b>	These are Governments measures to restrict cross-border trade. They include tariffs, quota systems, and subsidies.
<b>Licensing Policy</b>	This are government guidelines on registration and the issuance of permits for business operations measured through registration procedures, licencing procedures, and the validity of this license.
<b>Logistics firms</b>	These are organisations that assist other companies to transport commodities from one point to another.
<b>Price Control policy</b>	This refers to the price levels set by the government to control prices and avoid customer manipulation, measured in terms of price ceiling and price floor.
<b>Supply chain performance</b>	This is the procedure for evaluating the effectiveness and efficiency of the supply chain, which encompasses five performance characteristics of the SC, including asset management, flexibility, responsiveness, and cost.
<b>Tariff Policy</b>	This is a form of tax-imposed government of goods and services when they leave or enter national frontier. It means the tax imposed by the government on logistics operation in Kenya measured using total revenue created and total value of imports.
<b>Taxation policy</b>	This involves income tax policy that gives guidelines regarding the choices of the government on what to levy and the amount that should be levied measured in terms of tax rates, tax administration, tax compliance, bureaucratic process involved and tax complicity.

## ABSTRACT

Logistics firms are among the companies that have embraced supply chain performance and have made a lot of progress in terms of service delivery. However, they have faced a number of challenges in their operations that have affected their supply chain performance. According to the Kenya Institute of Supply report (2019), supply chain performance has declined over time given changes in globalization and volatile fuel prices. This decline is in terms of service delivery and customer satisfaction. Thus, the aim of the current study examined the effect of government trade policies on the supply chain performance of logistics firms based in Mombasa County, Kenya. The specific objectives of the study were; to examine the effect of advance taxation policy, licensing policy, price control, and tariff policy on the supply chain performance of logistics firms based in Mombasa County, Kenya. The theory of constraint and Porter's value chain theory guided the study. The target population was 8 logistics firms based in Mombasa County. The study employed a descriptive research design. The respondents include top management staff, middle management staff, and lower management staff of the logistics firms. Taro Yamane's formula (1967) was employed to calculate a sample size, which was 120 respondents. Questionnaires with open ended question was used to gather primary data. The study employed content validity to ascertain validity, while reliability was ascertained by conducting a pilot study, using the split-half method to calculate Cronbach's alpha values. For the quantitative data collected a multiple linear regression model was conducted to examine the relationship between study variables. Tables, pie charts, and graphs were used to present the findings for easy comprehension and interpretation. Based on the findings, the Government trade policies were found to influence the supply chain performance of logistic companies in Mombasa County, Kenya. Different variables depicted varied influences on the dependent variable. Two variables that is Licensing policy and price control depicted a positive influence supply chain performance (0.137, and 0.130). While the other two taxation policy and tariff policies negative influenced on the supply chain performance (-0.150 and -0.295). The results recommended policies guiding the taxation and government tariffs. Moreover, licensing policy and price control should be enhanced for more favourable outcomes. This is because the policies have positive impact on supply chain performance. The findings may be important to government policymakers in formulating appropriate policies guiding logistics firms. The study omitted other trade barriers such as quota systems and subsidies thus further study can be done to consider these trade barriers and establish their influence of the supply chain performance of logistics companies. Lastly, to ensure research is done under ethical conditions, privacy of respondents and treating collected data with a lot of integrity was considered.

# CHAPTER ONE

## INTRODUCTION

### 1.0 Background of the study

Supply chain performance provides a competitive advantage and long-term growth for businesses over their competitors. In the current global market, many local and international logistics companies are faced with a lot of challenges in ensuring improvement in their supply chain performance. According to the report by the International Chamber of Shipping (ICS) report, Germany was leading with a 4.19 score on the ground of trade logistics performance. According to the OECD economic survey 2021, the supply chain performance of the Netherlands declined due to prolonged weakness posed by external forces and global trade tensions in supply chain performance limiting exports and investment.

Sweden, Belgium, and Singapore are also among the top five countries with the best performing supply chains. Among them are DHL, Kuehne, DB Schenker, Nippon Express, and DSV Panalpina, as well as supply chain and worldwide forwarding. Furthermore, based on the Logistics Performance Index 2018, on the basis of the Logistics Performance Index. This performance can be attributed to highly developed infrastructure, advanced technology, and large warehouses compared to other countries (Paulraj, Chen, & Blome, 2017).

In Africa, the concept of supply chain performance of logistics companies is gaining shape as well. Supply chain performance has played a bigger role in boosting intra-regional trade among African countries and its member states (De Villiers, 2017). Based on the Logistics Performance Index, 2018, South Africa is leading in terms of best performing supply chain performance in Africa. However, about 70% of the businesses close earlier than 5 years. This poor supply chain

performance can be associated with high operational costs. Thus, for supply chain performance to improve, better strategies have to be implemented and adopted. Moreover, Kenya was among the five countries in Africa that made steps in terms of supply chain performance. However, this has declined with time given the fact that inefficient data tracking systems, lack of artificial intelligence and automation, low adaptation of digitization, and lack of resiliency negatively affected the supply chain performance. Despite this milestone made by these countries in terms of logistics integration to boost supply chain performance of logistics companies in the region, many African countries have faced a number of challenges ranging from logistics infrastructure development to customs and border clearance given different countries with different trade policies (Muogboh, & Ojadi, 2018).

In Kenya, for instance, the logistics companies have gained mileage in terms of supply chain performance, however the progress in terms of supply chain performance has not been as desired. There is a lot of logistics disruption; the production delays, limited number of third parties, doubling down of technology investment, as well as commodity pricing. According to the supply chain performance of these logistics companies, they have faced a lot of huddles to establish sustainable products, high quality, and good performance, which has enabled the logistics companies to minimise the risks associated with their suppliers, staff, the government, as well as customers (Nyaberi & Mwangangi, 2014). Effective and efficient supply chains are paramount in ensuring company accountability, transparency, and proper resource utilisation (Talib & Hamid, 2014). The government of Kenya has been at the forefront of ensuring transparency and accountability through the institutionalisation of supply chain management in all institutions. Effective supply chain performance in both private and public organisations ensures smooth access to services demanded by customers. Logistic firms have equally benefited

from the effective supply chain management instituted by the government (Rodrigues, Harris, & Mason, 2015). Hence, the current study explored the impact of government trade policies on the supply chain performance of logistics firms based in Mombasa County, Kenya.

### **1.1.1 Supply Chain Performance.**

According to Lambert and Enz (2017), supply chain performance involves a process of identifying, accessing, and acquiring resources needed by an organisation to achieve its strategic needs. In addition, it can also be defined as an approach employed by a company or organisation to manage how the goods supplied flow through an inventory management system from the supplier to the final consumer.

According to Suryanto, Haseeb, and Hartani (2018), supply chain performance is driven by numerous variables. These variables include the price paid for the process, the length of the procedure's lead time, governmental laws, the level of market rivalry, the type of the supplied goods whether they are fragile or flexible and consumer expectations. These requirements are stringent, forcing logistics firms to advance in the process of supply chain management and improve so as to remain competitive and relevant in market operations. Increasing demand, organisational competitiveness, and government regulations must awaken companies to develop mechanisms that enables them to face the challenges to ensure they don't lose market competitiveness (Mutisya, 2016).

According to Mutimbia (2018), the efficiency of the supply chain may be measured in terms of customer satisfaction, response time, service delivery, and adaptability. The present study



evaluated the performance of the supply chain in terms of reaction time, process dependability, flexibility, service delivery, and asset management.

Supply chain performance can be perceived as the execution of organisational activities in an effective and efficient manner with the objective of achieving specific objectives. According to Mutimbia (2018), supply chain performance includes operational excellence that ensures customers' needs are satisfied. Performance of the supply chain is typically impacted by both internal and external factors, such as organizational structure and governmental laws. Supply chain performance (SCP) can be measured in two ways that is qualitative aspect and quantitative aspect. The qualitative aspect involves the extent to which the customer is satisfied with the service or product, while the quantitative measure involves response time, delivery performance, and resource utilization.

Thus, according to Rodrigues *et al.* (2015), supply chain performance should be linked with supply chain partners to ensure efficiency and customer satisfaction. In this case, logistics firms have to ensure they are conversant with the changing customer needs, expectations, and aspirations of those who are the end-users of their services for effective and efficient performance management. Following this discussion, this study measured the supply chain performance using the rate of responsiveness, reliability, flexibility, and service delivery.

### **1.1.2 Government Trade Policies**

Government trade policies are rules or principles that govern and guide decisions that result in a positive outcome, enhancing the operations of an organisation or body (Hendren & Sprung-Keyser, 2020). The policies are rules that explain how some things have to be done and why they

should be done that way. According to Hoffman (2018), government trade policies include taxation rates, licencing procedures, price control, and tariffs, among others. Also, Sutrisno and Jazilah (2019), assert that government policy on international trade refers to laws that affect exports and imports. Onjala (2020) asserts that the collection of conventions, laws, and practices is what affects commerce with other countries. Each nation sets its own tariffs, subsidies, and regulations with regard to trade.

Hoffman (2018) argues that a government's choice of what taxes to charge, in what amounts, and on whom constitutes its taxation policy. There are microeconomic and macroeconomic components to it, as well as subsidies and regulations. Subsidies and regulations are compulsory levies charged by the government on a taxpayer as a measure of generating income for the government which funds its expenditure and also regulates market operations. It is compulsory, such that failure to pay is punishable in a court of law. Therefore, taxation is the process of imposing a tax by a taxing authority. Taxes are either direct or indirect taxes, where direct tax can't be transferred while indirect tax can be transferred. Also, Yuldasheva and Artikov (2021) show that the tax can be measured in terms of tax rates, tax administration, tax compliance, bureaucratic process involved, and tax complicity measurements of taxation by a government.

According to Dhar and Khandelwal (2021), service tax negatively impacts the productivity of outbound logistics. Moreover, results revealed that the GST environment depicted a moderating role in the direct relationship. In addition, Ocheni (2015) discovered that managers and accountants differ on average in terms of the optimal tax strategy that might promote tax compliance. Furthermore, there were no substantial differences in views regarding the effect of tax policy on the expansion of SME's. Despite the study employing the best models to establish

the relationship, the study failed to check the strength and direction of the relationship. Government tax policies adversely impacted the performance of SMEs in Azerbaijan. Besides, the relationship between governmental tax policy and SME performance was mediated by entrepreneurial orientation (Hendou, 2019).

A licence policy is a government regulation formulated by a government that describes the aspects of the procedure of regulations governing business operations (Sutrisno & Jazilah, 2019). Obtaining permission from a company to manufacture and sell one or more of its products within a particular market area. The organization that acquires these rights (the licensee) often consents to pay a royalty charge to the original owner. Thus, licencing is the process of issuing this document to a business or organisation by a government to allow it to operate within its territory. Moreover, licencing means government guidelines on registration and procedures for the issuance of permits for businesses to allow them to perform their operations (Leiponen & Delcamp, 2019). The licencing policy constitutes business registration procedures, licencing procedures, and the validity of this license.

The higher the compliance with regulations, the more negatively affected business development was by Lambert and Haley (2021). Further, licencing of regulations and registration procedures affect the procedures of running the company (Ishengoma, 2018). Therefore, companies are dormant in terms of licencing regulations and their legislative process is complex; hence, without proper regulations, the quality of licencing regulations is compromised.

Fuller (2018) defines a price control policy as a government's economic policy imposed on the markets, setting the minimum price and maximum prices of goods and services that should be traded in the market. Furthermore, it refers to the price levels set by the government in order to

control prices and avoid customer manipulation (Clark, 2019). Price control includes rent control, minimum wages, and drug prices. Price control is thus measured in terms of the price ceiling and floor for goods and services, rent control, and the minimum wage rate.

According to He and Lin (2017), government pricing policies increased the mainstream supply and China's profits in the sector. Furthermore, lifting price caps reduces the national average by 14%. Further, Abrell and Rausch (2017) add that price bound deficit has a significant impact in regulating the market as compared to abatement bounds since it can provide useful information about abatement technology by the firm as compared to abatement bounds which address emission uncertainty only. In addition, introducing hybrid policies reduces the abatement cost expected, thus achieving the target emission reduction as per the policy.

A tariff, on the other hand, is a levy levied on imports of goods from other nations. The purpose of a tariff is to create revenue for the government and also to protect the local industries from foreign competition. According to (Hu, 2020), this is a form of tax imposed by the government on goods and services when they leave or enter the national frontier. These tariffs consist of particular tariffs ad valorem, permits, import quotas, voluntarily limits on exports, and local content requirements (Vanegas & Baena, 2019). This study defines a tariff as a tax imposed by the government and examines how it affects logistics operations in Kenya. Measured using total revenue created and total value of imports, averaged across products, and weighted imports.

### **1.1.3 Logistics Firms in Mombasa County**

Logistics firms are private organisations operating both locally and internationally in the transport sector. These firms plan to implement and control the movement of goods as well as

store them within the supply chain from one place to another, from the source to the ultimate consumer or customer (Tielmann & Schiereck, 2017). The supply chain includes shipping, transportation, receiving, storing, and managing the goods transported for these functions. The logistics firms are responsible for overseeing the inventory by planning proper transportation and proper storage of the inventory. They organize inventory movement along the supply chain and plan the logistics process.

In Mombasa County, there are a total of 8 logistics companies dealing with . These companies are involved in transporting goods from one station to another. These logistics companies outsource logistics services both locally and internationally. They have three key objectives: lower operational costs; meeting demand changes; and lower capital expenditure (Jermittiparsert, Namdej, & Somjai, 2019). Corporate logistics problems frequently include incomplete services, slow and inefficient processes, inaccurate and delayed information, and a significant risk of product damage. Possible effects include the inability to provide integrated services, high operational costs, a high rate of accuracy, and a lack of adaptability in the face of shifting demand requirements (Muhalia, Ngugi, & Moronge, 2021). According to the logistics performance index (2021), the quality of service and competence of logistics service stood at 3.2 in 2016; this reduced to 2.8 in 2019 and further deepened to 2.2 in 2021.

The supply chains of logistics firms are always complex and sensitive; they face challenges from the constant change of customer demand. This supply chain can't guarantee high value without the proper organisation of the transport system (Nadeem, Alvi, & Iqbal, 2018). Increased global transport costs mean logistics companies' transport costs have equally increased, reducing their revenue. Further, volatile fuel costs and risks involved have caused unnecessary delays, thus

affecting the time of delivery and cost estimation associated with transportation and making it difficult. Thus, companies registered big losses due to increased expenditure and inventory costs. This in turn reduces its supply chain performance. This has hampered the process of export and import, reducing the time and quality of service delivery (Sandee, 2016).

The study on logistics firms in Mombasa County is justified given the fact that the County hosts the Kenya ports and this port is the main entry point for all cargo entering Kenya and East African countries at large. Since logistics firms' main activities are in the transportation sector and Mombasa being the origin of many cargos, the study was justified to establish how they perform, especially in terms of their supply chain performance.

## **1.2 Statement of the Problem**

Supply chain performance is significant to logistics firms since it helps them monitor the flow of goods supplied until they reach the ultimate consumer for efficiency purposes and to create customer loyalty. Although logistics firms have adopted new methods of operations and which have enhanced their supply chain performance, yet still they have a long way. Mackert (2019) asserts that recent years have seen a downturn in the supply chain performance of logistics companies in terms of service delivery, responsiveness, reliability, flexibility, returns, and asset management. For example, some logistic companies, such as Agility Logistics K Limited and Mitchell Cotts Logistics, have seen a drop in their timely delivery of nearly 50%, owing to the lengthy licencing processes involved. According to the report by index of global supply chain, 2021, the parcel delivered decreased from 60% in 2018 to 21.7% in 2019. This further declined to 9.4% registered in 2021. Also, the profit margins were reduced from 894.2 billion in 2018, 902.9 billion in 2019, and 832 billion in 2020 this declined to about nearly 427 billion Kenyan shillings

in 2021 from the record, forcing other logistics firms to scale down their operations. This has resulted from a highly advanced tax levied by the government on imports and exports. The invention of rail transportation also reduced profit margins, negatively affecting the supply chain performance.

The precise reasons for this have not been identified; Ishengoma (2018) associates it with licencing processes, while Dhar and Khandelwal (2021) associate it with advance tax, among other things. According to the Kenyan logistics and freight transport report, 2022, the decline is due to inefficient data tracking systems, a lack of artificial intelligence and automation, a lack of digitization adaptation, and a lack of resiliency. As a result, there are conflicting results regarding what is to blame for the supply chain's performance decline. Thus, it is not very clear on the causes of the decline in the supply chain performance that is posing a gap.

Government trade policies influence supply chain performance in different ways. According to Hoffman (2018), Sutrisno and Jazilah (2019), government trade policies such as taxation rates have an impact on supply chain performance because they affect firm operations. Moreover, Onjala (2020) proposes that governed trade policies like price control reduce the volume of supply and smooth movement of goods and services. According to Dhar and Khandelwal (2021), service tax, which is a trade policy, negatively impacts productivity of outbound logistics and hence poor supply chain performance.

Although the trade policies were found to negatively affect supply chain performance, if well implemented, they can be a strong facilitator and enhance supply chain performance. The effect of government trade policies on the supply chain management performance of logistics companies has been the subject of numerous studies. For instance, Ngoto and Kagiri (2016);

Chan, Leng, and Liang (2014); Government policies, according to Hendry and Stevenson (2016), are the main obstacles to the supply chain performance of logistics companies as they pursue service delivery.

Conceptually, Dhar and Khandelwal (2021) investigated how taxes affect supply chain performance, concentrating solely on the impact of service taxes and the moderating effects of the goods and services tax (GST) environment. Many of these studies have concentrated on developed countries and fast-growing economies. For instance, Dhar and Khandelwal (2021) did a study in the UK. Further, Kasiewicz Kurklioski (2014) conducted a study in Poland focusing on the role of government policies on the supply chain performance of logistics companies. In addition, Dong & Kouvelis (2020) in China and Tavor, Spiegel, and Weber (2017) in the United States have examined how tariffs affect the configuration of the world's supply chain networks. The study, however, failed to consider important concepts such as price control, tariff policy, licencing policy, and advance tax and their effects on supply chain performance cursing a conceptual gap. Thus, the current study examined the effect of advance taxation policy, the effect of price control policy, licencing policy, and the effect of tariffs and quotas policy on the supply chain performance of logistics firms in Kenya.

### **1.3 Research objectives**

#### **1.3.1 General objective**

The general objective of the study was to examine the effect of government trade policies on supply chain performance of logistics firms based in Mombasa County, Kenya.



### **1.3.2 Specific objectives**

- i. To examine the effect of advance taxation policy on supply chain performance of logistics firms based in Mombasa County, Kenya.
- ii. To establish the effect of licensing policy on supply chain performance of logistics firms based in Mombasa County, Kenya.
- iii. To determine the effect of price control policy on supply chain performance of logistics firms based in Mombasa County, Kenya.
- iv. Examine the effect of tariff policy on the supply chain performance of logistics firms based in Mombasa County, Kenya.

### **1.4 Research questions**

- i. What is the effect of advance taxation policy on supply chain performance of selected logistics firms based in Mombasa County, Kenya?
- ii. What is the effect of licensing policy on supply chain performance of selected logistics firms based in Mombasa County, Kenya?
- iii. What is the effect of price control policy on supply chain performance of selected logistics firms based in Mombasa County, Kenya?
- iv. What is the effect of tariff policy on supply chain performance of selected logistics firms based in Mombasa County, Kenya?

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

Findings from the study may benefit several stakeholders. First, the study may benefit government policymakers in forming appropriate policies guiding logistics firms in Kenya and enhancing their supply chain management performance. Moreover, policymakers in the public

sector may find these findings significant in modifying the existing policy tools that may guide the supply chain sector and shed empirical light on the role of government policies in the sector. Furthermore, the findings may be useful in the management of the logistic firms.

Additionally, academicians and researchers may find the findings useful in adding new empirical evidence and making valuable additions to scholarly work contributions that broaden the understanding of the role of government policies on the performance of supply chains among logistics firms in Kenya and across the world.

### **1.6 Scope of the study**

The study's scope was on the relationship between government trade policies and supply chain performance of specified logistics companies situated in Mombasa County, Kenya. Four objectives guided the study they were: to examine the effect of advanced taxation policy on supply chain performance of selected logistics firms based in Mombasa County, Kenya; To establish the effect of licencing policy on the supply chain performance of logistics firms based in Mombasa County, Kenya; to determine the effect of price control policy on the supply chain performance of selected logistics firms based in Mombasa County, Kenya; and examine the effect of tariff policy on the supply chain performance of logistics firms based in Mombasa County, Kenya.

The study further focused on the supply chain performance of all the 8 logistics firms based in Mombasa County (Refer to Appendix IV). The research covered six periods from January, 2015 to December, 2021, a ten-year gap which might be sufficient for logistics companies to establish supply chain trends and their performance.

## **1.7 Limitations of the Study**

The study faced a number of limitations. The logistics companies are mostly private organizations, which are very competitive in nature. The respondents were reluctant in providing the supply chain performance of their company in fear of exposure crucial information and bridging company rules. This was however mitigated by providing relevant document showing the purpose of the study which included the introduction letter form Kenyatta University and the research permit sought from NACOSTI.

Moreover, given the large number of logistics companies in Mombasa County it was not be possible to conduct a comprehensive study. This limitation was mitigated by sampling only 8 logistic companies for the study.

## **1.8 Organization of the study**

The study's proposed organisation was: Chapter one of this study presented the background of the study, the statement of the problem, the objectives guiding the study, research questions, as well as the significance of the study. Also, the chapter presented scope and study limitations. Chapter two presented the review of literature, that is, theoretical foundation, empirical literature review, summary, and gaps established in literature and conceptual framework.

Chapter three resented the research design employed, the target population and sample size utilized. Further, the sampling design, data source, the instruments of data collection, validity and reliability of the data collections instruments. Further, the diagnostic tests were all covered in this chapter. Also collection methods, data analysis, and ethical concerns.

Chapter four covered the data analysis that is descriptive statistics and inferential statistics and findings based on the data collected. Finally, chapter five presented the summary of the findings, conclusions and recommendations based on the study findings.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This section explains the theoretical review where the theories supporting the study was evaluated and established. In addition, the empirical review related to the variables were discussed.

#### **2.2 Theoretical review**

Under the theoretical framework, the study provides the theories underpinning the study and their usefulness. These theories explain the pertinent issues regarding government trade policies and their relationship with supply chain performance and how they are reviewed to guide the study. Two theories—the theory of constraints and Porter's value chain theory serves as the study's pillars. The anchoring theory was Porter's value chain theory, given that in this theory all the study variables are found. This theory may help explain the variable, which is the performance of the logistics companies' supply chains. This is why it is called the anchoring theory.

##### **2.2.1 The theory of constraint**

The Theory of constraint was coined by Eliyahu Goldratt (1985) in his favourite novel, *The Goal*. The theory states that in every complex system with multiple activities, one can act as a constraint upon the whole system. The theory of constraints works in such a way that in a complex system such as manufacturing processes with multiple activities that are interlinked, there are always some activities in the process acting as a constraint. Thus, in any system, for it

to excel, it must identify the most important constraint that limits it from achieving its goal. Therefore, any organisation or company has to find a method of working with the constraint by reducing it until it is no longer a constraint and not a limiting factor in the system.

The theory is criticised by some because it assumes that factors such as production technology, product mix, prices, and demand are constant (Spector, 2011). Moreover, since the constraints develop as the operations continue and more constraints emerge, it is difficult to deal with specific constraints. And lastly, to determine a constraint in an organization, one constraint in an organisation can be driven by a hidden constraint within the system (Lombardo and Kvlshaugen, 2014).

Despite this criticism, the theory is full of strength and that makes it relevant. The theory provides a smooth path in the process of dealing with constraints (Okutmuş, Kahveci, and Kartaova, 2015). In addition, the theory is relevant in a dynamic business environment since it minimises the limiting factor in the process and enhances rapid results. Lastly, its implementation is relevant to reducing the cost of labour that might be incurred in inbound and outbound logistics. Mburu (2017) utilized the theory to examine the impact of risk management tactics on the efficiency of the supply chain in the Kenyan manufacturing industry.

The theory has been used by both small and large companies, both local and multinational, to identify and correct vulnerable situations in their systems or processes. Thus, for logistics companies, this theory may assist them in dealing with their vulnerability situations as a result of complex government trade policies and achieving their desired goals. This theory underpinned all the four objectives, that is, the four trade policies acting as constraints on the supply chain performance of logistics firms, to explain how the logistics firms deal with the constraints of

licencing policy, price policy, and tariff and tax policy in their operations. The theory underpinned the second objective, which is the effect of licencing policies on supply chain performance.

### **2.2.2 Porter's value chain theory**

Michael Porter presented his value chain theory during the 1980s. This theory explains the fact that every business is required to have a strategic business planning tool that enables it to ascertain where competitive advantage emerges from in business. This theory is about processes and value addition in a firm that lead to profits. A value chain is an effective method for breaking down a business into its strategically significant activities so as to focus on the sources of competitive advantage, or the specific operations that lead to higher or cheaper prices (Baia, Ferreira, & Rodrigues, 2020).

The theory, however, is criticised in that it loses the strategy and company's overall vision when operations are subdivided into small sections (Zamora, 2016). Further, the theory is heavily oriented toward the manufacturing business sector. Despite these weaknesses, Porter's value chain theory has its share of strengths; that it can be used to easily discover the activities from which costs can be minimized, improve efficiency, eradicate waste, and increase profits (Koc and Bozdag, 2017). Analysing actions also reveals elements that are more valuable to the end-user. It's also a very flexible strategy tool that can be employed in any business without the knowledge of the competitors in the industry (Simatupang, Piboonrungrroj, and Williams, 2017).

Chege (2017) used this theory to describe how company's internal value chain practices affect how well multinational industries' supply chains perform. Additionally, Memia (2018) used the theory to investigate how modern supply chain practices affect the performance of big industrial

companies. Thus, this theory was the anchoring theory in the current study since all the independent variables, which are tax policy, licencing policy, price control, and tariff policy, are constraints on the supply chain performance of logistics companies in Kenya. Given the fact that logistics firms are employing various techniques to create competitive advantages despite the challenges in the industry, it makes sense to include them in the study.

### **2.1.3 Resource-Based View**

Edith Penrose presented the resource-based theory (1959). The theory entails that the supply chain processes are designed based on the resources available. Thus, the company's supply chain performance is based on the resources available. Thus, the managerial attention is on the effort to identify assets, competencies, and capabilities that these resources have to deliver competitive advantages to companies that come from their resources and competences.

According to Barney (1991), a corporation only has a competitive advantage when it has a relative edge over other enterprises. This is a flaw in the resource-based theory. Moreover, this applies when this advantage is not used by any other competing firm. So, the company only benefit if it has a competitive advantage over the competitor that the competitor can't use.

The resource-based theory was the key theory in the study since it describes how bundles of resources are used to gain a comparative advantage. The current study is based on resource mobilisation and how it's done by supply chain companies. Hitt, Xu, and Carnes (2016) employed resource-biased theory to determine the strategies of project outsourcing and their influence on cost reduction. This theory underpinned the dependent variable, which is supply chain performance. This is due to the theory's assertion that a company's resources have an impact on how well its supply chain performs. As a result, the theory is pertinent to the research.



## **2.3 Empirical review**

This section provides a review of the empirical literature from prior research that relate to the study's objectives. Furthermore, the summary of the literature reviews was done. This enables the establishment of the study gaps and mitigation process.

### **2.3.1 Tax Policy on Supply Chain Performance**

Ocheni (2015) evaluated the effect of tax policy on the performance of logistics companies in Nigeria. The research used a descriptive survey research design with 68 logistics as its target group in the Nigerian state of Kogi. The study looks at how Nigerian logistics operations are affected by tax compliance. The data analysis employed a descriptive research design. Furthermore, Z-tests were utilized in establishing the relationships and checking the hypotheses in the study. The results demonstrated a lack of significant or favourable difference in the mean of the best tax policy to encourage tax compliance between managers and accountants. Furthermore, there were no significant distinctions in views regarding the effect of tax policy on the expansion of logistics. Despite using the best models to determine the relationship, the study did not assess the relationship's strength or direction. Further, the conceptual gap is that the study omitted the impact of other significant policies like licencing policies that impact the performance of SMEs, posing a gap that was mitigated by this study. Moreover,

Dhar and Khandelwal (2021) examined the impact of taxation policy on supply chain management by logistic firms. The study adopted Porter's value chain model. Moreover, an online convenience sampling survey was employed, and 519 respondents were selected from the Indian companies from 8 different subsectors were used in the study. In addition, a partial least-

square structural equation modelling technique was employed. Tax rates, tax administration, tax compliance, the bureaucratic process involved, and tax complicity were the variables studied. According to the findings, tax rates, tax administration, tax compliance, the bureaucratic process involved, and tax complicity all increased the productivity of outbound logistics. The study recommends new tax policies that can provide a better way of adoption to enhance performance. Despite the study employing best concepts, the study, however, has a conceptual gap such that it failed to employ the significant concepts affecting supply chain performance, such as tax policy, licencing policy, price control, and supply chain performance that was mitigated by the current study. On the contextual gap, the study was done in the UK, with different policies that might not be applicable in Kenya.

E-logistics implementation among Kenyan logistics service providers was evaluated by Mutisya (2016). The study's methodology was a descriptive survey. A total of 126 respondents, who represented the survey's target demographic of SMEs' managers, participated. Stratified sampling was used to choose the 286-person sample, which was determined via the Cochran formula. The study's variables were the effects of tax administration and tax collusion on the performance of small and medium-sized firms in Kenya. Primary data were gathered using a typical questionnaire. The validity and reliability of questionnaires were also ascertained using supervisors and Cronbach's alpha test, respectively. A structural equation method was employed in data analysis with LISREL software. The results showed that Azerbaijan's SMEs performed poorly as a result of the government's tax policies. The relationship between the performance of SMEs and government tax policy was also mediated by the entrepreneurial orientation. The study, however, failed to anchor on any theory, posing a gap. The conceptual gap is that other government policies like licencing and price policies were not considered in the study, which

was mitigated with the current study. Lastly, the study was contextually based in Azerbaijan, which might not be applicable in Kenya. Thus, the current study mitigated these gaps.

Okong and Otieno (2018) investigated how taxes affected Kenyan small business enterprises' financial results. The study's objectives were to determine the effects of tax administration, tax administration rates, tax administration, and intended tax purposes on the financial performance of SBEs in Ugenya, Kenya. A descriptive survey design was employed with both quantitative and qualitative techniques. A total of 265 SBEs formed the target population. A stratified sampling technique was also employed. A questionnaire was utilized to gather primary data that was then analysed using descriptive statistics, correlation analysis, and regression analysis to see whether there was a relationship. Kipilimba (2018) supports the findings. The tax administration services are also through a tax cut, equality produces the highest marginal revenues. The study recommended that taxpayers be provided with sufficient information regarding taxation. The study focused on tax as the only concept, omitting others like licencing policies and tariffs. Furthermore, the study used stratified sampling, and the current study used the Taro Yamane formula (1967) to determine sample size.

### **2.3.2 Licensing policy on supply chain performance**

In a study published in 2015, Bouazza, Ardjouman, and Abada investigated the variables influencing spear logistics performance. The study scrutinized the impact of legal framework work on the logistic performance in the spear logistics and the effect of the regulatory framework. The results indicated that the spear logistics' logistic performance was negatively impacted by the legal and regulatory framework. In addition, external financing and human resource capacity also affect the performance and logistic performance in the spear logistics. The

study recommends a clear regulatory framework that businesses can follow easily to enhance their growth. The study failed to anchor the study in any theories, and the study also failed to employ a significant model to guide the study. The current study mitigated this by making use of pertinent theory and a suitable model to show how strong the relationship is. Contextually, the study was also based on logistic performance in the spear logistics in Algeria. This study looked at how well logistics companies in Mombasa County, Kenya, do their jobs. The study failed to consider other policies such as taxation policy, licencing policy, and price control, which was mitigated in the current study.

Akinboade and Kinfaek (2016) looked at how Cameroon's logistics companies performed in relation to knowledge and laws. The study used a comprehensive survey to examine 700 logistics companies that were chosen at random and had identifiable business locations. The study used a sample size of 575 businesses utilizing coherent test. The study variables were licencing procedures and licence validity on the performance logistics firms. From the findings, licencing procedures and licence validity were found to be burdens for many registered businesses whose registration processes and regulations were rigid. Moreover, the higher the compliance with regulations, the more it affected business development negatively. These findings were also found by Lambert and Haley (2021). The study recommended that the government develop an environment conducive to the development of logistics firms in Cameroon. The study, however, generalised all the findings. The methodological gap is that there were no proper models employed to examine the relationship. Moreover, the study concentrated on logistics firms, leaving other sectors like private companies and how they are affected by regulations which was mitigated in the current study.

Puertas, Martí, & García, (2014) based their study registration procedure and performance of logistic companies in Poland. The study's goal was to investigate the gap between the quality of rules and logistic companies that results from the ineffective evolution and application of laws. The study was underpinned by theoretical reviews and surveys. The findings revealed that companies are dormant about regulations and their process of legislation procedure being complex. The study recommends changes to regulations and registration procedures to ensure the smooth running of companies. The findings are supported by Ishengoma, (2018). Further, the study argues that without proper regulations, the quality of licencing regulation is compromised. The study, however, lacks empirical background, posing a methodological gap. Moreover, the study is based on a theoretical perspective. The current study provided an empirical background for the study. The study also failed to examine other significant concepts like the role of price control and tariff policy, which was mitigated in the current study.

In a study published in 2015, Bouazza, Ardjouman, and Abada investigated the variables influencing the expansion of SMEs in Algeria. The study scrutinized the impact of legal framework work on the growth of SMEs and the effect of the regulatory framework. The findings showed that the legal and regulatory environment had a detrimental effect on the expansion of SMEs. In addition, external financing and human resource capacity also affect the performance and growth of SMEs. The study recommends a clear regulatory framework that businesses can follow easily to enhance their growth. The study failed to anchor the study in any theories, and the study also failed to employ a significant model to guide the study. The current study mitigated this by employing relevant theory and an appropriate model to demonstrate how strong the relationship is. Contextually, the study was also based on SMEs in Algeria. This study looked at how well logistics companies in Mombasa County, Kenya, do their jobs. The study

failed to consider other policies such as taxation policy, licencing policy, and price control, which was mitigated in the current study.

### **2.3.3 Price control policy on supply chain performance**

He and Lin (2017) explored the economic impact of price controls on the supply chain of China's logistics firm. They examined the extent to which distortions impacted the market. The study used a Mixed Complementarity Problem model. The study's objectives are to examine how government pricing policies, infrastructure access restrictions, price discrepancies, and supply commitments affect supply logistics for natural gas in China. The result revealed that government pricing policies increased the mainstream supply and China's profits in the sector. Furthermore, lifting price caps reduces the national average by 14%. Also, improving access for third parties and infrastructure reduces the cost by 7.6 % because of domestic replacement with imports. Thus, the industry was negatively affected by the reforms in the sector.

Tavor, Spiegel, and Weber (2017) conducted their study on the impact of price control on supply chain management of logistic companies in the US. The goal of the study was to assess how price regulations might affect a market with healthy competition. The unit of analysis was the competitive market, while the unit of observation was the stakeholders of the supply chain market. The results revealed that price control reduced the volume of trade and created a waste of resources through the creation of incentives. Furthermore, price control in a non-competitive market is typically difficult because the market has monopoly power, which propagates price increases. Thus, the issue of price control is only profitable in an uncontrolled market by influencing redistribution. The study, however, failed to employ proper models and analysis techniques to examine the relationship, posing a gap that can be filled by the current study.

Moreover, the study failed to consider other regulations like tariff policy and licencing policy in examining their impact on supply chain management, which was mitigated in the current study. The study was based in the first world country, the US. The current focused on logistic firms' operations in Kenya.

Abrell and Rausch (2017) on the study to analyse hybrid emissions trading systems (ETS). The objectives of the research were to find out the impact of hybrid policies on prices and the quantity of abatement. The study employed a stochastic optimization model in examining the relationship with the European carbon market. The results revealed that hybrid provides a way to reduce the cost differences between partitions. Results revealed that price bound deficit has a significant impact in regulating the market as compared to abatement bounds since it can provide useful information about abatement technology by the firm as compared to abatement bounds which address emission uncertainty only. In addition, introducing hybrid policies reduces the abatement cost expected, thus achieving the target emission reduction as per the policy. And lastly, the use of hybrid policies is likely to produce ex-post cost reductions in a bid measure and yield sizeable ex-post cost reductions. The current study, however, was based on the supply chain performance of logistics companies situated in Mombasa County, Kenya, whereas the previous study was based on the carbon trading system. Contextually, the study was based in Europe and thus not applicable in Africa, posing a contextual gap which was mitigated by the current study.

#### **2.3.4 Tariff Policy on Supply Chain Performance**

Dong and Kouvelis (2020) explored the effect of tariffs and quotas on the supply chain performance of logistic companies in China. The study was focused on the implications of trade

policies and global network design decisions. The study also provided a discussion on the significant dimensions of trade policies and the interconnectivity of modern supply chain systems. The study provided insight into the practitioners in the industry and also policy makers. Moreover, the study established a connection in the supply chain in various industries that may be beneficial to policy makers in trade policy change. The study concluded that in establishing the tariffs and quotas, the government should involve logistics companies engaged in supply chain management as it is paramount in increasing the supply chain network and policy making. Thus, the government should formulate relevant policies that promoted the industry. The study failed to ground itself in any theory.

Kweya (2015) in determining the impact of trade policies on supply chain performance. Examining the effects of trade policy, governmental collaboration, and subsistence on performance were the study's core objectives. The target population were all commercial state corporations in Kenya, which numbered 55, a sample of 12 state corporations. A descriptive research design was employed in the study. Questionnaires were employed in primary data collection. The questionnaire included open-ended questions. The drop and pick method was used to distribute questionnaires to management employees during the data collection process. Descriptive statistical analysis was used to analyse the data. Three theories underpinned the study: Public Choice Theory, Stakeholder Theory, and Agency Theory. Quantitative analysis was used in analysing the closed-end questions, and it entailed the use of a statistical package in the analysis. Results were presented using frequency tables in terms of means and standard deviation. The result showed a negative correlation between trade policies and the performance of state cooperation. The study focused only on two aspects of trade policies, overlooking others. The current study mitigated this by employing concepts such as taxation policy, licencing policy,



and price control. The current study mitigated this by checking the impact of taxation policy, licencing policy, and price control.

### **2.3.5 Supply Chain Efficiency**

Utilizing the supply chain operation reference model in India, Putri, Huda, and Sinulingga (2019) investigated the variables affecting supply chain performance measurement. The study variables were flexibility, service delivery, and returns to scale. From this study, one of the major factors affecting supply chain performance is cultural characteristics, which is one of the causes of different supply chain development efforts failing. Businesses may now analyse supply chain performance holistically by keeping track of and determining how an organization compares to competitors thanks to the SCOR model's application in the development of the idea of supply chain performance assessment. This article discusses the adoption of the SCOR model for performance measuring systems in industrial organizations. This study provides an overview of some of the instruments that could be used in a proposal to develop a framework for performance monitoring of supply chain value optimization.

In their 2019 study, Rungklin and Srimai looked at the impact of a framework measurement on the efficiency of the steel industry's supply chain. The study establishes how specific data should be measured and verified. The study variables were asset management and cost reduction. Where the company is measuring the performance of its supply chain. The study utilized a hermeneutic and qualitative research design. The study conducted a detailed literature review. The study employed a theoretical framework of supply chain performance measurement. According to the findings, the primary factors influencing supply chain performance in the steel industry were book analysis, profitability, and management analysis. Further, it was revealed that the

measurement framework is key in measuring supply chain performance in the steel industry. And thus, supply chain performance is the main determinant in supply chain development. The study comes to the conclusion that a measurement framework is the most important thing for a supply chain to work well.

Supply chain performance, according to Sillanpää (2015), is a procedure for determining the efficacy and efficiency of the supply chain performance. The study variables were responsiveness, reliability, flexibility of the supply chain, and its performance. The study was aimed at creating a supply chain framework that helps in measuring supply chain performance. The study conducted a detailed literature review regarding supply chain management. The study was qualitative in nature. The results revealed that the measurement key elements are profitability, managerial analysis, and order book analysis. The measurement was tested using supply chain performance. The study, however, focused only on manufacturing industries. More can be done in non-manufacturing industries and sectors such as service industries and logistics.

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

From the empirical study, the effect of government trade policies was on the performance of the market and companies as a whole, but it can be revealed that they have resulted in a disadvantageous role in the market for both private and public enterprises. Based on the literature conducted, the researcher can identify gaps in relation to the effect of government trade policies on supply chain performance of logistic firms based in Mombasa County, Kenya. The majority of the literature concentrates on how government policies affect the operation of the supply chain rather than how the logistics companies fill the gap.

**Table 2. 1 summary of the literature review and knowledge gap.**

<b>Author(s)</b>	<b>Focus of Study</b>	<b>Key Findings</b>	<b>Knowledge Gaps</b>	<b>Focus of the Current Study</b>
Dong, and Kouvelis, (2020)	examined the impact of tariffs and quotas on the supply chain network of logistic firms in China	The study established a connection in supply chain in various industries that may be beneficial to policy makers in trade policy change	The study however failed to anchor in any theory. Further, it failed to check the significance and direction of the impact.	The current study focused on four major government policies and their impact of performance of supply chain among the selected logistics firms based in Mombasa County, Kenya.
Dhar, & Khandelwal (2021)	The impact of service taxes and how they affect outbound logistics supply chains.	Results indicated that the impact of service tax on the efficiency of outbound logistics positive and significant.	The study focused on service tax and moderating effect of goods and service tax (GST) environment. Also, the study was done in UK, with different policies that might not be applicable in Kenya.	Current study examined the role of taxation, licensing, price control, and tariff on supply chain performance of logistics firms. Further it was carried in Kenya.
Hendou, (2019)	Investigated how the performance of SMEs in Azerbaijan is affected by government tax policies.	Findings indicated that Government tax policies depicted an adverse impact on the profitability of logistic enterprises, and entrepreneurial attitude was shown to play a mediating role in this relationship.	The study focused on government policy and entrepreneur orientation. Also, the study was based in middle income country Azerbaijan.	The current study will focus on the effect of taxation policy, licensing policy, price control on supply chain performance of logistic firms in Kenya.
Putri, Huda, and Sinulingga (2019)	Used the supply chain operation reference model to analyse the variables influencing supply chain performance measurement.	The results identified where the overall status of the company in relation to competitors by conducting a comprehensive analysis of supply chain performance.	In this study, specific tools were described as part of a proposal to provide a framework for performance measurement of supply chain value optimization.	The present study scrutinized the performance of logistics firms based in Mombasa County, Kenya.
Rungklin and Srimai (2019)	examined the role of a framework measurement on the performance of the supply chain in the steel industry	from the order of the findings book analysis, profitability, and managerial analysis were the main	Conceptual gap: supply chain performance was used as the only determinant of supply chain	The current study focused on four major government policies and their impact of performance of supply chain among

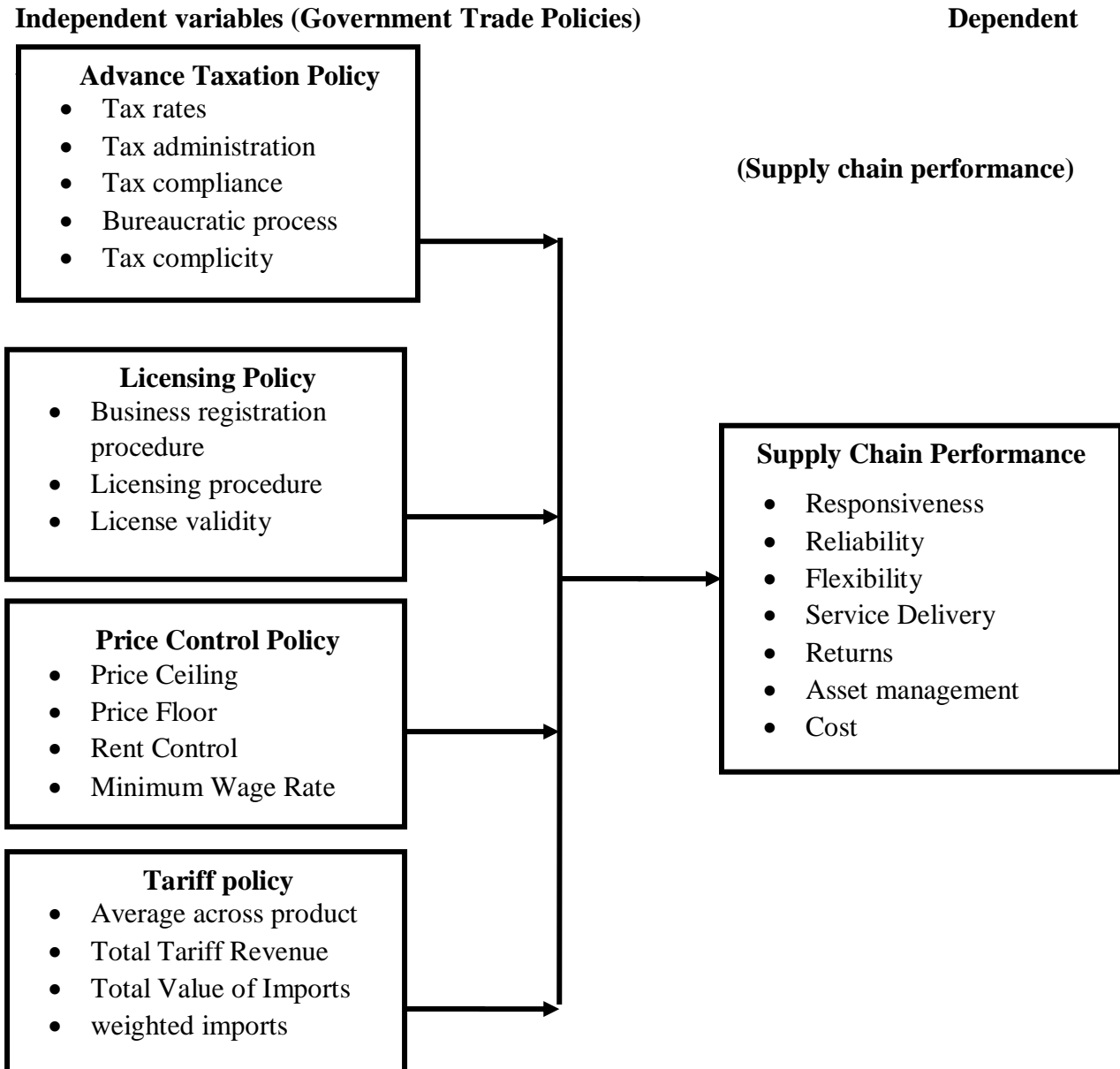
		determinants of supply chain performance of steel industry	development. Contextually: the study was done in Indian steel industry.	the selected logistics firms based in Mombasa County, Kenya.
Okong and Otieno (2018)	Examined how taxes affected Kenyan small business enterprises' financial results.	The findings showed that tax administration improved the convenience of a tax payer. Additionally, tax administration services through the closing of the tax gap, equality generates the highest marginal revenues.	Conceptual gap: the study focused on tax as the only concept omitting other like licensing policy, tariff.	The current study concentrated on how supply chain performance of logistics enterprises in Mombasa County are influenced by the government trade policies.
Tavor, Spiegel and Weber (2017)	on their investigation on the effects of price control on US supply chain management.	The result revealed that price control reduced the volume of trade and create a waste of resources through creation of incentives. Price control is only profitable under uncontrolled market.	Conceptual gap: Study failed to consider other regulations; such as tariffs, and licensing and their impact on the supply chain management. Contextual gap: the study was based in first word county, US. Methodological gap: failed to employ proper models and analysis techniques.	The current study focused on the effect of government policies which include licensing policy, tax policy, price control and tariff policy. Moreover, the current study focused on supply chain performance in Kenya.
Abrell, and Rausch (2017)	Analysed the effect of hybrid on emissions trading systems (ETS) among European countries.	From the findings, price bound deficit has a significant impact in regulating the market as compared to abatement bounds since it can provide useful information of abatement technology.	The study was based on emission trading system. And the study was based in Europe.	The current study focused on the role of government policies on the performance of supply chains for logistics companies situated in Mombasa County, Kenya, was the focus of the current study.
He and Lin, (2017)	Examined the financial effects of price regulations on the natural gas supply chain in China.	Government pricing policies increased the mainstream supply and china's profits in the sector.	Conceptual gap: The study focused on supply chain of China's natural gas. Contextual gap: the study was based in	The present research focused on supply chain performance of logistics firms based in Mombasa County, Kenya.

			china.	
Akinboade and Kinfack (2016)	Examined the awareness, regulations compliance on the performance of logistics firms in Cameroon	Tax regulation is a burden for many registered businesses registered process and regulations were rigid. The higher the compliance with regulations the more it affected business development negatively	Methodological gap: No proper models employed, moreover, the study concentrated on the Logistic firms leaving other sectors like private companies and how they are affected by regulations. Contextual gap: the study was based in Cameroon.	The current study employed appropriate model and also focus on the sectors like logistics companies in Kenya to fill this gap.
Sillanpää (2015)	An empirical investigation of supply chain performance	The results revealed that the measurement key elements are profitability, managerial analysis, and order book analysis	Conceptual gap: Study failed to consider other regulations; like tariffs, and licensing in examining their impact on the supply chain management.	The present study considered the supply chain performance of logistics enterprises in Mombasa County is affected by government trade policies.
Ocheni (2015)	Nigerian logistic companies' performance and the effect of tax policy	There was no discernible difference in the mean between managers and accountants regarding the best tax strategy to encourage tax compliance.	Conceptual gap: the study focused on only on once concept the tax policy omitting others like price control, tariff policy and licensing policy. Contextual gap: the study was based in Nigeria.	The current study focused on impact of taxation policy, licensing policy, price control on supply chain performance in Kenya.
Bouazza, Ardjouman and Abada (2015)	Conducted research into the elements influencing the expansion of logistics companies in Algeria.	The findings showed that the legal and regulatory environment had a negative effect on the expansion of logistic enterprises.	Conceptual gap: the study failed to consider other policies such as taxation policy, licensing policy, price control. Contextual gap: the study was based in Algeria.	The present research focused on impact of taxation policy, licensing policy, price control on supply chain performance in Kenya.
Kweya (2015)	Examined the effect of trade policies on state corporations in Kenya	Result depicted an inverse relationship between trade policies and performance of state cooperation 's.	Conceptual gap: The study was focused only on two aspects of trade policies overlooking others.	The current study mitigated this by checking the impact of taxation policy, licensing policy, and price control.
Puertas, Martí, &	Studied the	companies are	Methodological	The present research

García, (2014)	problems of registration and logistic performance in Poland	dormant about regulations and their process of legislation procedure being complex	gap: the study lacked empirical background. Conceptual gap: The study concentrated only on regulations and their process of legislation	focused on impact of taxation policy, licensing policy, price control on supply chain performance in Kenya.
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## 2.5 Conceptual Framework

The Conceptual Framework demonstrates how the independent and dependent variables are related to one another. The independent variables are advanced taxation policy, licencing policy, price control, and tariff policy, while the dependent variable is the supply chain performance of logistics firms based in Mombasa County, Kenya. The relationship is expressed in figure 2.1 below.



*Figure 2. 1 conceptual framework*

**Source: Author (2022)**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Chapter three provides information regarding the methodology employed in conducting the study. It elaborates on the research design employed, target population, sample and sampling techniques, the procedure of data collection and data analysis. Furthermore, it highlights how the data were presented and lastly the ethical consideration.

#### **3.2 Research Design**

Research design can be described as a process in which research is designed to be conducted; it is the method in which the study was carried out (Rahi, 2017). The current study employed a descriptive research design. A descriptive design is appropriate in making descriptions of and characteristics associated with the subject of the study population. Sileyew (2019) supports this design while conducting research studies since it portrays an accurate profile of firms under the study. A descriptive research design was chosen because it can be used to fix data that can answer the hypothesis about how the object or subject is doing now.

#### **3.3 Target Population**

A target population is a particular group, collective entity, person, or thing that serves as the foundation for a study, a unit of analysis, and the source of general conclusions (Kern, Stuart, Hill, & Green 2016). The population frame focuses on the items listed on a study scope that can be made up of subjects that the sample of the study was taken from. The target population includes the members' set selected for data collection and research purposes intended by the



researcher and employed in results generalization. The target population for the study were 8 logistics firms based in Mombasa (appendix iii) from the four logistic categories, including; transportation-based third party logistics services; distribution-based third party logistics services; forwarder-based third party logistics services; and management-based third party logistics services.

The choice of the 8 logistics firms was because they form part of the large logistics firms that have been in operation for substantive period of time and face a number of logistical issues. Also they represent the four categories of logistics firms mentioned above. And lastly, they are the firms applying the model supply chain operations within the county.

The unit of observation was comprised of 171 employees and staff from the 8 selected logistics firms based in Mombasa County. They consist of the firms' top management, middle management, and lower management. This forms the unit of observation since they are directly involved in the supply chain processes in their respective logistics companies, thus having a deep understanding of the supply chain performance of their firms.

**Table 3. 1 Target Population**

<b>Category (stratas)</b>	<b>Class</b>	<b>Top Management</b>	<b>Middle Management</b>	<b>Lower Management</b>	<b>Total</b>
Transportation Based Third Party Logistics Services	Kenfreight Logistics Company,	4	7	12	23
	Agility Logistics K Limited,	2	6	14	22
Distribution Based Third Party Logistics Services	Hellmann worldwide logistics company,	2	5	8	15
	East African Commercial And	2	3	19	24

	Shipping Co. Ltd,				
Forwarder Based Third Party Logistics Services	Kencont Logistics Services Limited,	5	4	16	25
	Mitchell Cotts Logistics,	3	6	14	23
Based Third Party Logistics Services.	Sasa Logistics Limited	4	8	10	22
	Signon Logistics.	2	6	9	17
	Total	24	45	102	171

**Source: Ministry of Transport report (2020)**

### 3.4 Sample Size

Using Taro Yamane (1967) formula sample respondent's t was determined. From the formula the sample was calculated from the target population as follows;

$$n = \frac{N}{1 + N (e^2)} ; \text{where, } n = \text{sample size}$$

N=Total Population size

While e = error margin (0.05)

$$\text{sample size } (n) = \frac{171}{1 + 171 (0.05^2)} ;$$

*thus, sample size (n) = 119.78 equivalent to 120 respondents*

Thus  $n = 120$  respondents

### 3.5 Sampling Technique

A stratified random sampling was employed where the firms was divided into six stratas from which one company was selected from each strata. These stratas include: transportation-based third party logistics services; distribution-based third party logistics services; forwarder-based

third party logistics services; and management-based third party logistics services. Two logistics companies were randomly sampled from these strata.

**Table 3. 2 Sample Size**

<b>Category (stratas)</b>	<b>Class</b>	<b>Top Management</b>	<b>Middle Management</b>	<b>Lower Management</b>	<b>sample</b>
Transportation Based Third Party Logistics Services	Kenfreight Logistics Company,	2	3	10	15
	Agility Logistics K Limited,	1	2	12	15
Distribution Based Third Party Logistics Services	Hellmann worldwide logistics company,	1	5	7	13
	East African Commercial And Shipping Co. Ltd,	1	1	16	18
Forwarder Based Third Party Logistics Services	Kencont Logistics Services Limited,	3	2	14	19
	Mitchell Cotts Logistics,	1	2	12	15
Based Third Party Logistics Services.	Sasa Logistics Limited	2	3	9	14
	Siginon Logistics.	1	2	8	11
	Total	20	88	20	120

**Source: Ministry of transport (2021)**

### 3.6 Operationalization of Variables

**Table 3. 3 Operationalization of Variables**

Variable	Definition of a variable	Indicators	Category	Measurement
Taxation policy	This involves income tax policy that gives a guidelines regarding the choices of the government levy	Tax rates, Tax administration, Tax compliance, Bureaucratic process, Tax complicity	Ordinal	Likert scale
Licensing policy	these are government guidelines on registration and procedures of issuance of permits for business operations	Business registration procedure, Licensing procedure, License validity	Ordinal	Likert scale
Price control policy	This refers to the price levels set by the government to control prices	Price Ceiling, Price Floor, Rent Control, Minimum Wage Rate	Ordinal	Likert scale
Tariff policy	is a form of tax-imposed government of goods and services when they leave or enter national frontier	Total Tariff Revenue, Total Value of Imports, and Average across product, weighted imports	Ordinal	Likert scale
Supply chain performance	This is the approach of evaluating the supply chain's efficacy and efficiency that gives five characteristics of SC performance.	Responsiveness, Reliability, Flexibility, Service Delivery, Returns, Asset management, cost	Ordinal	Likert scale

**Source: Author (2022)**

### 3.7 Data Source and Collection Instruments

The instrument of data collection refers to the tools that were used for data collection in research. They include questionnaires, interview systems, observation, and focused groups and key informant interview (Gates and Campbell, 2015). This study employed self-administered questionnaires as the main data collection instrument. Questionnaire was preferred because it captures view, observation and opinions of the respondents regarding the study objective.

The questionnaire were structured to contain both closed and open-ended questions based on the study variables. Further, they were designed in the form of a 5-scale point of measurement in the form of strongly disagree (SD), disagree (D), neutral (N), agree (A), and strongly agree (SA).

The questionnaire contained three sections that is section A cover the bio data and demographic

characteristic of the respondents. While section B contained questions regarding the government trade policies and section C contained questions regarding the performance of logistic companies.

### **3.7.1 Validity**

The validity of data collection instruments refers to the degree to which the instrument can measure the responses to an extent of the purpose it's meant to measure and perform the purpose it is set to perform (Taber, 2018). Although a research tool might not be 100% valid, the higher the degree of validity, the greater the confidence created in the research conducted. Validity measures the words used and the concept. This measures the degree to which the items used measure specific areas included in the study. Moreover, the validity was ascertained through discussions with the supervisor. The current study employed content validity where a research expert were contacted and requested to assist in assessing the validity and checking the specification and selection of items to be comprised in the study.

### **3.7.2 Reliability**

The reliability of the measurement was ascertained and the consistency of the measurement employed in order to examine the extent in which it consistently measures and finds the results consistent under the same conditions. To ascertain the reliability, a pilot test was conducted and Cronbach alpha was calculated to measure the internal consistency of the results depicted by the instrument. The higher the score, the more reliable the instrument is. However, the Cronbach's alpha of 0.7 is an acceptable level of reliability (Kiliç, 2016). In cases where the standards are not met, the questionnaire was modified to meet the standards.

Reliability includes the degree of evidence and theory that supports the interpretations of test scores which are supposed to be tested. The split-half method was used to calculate Cronbach's Alpha. The researcher administered a pilot test in which 10% of all respondents were chosen to participate in a pilot study

**Table 3. 4 Reliability coefficient**

<b>Reliability coefficient value</b>	<b>Interpretation</b>
0.9 and above	Best
0.80 and above	Better
0.70 and above	Good
0.5 and below	Unacceptable

**Source:** Yang, and Green, (2017).

### **3.8 Data Collection Procedure**

Data collection is the act of acquiring and analysing information on certain variables in an organized manner in order to answer topical questions and weigh the effects (Islam & Islam, 2020). First, the authorization letter was attained from Kenyatta University Graduate School, which facilitated insurance of research permits from the National Commission for Science and Technology (NACOSTI). The letters were presented to the management of the four logistics firms for data collection.

Questionnaires were delivered to the respondents by hand through a drop and pick method. The respondents were allowed two weeks to fill out and return the questionnaires. The completed questionnaires were collected for verification and data analysis. According to Trentelman *et al.* (2016), this method is appropriate since it allows the researcher a chance to interact with the respondent, introducing the study, explaining the purpose of the study, and clarifying any concerns that may arise while carrying out the study.

### **3.9 Diagnostic tests**

#### **3.9.1 Normality test**

A normality test is used to determine whether the sample data came from a population that had a regularly distributed population (Park, 2015). A stochastic model is said to be obeying the normality test if the model is nonlinear where if the coefficient is less than 0.05, then the model is said to be linear, and variable are normally distributed.

#### **3.9.2 Linearity Test**

Correlation and linear regression analysis can only be done when the independent and dependent variable relate linearly. This makes a test for linearity basic before such an analysis (Owen, 2012). Variables' linearity were tested using "value significant derivation from linearity". A value  $>0.05$  for the "value significant derivation from linearity" indicates a linear relationship as a rule of thumb (Elo et al., 2014).

#### **3.9.3 Multicollinearity test**

In time series data, multicollinearity is also frequent, which causes the coefficient of regression to be uncertain. Additionally, multicollinearity results in infinitely large standard errors. The matrix produced by the correlation analysis was used to display the relationships between various pairs of variables. Was further examined whether the pairs of links were significant by looking at the significance of the correlation coefficients. The variance inflation factors (VIF) test was used to determine whether multicollinearity exists and whether the correlation between the variables was strong enough to provide false conclusions. The dependent variable and independent variable are multicollinear if the VIF values are greater than 10, according to this definition. If this is the case, one of the correlated variables in the correlated pairs is either

eliminated or subjected to first differencing as a correction in the correlation matrix and VIF analysis.

### **3.10 Data analysis Methods**

According to Islam and Islam (2020), data analysis is a process that looks at, cleans up, manipulates, and models data to find relevant information, come to conclusions, and help decision-making. On completion of the data collection process, questionnaires were checked for completeness and consistency for easy analysis and result interpretation. Then the data was cleaned to check for incompleteness and duplicate errors to ensure the data were free from errors. The data were coded and grouped into different categories. Given the quantitative nature of the data collected, frequencies, means, and standard deviation were employed for data analysis.

Besides, the study conducted a Pearson's correlation analysis to establish the strength and direction of the relationship between variables. To establish how the independent factors affect the dependent variable, a multiple regression analysis was performed. The independent variable was the government's trade policies on the supply chain performance of logistics firms in Kenya. Further, descriptive statistics was employed in using mean, percentages, standard deviation, and median with the aid of statistical tools. Data analysis was done using the social sciences statistical tool (SPSS) version 20.

The findings were summarised and analysed using means, frequencies, and standard deviation to represent various findings of the study. Tables, pie charts, and graphs were used to illustrate the data to make them easy to understand and analyse. The independent variable were the effect of government trade policies on the supply chain performance of logistics firms based in Mombasa County, Kenya.



### 3.10.1 Empirical Model

In establishing the relationship among the variables, the study employed a multiple regression model to examine the relationship of more than two variables, both independent variables and dependent variables. The research relies on scientific procedures, detailed research processes, and findings presented unambiguously (Dwigo & Dwigo-Barosz, 2018).

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y = Government trade policies on supply chain performance of selected logistics firms based in Mombasa County, Kenya.

X<sub>1</sub> = Advance Taxation policy

X<sub>2</sub> = Licensing Policy

X<sub>3</sub> = Price control policy

X<sub>4</sub> = Tariff policy

β<sub>0</sub> = The Constant

β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub> = are the Coefficients of the variables which are independent variables given in the form of X<sub>1</sub>, (Advance Taxation policy), X<sub>2</sub>, (Licensing Policy), X<sub>3</sub>, and (Price control policy), and X<sub>4</sub> = Tariff policy

ε = Error term (includes the different variables affecting the dependent variable but not considered in the model).

### **3.11 Ethical Issues**

To ensure research is done under ethical conditions, the project's approval letter was acquired from Kenyatta University to necessitate the study authorization documents. Moreover, the approval letter was presented to the NACOSTI to facilitate insurance of research permits to facilitate the data collection and warrantee permission for data collection.

Informed consent from every participant was sought before data is collected. In a case where there is no consent from the respondent, data was not be requested. In order to protect the identity and confidentiality of the respondent, they are not required to write their names. The researcher assured the respondents' confidentiality throughout the study.

## CHAPTER FOUR

### DATA ANALYSIS

#### 4.1 Introduction

This chapter is composed of the results of the response rate, the bio-data of the respondents of the logistics companies, the descriptive statistics of the variable of the study. Also it contain the diagnostic tests, results of the research questions to indicate the extent to which government trade policies influence the performance of the logistic companies in Mombasa County, Kenya. Lastly, the results of the regression analysis was covered in this chapter.

#### 4.2 Sample Characteristics

##### 4.2.1 Response rate

A total of 120 questionnaires were distributed to the respondents for data collection. Table 4.1 illustrated the findings regarding the response rate.

*Table 4. 1 Response rate*

Class	Frequency	Percentage (%)
Response	98	81.67
Non-response	22	18.33
Total	120	100

**Source: Field Data (2022)**

The findings revealed that out of the total 120 questionnaires distributed, 98 (81.67%) were filled and returned while 22 (18.33%) were not. This response rate of 81.67% stands for a good response rate recommended by Phillips, Reddy, and Durning, (2016) who assert that a response

rate above 60% is considered to be an excellent response rate that is reliable in making sound interracial deductions.

#### 4.2.2 Logistics Company.

The distribution of the names and number of responses from each company can be represented in table 4.2 below. From the table of distributions, Kenfreight Logistics Company presented the majority of the respondents 16 (17%) followed by Kencont Logistics Services Limited with 15 (16%) respondents, Mitchell Cotts Logistics, 12 (12.8%), Hellmann worldwide logistics company and Siginon Logistics had 11 (11.7%) each. Also Agility Logistics K Limited and East African Commercial And Shipping Co. Ltd had 10 (10.6%) each and the least was Sasa Logistics Limited 9 (9.6%). In general, the distribution was almost equal thus there was equal representation in terms of respondents.

**Table 4. 2 Logistics Companies**

Logistics companies				
	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Kenfreight Logistics Company	16	17.0	17.0	17.0
Agility Logistics K Limited	10	10.6	10.6	27.7
Hellmann worldwide logistics company	11	11.7	11.7	39.4
East African Commercial And Shipping Co. Ltd	10	10.6	10.6	50.0
Kencont Logistics Services Limited	15	16.0	16.0	66.0
Mitchell Cotts Logistics	12	12.8	12.8	78.7
Sasa Logistics Limited	9	9.6	9.6	88.3
Siginon Logistics	11	11.7	11.7	100.0
Total	98	100.0	100.0	

**Source: Field Data (2022)**

### 4.2.3 Level of education

The level of education is a significant indicator of ascertaining the understanding of logistics companies' work and job descriptions. Table 4.3 presents the distributions in terms of education levels from certificate level of Ph.D. degree. The results revealed that the majority of the 98 respondents engaged in data collection had attained a minimum education of a degree, comprising 32 (34.4%) of the total respondents. They were followed by those with a diploma, who was 24 (25%) of the total respondents. Those with master's degrees were 14 (15.6%), those with certificates were 16 (16.7%), and the least was the Ph.D. holder, who was only (8.3%). Thus this implied that the majority of the respondents were educated and, therefore, would have a high level of understanding concerning the understanding and responding to the questionnaire.

**Table 4. 3 Level of Education**

	Frequency	Percent (%)	
Valid	Phd	8	8.3
	Master's degree	14	15.6
	Undergraduate	32	34.4
	Diploma	24	25.0
	Certificate	16	16.7
	Total	96	100.0

**Source: Field Data (2022)**

### 4.2.4 Work Experience

Working experience is another significant determinant that indicates how well one is acquainted with the company's operations in terms of the supply chain. The years' experience categories were three, including the period less than five years, 6-10 years, and above 10 years. The results of the distributions are illustrated in table 4.4. Based on the findings, the majority of the respondents comprised of those who have been in the sector for years between 6 to 10 years who were 39 (41.5%) followed by those who have been in the companies for more than 10 years who

were 31 (33%) and the least were those of less than 5 years' experience who was only 24 (25.5%). This implies that the majority of the respondents have been working in logistic companies for a substantial number of years, which give them a comparative advantage in understanding how the logistic companies perform and the areas for improvements.

**Table 4. 4 Experience in the sector**

		Frequency	Percent (%)
Valid	Less than 5 years	24	25.5
	6-10 years	39	41.5
	Above 10 years	31	33.0
	Total	98	100.0

**Source: Field data (2022)**

### 4.3 Descriptive Statistics

Descriptive statistics explain the distributions in terms of responses in form of frequencies, percentages, means, and standard deviations. In total, this research project continued four variable which was used to establish four research objectives. The four objectives were employed to assess the effect of government trade policies on the supply chain performance of logistic companies in Kenya they include; To examine the effect of advance taxation policy on the supply chain performance of logistics firms based in Mombasa County, Kenya; to establish the effect of licensing policy on supply chain performance of logistics firms based in Mombasa County, Kenya; to determine the effect of price control policy on supply chain performance of logistics firms based in Mombasa County, Kenya; and to examine the effect of tariff policy on the supply chain performance of logistics firms based in Mombasa County, Kenya.

Thus, the four viable include advance taxation policy which was measured in terms of Tax rates, Tax administration, Tax compliance, Bureaucratic process, and Tax complicity. The second

variable was Licensing Policy which was measured in terms of the Business registration procedure, licensing procedure, and license validity. The third variable was the Price Control Policy which was measured in terms of Price Ceiling, Price Floor, Rent Control, and Minimum Wage Rate. The last variable was tariff policy measured in terms of average across products, Total Tariff Revenue, Total Value of Imports, and weighted imports. On the other hand, the dependent variable was the supply Chain performance which was measured in terms of responsiveness, reliability rate, flexibility, service Delivery, returns to scale, level of asset management, and cost incurred.

#### 4.5.1 Descriptive on advance taxation policy

Table 4.5 below illustrates the findings from the descriptive statistics on the advance taxation policy.

**Table 4. 5 Descriptive on advance taxation**

Descriptive							
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	Std. Deviation
Tax rates positively affected the customer satisfaction	22.6%	39.1%	3.8%	21.4%	13.1%	2.4397	1.1578
Tax administration reduced the delivery process as well as time	18.4%	26.18%	29.62%	13.1%	12.7%	2.8997	1.2073
The delivery lead time if affected by tax compliance hence affecting performance.	4.82%	57.79%	3.52%	21.08%	12.79%	2.0024	.58316
Bureaucratic process negative affects the logistic companies operations hence reducing the profit margin.	7.21%	11.2%	9.57%	48.24%	23.78%	4.1162	1.10484

Tax complicity affects the flexibility of the supply chain performance of logistic companies.	1.6%	8%	6.4%	28.8%	55.2%	4.5985	.90211
Valid N (listwise)	98						
Average						3.2113	0.99104

**Source: Field data (2022)**

Advanced taxation is a significant variable that influences the supply chain performance of logistic companies in Kenya. It determines how the company operations cost are met and how they affect the profitability of the logistics companies in terms of supply chain performance. To establish the role of advance taxation on supply chain performance. The research employed four statements to ascertain the influence of advance taxation on the supply chain performance of logistic companies in Kenya.

The first statement whether the tax rates positively influenced customer satisfaction. The majority of the respondents accounted by 39.1% moderately disagreed with statement while 22.6% strongly disagreed, 3.8% were neutral regarding the statement and 21.4%, just agreed 13.1% strongly agreed with the statement respectively. The mean of 2.4397 and standard deviation (1.15783), implied that they moderately disagreed with the statement that tax rates positively enhanced customer satisfaction and hence supply chain performance.

Moreover, on the statement about whether tax administration reduced the delivery process and time, the majority of the respondents accounted by 29.62% were neutral regarding the statement. Moreover, 26.18% just disagreed with the statement, with 18.4% strongly disagreeing. On the other hand, 13.1% and 12.7% just agreed and strongly disagreed with the statement respectively. The overall mean of 2.8997, revealed that majority of the respondents were neither agreeing nor disagreeing with statement on whether tax administration reduced the delivery process and time,



while the standard deviation of 1.20726 implied that there were other diverse responses regarding the statement.

Further, the study sought to determine whether the delivery lead time is affected by tax compliance, affecting performance, based on the responses majority accounted by 37.79% moderately agreed with the statement, with 24.82% strongly disagreeing with the statement, also 3.52% were neutral regarding the statement while 21.08% moderately agreed and 12.79% strongly agreed with the statement on the delivery lead time is affected by tax compliance, affecting performance. Generally, the mean = 2.0024 and STD = .58316 implies that majority disagreed with the statement. And the standard deviation of (.58316) implies minimal diverse responses. Also, means that delivery lead time was not affected by tax compliance.

On the statement whether, bureaucratic process negatively affects the logistic companies operations, reducing the profit margin. Based on the responses, the majority of respondents accounted by 48.24%, moderately agreed with the statement, while 23.78% strongly agreed. On the other hand, 9.57% were neither agreeing nor disagreeing and 11.2%, 7.21% just disagreed and strongly disagreed respectively with the statement that there is an inverse relationship between Bureaucratic processes and operations of the logistics companies. The mean of (4.1162) implies that here bureaucratic process negatively affects the logistic companies operations, reducing the profit margin. While the standard deviation of 1.10484 shows presence of minimal diverse responses regarding the statement.

Lastly, the research sought to establish whether tax complicity affects the flexibility of the supply chain performance of logistic companies. Most respondents indicated that tax complexity negatively affected the supply chain performance of logistic companies in Kenya. This was accounted by 55.2% who strongly agreed with the statement with 28.8% just agreeing with the

statement. On the other hand, 6.4% were neutral, while only 8% and 1.6% just disagreed and strongly disagreed respectively. The mean of 4.5985 confirmed that majority strongly agreed with the statement and further, the standard deviation of .90211 indicated minimal divert responses regarding the statement. Thus, it was confirmed that tax complexity negatively affected the supply chain performance.

Based on the average mean (3.211), majority of the respondents were neither agreeing nor disagreeing with most of the statement regarding taxation policy. Thus, it was revealed that taxation policy depicted a negative influence of supply chain performance of logistics companies. Moreover the average standard deviation (0.991) implies that there was minimal diverse responses regarding taxation policy.

#### 4.5.2 Descriptive on licensing policy

Table 4.6 presents the descriptive statics of the licencing policy.

**Table 4. 6 Descriptive on Licensing Policy**

	Descriptives					Mean	Std. Deviation
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)		
Business registration procedure positively enhanced the supply chain performance of logistic companies	28.07%	39.2%	13.12%	11.38%	8.23%	2.2826	1.19669
Licensing procedure for logistic companies affects their supply chain performance	11.56%	25.2%	32.4%	18.8%	12.04%	2.5236	1.20261
License validity affect the long-term investments for logistic company.	34.76%	29.08%	9.68%	11.65%	14.83%	2.4694	1.31764
Licensing processing requirement consumes the time of operation reducing the profit margin	24.04%	41.02%	14.81%	9.62%	10.51%	2.2857	1.22685

Regulatory management systems affect the operations of the companies to a great extent.	8.1%	14.3%	9.5%	45.2%	22.9%	2.5408	1.01705
Average						2.42042	1.192168

**Source: Field Data (2022)**

The research employed four statements to ascertain the influence of licensing policy on the supply chain performance of logistic companies in Kenya. Table 4.6 below illustrates the findings from the descriptive statistics.

The first statement whether business registration procedure positively enhanced the supply chain performance of logistic companies. The majority of the respondents, accounted by 39.2%, just disagreed with the statement while 28.07%, strongly disagreed with the statement. Also 13.12% were neutral regarding the statement while 11.38%, and 8.23%, moderately agreed and strongly agreed with the statement respectively. Thus, mean = 2.2826 and standard deviation 1.19669 implied that business registration procedure negatively affect supply chain performance.

On the statement licensing procedure for logistic companies affects their supply chain performance, the majority of the respondents accounted by 32.4% neither agreed nor disagreed regarding the statement while 25.2%, just disagreed and 11.56% strongly disagreed with the statement. On the other hand 18.8% of the respondent moderately agreed while 12.04% strongly agreed with the statement that licensing procedure for logistic companies affects their supply chain performance. Further the mean of 2.5236, and the standard deviation of 1.20261 implied that there were other diverse responses regarding the statement.

Further, the study sought to determine whether the license validity affect the long-term investments for logistic company, majority of the respondents accounted by 34.76% strongly disagreed with the statement while 29.08%. 9.68% were neither agreeing nor disagreeing with

statement with 11.65% and 14.83% just agreeing and strongly agreeing with the statement respectively. Thus, the mean of 2.4694 shows that majority just disagreed with the statement while the standard deviation of 1.31764 implies there were minimal diverse responses.

The study also sought to establish whether licensing processing requirement consumes the time of operation reducing the profit margin. The majority of the respondents accounted by 41.02% moderately disagreed with the statement while 24.04% strongly disagreed with the statement. Also, 14.81% were neither agreeing nor disagreeing with the statement with 9.62% just agreeing and 10.51% strongly agreed respectively. The mean of 2.2857 means that licensing processing requirement doesn't consumes the time of operation hence it doesn't affecting supply chain performance of logistic companies. Moreover, the standard deviation of 1.22685 implies that there were diverse responses regarding the statement.

Lastly, the research sought to establish whether regulatory management systems affect the operations of the logistic companies to a great extent. Most respondents accounted by 45.2% just agreed with the statement with 22.9% strongly agreeing with the statement. Also, 9.5% of the respondents were neither agreeing nor disagreeing with the statement while 14.3% just disagreed with only 8.1% strongly disagreed with the statement that regulatory management systems affect the operations of the companies. Thus, the mean 2.5408 implies that regulatory management systems negatively affects the operations of the logistic companies. Further, the standard deviation of 1.01705 indicated minimal divert responses regarding the statement. Thus, respondents indicated diverse responses regarding the statements.

Based on the average mean of 2.42042, majority of the respondents disagreed with most of the statement regarding licensing policy. Thus, it was revealed that licensing policy depicted a negative influence of supply chain performance of logistics companies. Moreover the average

standard deviation of 1.192168 implies that there was some diverse responses regarding most of the statements on licensing policy.

### 4.5.3 Descriptive on Price Control Policy

Table 4.7 below illustrates the findings from the descriptive statistics on the price control.

**Table 4. 7 Descriptive on Price Control**

	Descriptive					Mean	Std. Deviation
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)		
Transportation cost negatively affects the supply chain performance of logistic companies.	6.25%	11.15%	7.34%	44.02%	31.24%	3.5164	1.18221
Price ceiling reduces the profit margin of logistic companies' hence poor supply chain performance	7.29%	2.38%	12.29%	44.18%	33.86%	3.6571	1.06936
Price floor set disadvantage the logistic companies hence affecting there supply chain performance.	6.82%	7.21%	6.22%	34.53%	45.22%	4.2457	1.15159
Rents controls negatively affect performance of supply chain performance.	3.81%	13.8%	9.29%	45.2%	27.9%	3.5621	1.17257
Price control negatively enhanced performance.	1.87%	11.61%	11.32%	45.13%	30.07%	3.5115	1.11272
<b>Average</b>						<b>3.69856</b>	<b>1.13769</b>

**Source: Field Data (2022)**

Price control policy is a significant variable that determines the supply chain performance of logistic companies in Kenya. It determines how the company's value there services and determine the price level of goods that are being transported. These determines the profitability of the logistics companies in terms of supply chain performance. To establish the role of price control policy, the research used employed five statements to ascertain the influence of price

control policy on the supply chain performance of logistic companies in Kenya. Table 4.7 below illustrates the findings from the descriptive statistics.

The first statement whether transportation cost negatively affects the supply chain performance of logistic companies. The majority of the respondents, accounted by 44.02% moderately agreed with the statement while 31.24% strongly agreed with the statement. Also, 7.34% were neutral regarding the statement. On the other hand 11.15% disagreed with the statement while 6.25% strongly disagreed with the statement. Thus, the mean of 3.5164 implies that majority of the respondents moderately agreed with statement and thus transportation cost negatively affects the supply chain performance of logistic companies. On the other hand, the standard deviation 1.18221, the implied that transportation cost negatively affects the supply chain performance of logistic companies.

Also, on the statement whether, price ceiling reduces the profit margin of logistic companies' hence poor supply chain performance, the majority of the respondents accounted by 44.18% moderately agreed with the statement while 33.86% strongly agree with the statement. Also, 12.29% neither agreed nor disagreed with the statement. On the other hand on 2.38% and 7.29% of the respondents just agreed and strongly disagreed with the statement respectively. Thus, the of general mean of 3.6571, implies majority of the respondents moderately agreed with the statement that's price ceiling reduces the profit margin of logistic companies' hence poor supply chain performance. On the other hand, the standard deviation of 1.06936 implied that there were other diverse responses regarding the statement.

Further, the study sought to determine whether the price floor set disadvantages the logistic companies hence affecting there supply chain performance, majority of the respondents accounted by 45.22% strongly agreed with the statement while 34.53% moderately agreed with

the statement. About 6.22% of the respondents were neither agreeing nor disagreeing with the statement. On the other hand, 7.21% and 6.82% just disagreed and strongly disagreed with the statement respectively. The means of 4.2457 implies that majority of the respondents just agreeing with the statement thus price floor set disadvantages the logistic companies hence affecting the supply chain performance. Also the standard deviation of 1.152, implies there were minimal diverse responses.

On the statement whether, rents controls negatively affect performance of supply chain performance. The majority of the respondents accounted by 45.2% moderately agreed with the statement while 27.9% strongly agreed with the statement. Only, 9.29% were neither agreeing nor disagreeing with the statement while 13.8% just disagreed and 3.81% strongly disagreed with the statement that rents controls negatively affect performance of supply chain performance respectively. The mean of 3.5621 implies that rents controls have a negative influence on supply chain performance of logistic companies while the standard deviation of 1.17257 implies that there were diverse responses regarding the statement.

Lastly, the research sought to establish whether price control negatively affected performance. Most respondents accounted by 45.13% moderately agreed with the statements while 30.07% strongly agreed with the statement. Also, 11.32% of the respondents were neither agreeing nor disagreeing while 11.61% and 1.87% just disagreed and strongly disagreed respectively that price control negatively affected performance. The mean (3.514) implied that majority of the respondents agreed that price control negatively affected performance of SCP while the standard deviation (1.1127) indicated minimal diverse responses regarding the statement.

Based on the average mean (3.69856), majority of the respondents just agreed with most of the statement regarding price control. Thus, it was revealed that price control depicted a moderate



negative influence of supply chain performance of logistics companies. However on the other hand average standard deviation (1.13769) implies that there was some diverse responses regarding most of the statements on price control.

#### 4.5.4 Descriptive on tariff policy.

Table 4.8 below illustrates the findings from the descriptive statistics on tariff policy.

**Table 4. 8 Descriptive Statistics on Tariff Policy**

<b>Descriptive Statistics</b>							
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	Std. Deviation
Total tariff revenue accrued as a result of supply chain performance increased.	6.25%	31.15%	7.34%	24.02%	31.24%	2.3296	1.01333
Total Value of Imports decreased given the implementation of the tariff policy.	8.41%	2.36%	12.11%	45.26%	31.86%	3.5481	1.18547
Average across product increased the supply chain performance through the tariff policy	6.83%	27.28%	18.22%	24.51%	23.16%	3.2566	1.03787
Weighted imports reduced the volume supply chain performance given the implementation of tariff policy.	13.81%	39.8%	11.29%	15.2%	19.9%	2.4656	0.12123
<b>Average</b>						<b>2.899975</b>	<b>0.839475</b>

**Source: Field Data (2022)**

Tariff policy forms another significant variable that determined the supply chain performance of logistic companies in Kenya. It determines the volume of items that logistic companies import and export that makes them in business and determines their Supply Chain performance. To establish the role of Tariff policy, the research used employed four statements to ascertain the influence of tariff control policy on the supply chain performance of logistic companies in Kenya. Table 4.8 below illustrates the findings from the descriptive statistics on tariff policy.

The first statement is whether total tariff revenue accrued as a result of supply chain performance increased. The majority of the respondents, 31.24% strongly agreed with the statement, while almost equal measure 31.15% disagreed with the statement. Also, 7.34% were neutral regarding the statement while 24.02% just agreed and only 6.25% strongly disagreed with the statement. The mean = 2.3296 implied that tariff revenue accrued was not a result of supply chain performance among the logistic companies while the standard deviation (1.01333), implies that there were diverse responses regarding the statement.

Moreover, on the statement whether the total value of imports decreased given the implementation of the tariff policy, the majority of the respondents accounted for 45.26%, moderately agreed with the statement, while 31.86% strongly agreed with the statement. Also, 12.11% neither agreed nor disagreed with the statement while 2.36% and 8.41% just agreed and strongly agreed with the statement respectively. The overall mean of 3.5481 implies that the majority of the respondents moderately agreed with the statement thus the total value of imports decreased given the implementation of the tariff policy. On the other hand, the Standard deviation of 1.18547, implies that there we some diverse responses regarding the statement.

Further, the study sought to determine whether average across products increased the supply chain performance through the tariff policy, the majority of the respondents 27.28% moderately agreed with the statement while 23.16% strongly agreed. On the other hand, 8.22% were neither agreeing nor disagreeing with the statement while 24.51% just disagreed and 14.83% strongly disagreed with the statement respectively. The mean (3.2566) means that the neutral regarding the statement while the standard deviation of (1.03787) implies the presence of minimal diverse responses.

Lastly, the research sought to establish whether weighted imports reduced the volume supply chain performance given the implementation of tariff policy. Most respondents 39.8% moderately disagreed with the statements, while 13.81% strongly disagree with the statement. On the other hand, 11.29% were neutral regarding the statement while 15.2% just agreed and 19.9% strongly agreed with the statement. The mean of (2.4656) respondents disagreed that weighted imports reduced the volume supply chain performance given the implementation of tariff policy while the standard deviation (0.12123) indicated minimal divert responses regarding the statement.

The average mean (2.89998), revealed that the majority of the respondents neither agreed nor disagreed with most of the statements regarding tariff policy. Thus, it was revealed that price control depicted a moderate negative influence on the supply chain performance of logistics companies. Moreover, the average standard deviation (0.839475) implies that there were some diverse responses regarding most of the statements on tariff policy.

#### 4.5.5 Descriptive on supply chain performance.

Table 4.9 below presented the results of descriptive statics of supply chain performance

**Table 4. 9 Descriptive on supply chain performance**

Descriptive Statistics							
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	Std. Deviation
There is efficiency in responsiveness to customer need.	2.6%	9.1%	3.8%	31.4%	53.1%	4.613	1.01333
Reliability in terms of service delivery was enhanced by the government trade policies implemented.	22.4%	46.18%	9.62%	9.1%	12.7%	2.8121	1.1521
The level Returns to scale was registered in the entire periods.	4.9%	8.18%	3.52%	25.2%	58.2%	4.596	0.03787

Flexibility in terms of service delivery to customers reduced due to government trade policies implemented. The amount of Service delivered improved for the entire period.	17.47%	45.2%	9.57%	14.86%	12.9%	2.4656	0.12123
Asset management is well maintained.	1.6%	10.4%	3.2%	49.6%	35.2%	4.291	1.1521
Percentage of orders delivered to customers on time increased.	3.2%	12.8%	4.8%	41.6%	37.6%	3.813	0.2312
Average						<b>3.765117</b>	<b>0.617972</b>
Valid N (listwise)							

**Source: Field data (2022)**

Supply chain performance of logistic companies in Kenya being the main variable, several statements were used to establish the supply chain performance. A total of six statements were used. Table 4.8 below illustrates the findings from the descriptive statistics on tariff policy.

The first statement there is efficiency in responsiveness to customer needs. More than half of the respondents 53.1% strongly agreed with the statement while 31.4% moderately agreed with the statement. Only 3.8% neither agreed nor disagreed with the statement with 9.1% just disagreeing and 2.6% strongly disagreeing with the statement that there is efficiency in responsiveness to customer needs. The mean of 4.613 implied that there is efficiency in responsiveness to customer needs among the logistic companies. The standard deviation of 1.01333 means there were minimal diverse responses regarding the statement.

Moreover, on the statement whether Reliability in terms of service delivery was enhanced by the government trade policies implemented, the majority of the respondents, 46.18% moderately disagreed with the statement while 22.4% strongly disagreed. Only 9.62% neither agreed nor disagreed with the statement while 9.1% and 12.7% just agreed and strongly agreed with the statement respectively. The mean of 2.8121 implies majority just moderately disagreed with the

statement while the Standard deviation of 1.1521 implies the presence of diverse responses regarding the statement.

Further, the study sought to determine whether the level of Returns to scale was registered in the entire period, majority of the respondents, 58.2% strongly agreed with the statement while 25.2% just agreed with the statement. On the other hand, only 3.52% were neither agreeing nor disagreeing with those who just disagreed 8.18%, and those who strongly disagreed were only 4.9%. Moreover, the mean of 4.596, means the majority strongly agreed with the statement meaning the level of returns to scale was registered over the entire period. In addition, the standard deviation of 0.03787 implies very minimal diverse responses.

The next statement was to assess whether Flexibility in terms of service delivery to customers was reduced due to government trade policies implemented. The amount of Service delivered improved for the entire period. The majority of the respondents accounted for 45.2% indicated minimal agreement with the statement while 17.47% had a strong disagreement with about 9.57% being neutral. On the other hand, 14.86% to a small extent agreed with the statement while 12.9% to a great extent agreed with the statement. Thus, the mean of 2.4656 implies that the majority were disagreeing with the statement while the standard deviation of 0.12123 indicates very minimal diverse responses regarding the statement.

The study also sought to establish whether Asset management is well maintained. The majority of the respondents, 49.6% indicate to a small extent agreed with the statement while 35.2% to a great extent agreed with the statement. On the other hand, 3.2% were neutral while 10.4% to a small extent disagreed with the statement and 1.6% to a great extent disagreed with the statement respectively. The mean of 4.291 implied that to a small extent many respondents were agreeing with the statement that asset management was well maintained by the logistic companies. While

the standard deviation of 0.1521 indicated minimal divert responses regarding the statement. Thus, respondents agreed that asset management was well maintained by the logistic companies.

Lastly, in establishing whether the percentage of orders delivered to customers on time increased. The majority of the respondents, 41.6% indicate to a small extent to agree with the statement while 37.6% to a great extent agreed with the statement. On the other hand, 4.8% were neutral while 12.8% to a small extent disagreed with the statement and 3.2% to great extent disagreed with the statement respectively. The mean of 3.813 implied that to a small extent many respondents were agreeing with the statement that the Percentage of orders delivered to customers on time increased among the logistic companies. While the standard deviation of 0.2312 indicated minimal divert responses regarding the statement. Thus, respondents agreed that the Percentage of orders delivered to customers on time increased within the logistic companies.

The overall mean of 3.765117 implies that the majority of the respondents to a small extent agreed with most of the statements regarding the supply chain performance. Thus, to some extent, the government trade policies affected the supply chain performance but the companies were still able to register profits from their operations. On the other hand, the overall standard deviation of 0.617972 implies minimal diverse responses regarding most of the statements on the supply chain performance of logistic companies.

## **4.6 Inferential Results**

### **4.6.1 Diagnostic analysis**

To ensure the data collected conform to the assumptions of ordinary least square (OLS). The research conducted three diagnostic tests. They include Normality test, linearity test, and multicollinearity test.

### **4.6.2 Normality test**

For data to be reliable for conducting and permissible for inferential statistical analysis, the normality test assumption must be satisfied. Normality test is crucial to help to ascertain the validity of the data at hand (Tsagris, & Pandis, 2021). For conducting a normality test a Shapiro-Wilk test is conducted to check whether the data is normality distributed. The threshold for normality is when P-value must be  $>0.05$  to imply that the data is normality distributed, thus the assumption of normality is met.

The Shapiro–Wilk test guarantees that the data obeys the assumption of OLS of being impartial, and normally distributed, (Shapiro and Wilk, 1965). This test analyses the variance by employing statistical parameters such as t-tests, and it operates on the assumption that the data are normally distributed. The Shapiro-Wilk test was conducted to ascertain whether the research variables followed a normal distribution. Table 4.9 illustrates the results of the normality test.

Results from table 4.9 indicate that the p-value for Shapiro Wilk was; Taxation policy ( $\alpha = 1.069 > 0.05$ ), Licensing Policy ( $\alpha = .914 > 0.05$ ), Price Control ( $\alpha = .878 > 0.05$ ) Tariff Policy ( $\alpha = .907 > 0.05$ ), and Supply chain performance ( $\alpha = 1.079 > 0.05$ ). Thus all the study variables were found to satisfy the normality assumption given that p-value  $> 0.05$ .

**Table 4. 10 Normality Test**

Licensing Policy	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Taxation policy	.175	3	.	1.061	3	1.069
Licensing Policy	.286	12	.007	.814	12	.914
Price Control	.201	12	.193	.876	12	.878
Tariff Policy	.127	44	.074	.926	44	.907
Supply Chain Performance	.158	27	.081	.932	27	1.079

**Source: Field Data (2022)**

### **4.6.3 Linearity test**

The study sought to establish whether, there is linearity between predictor variables (Taxation policy, licensing policy, price control, and Tariff policy) and the predicted variable (supply chain performance). This makes a test for linearity basic before such an analysis (Djaballah-Djeddour, & Tazerouti, (2022). Regression analysis assumed linearity between the predictor and predicted variable. Variables' linearity was tested using "value significant derivation from linearity". A value of  $>0.05$  for the "value significant derivation from linearity" indicates a linear relationship as a rule of thumb (Seong, Cho, & Asvirta, 2021). Table 4.10 illustrates the results of the linearity test. The association between the predictor variables and predicted variables may be calculated using multiple linear regression whenever there is a linear connection between them. Based on the independent variable (government trade policies) is presumed to have a linear function leading from regression coefficients ( $\beta_1, \beta_2, \beta_3, \beta_4, \dots, \beta_n$ ) on the other hand the linear functionality of predictor variables ( $X_1, X_2, X_3 \dots X_n$ ). The results revealed that the overall model was found to be significant at  $p\text{-value} = 0.002 < 0.05$ .



**Table 4. 11 Linearity test**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.381	4	1.595	4.556	.002 <sup>b</sup>
	Residual	32.563	93	.350		
	Total	38.944	97			

a. Dependent Variable: Supply Chain Performance

b. Predictors: (Constant), Tariff Policy, Taxation policy, Price Control, Licensing Policy.

**Source: Field Data (2022)**

On the regression function supply chain performance is taken as a function of Tariff Policy, Taxation policy, Price Control, and Licensing Policy. The result shows that there is a linear relationship between the variables. Thus, it was concluded that the variable is reliable for further regression analysis. Thus, the results from the linearity test revealed that there was a linear relationship between the supply chain performance of logistic companies and government trade policies revealed by the results (F= 57.090, and p-value =0.000).

#### **4.6.4 Multicollinearity test.**

The study also conducted a multi-collinearity test. This test checks whether there is a high correlation between explanatory variables. This is because whenever the predictors are highly correlated, the problem of the coefficient being overestimated or underestimated may arise. The study employed Variance Inflation Factor (VIF) to detect collinearity. The threshold for VIF is > 10, which implies that the problem of multicollinearity is present (Shrestha, 2020). In the presence of multicollinearity, the data must be transformed again or the model moves from ordinary least square regression to weighted least square regression. The outcomes from the multicollinearity test can be depicted in Table 4.11.

Table 4.11 illustrates the findings which revealed that there was no problem with multicollinearity. The values of tolerance values were all more than 0.1, and additionally, the variance vector inflation factor (VIF) values were less than 10. Specifically; Taxation policy (tolerance = .803>0.1, VIF = 1.245<10), Licensing Policy (tolerance = .791>0.1, VIF = 1.264<10), Price Control (tolerance = 0.970>0.1, VIF = 1.031<10), and Tariff Policy (tolerance = 0.985>0.1, VIF = 1.015<10) respectively. Thus, multicollinearity was absent. Thus, all four explanatory variables could be used in further regression analysis.

**Table 4. 12 Multicollinearity Test**

Model		Coefficients <sup>a</sup>	
		Collinearity Statistics	
		Tolerance	VIF
1	Taxation policy	.803	1.245
	Licensing Policy	.791	1.264
	Price Control	.970	1.031
	Tariff Policy	.985	1.015

a. Dependent Variable: Supply Chain Performance

**Source: Field Data (2022)**

#### **4.6.5 Correlation analysis**

Miot (2018) defines correlation analysis as a research statistical method that is conducted to ascertain the strength and direction between two or more research variables. Thus, the study conducted a correlation analysis to ascertain whether the study variables were linearly related or not. Correlations analysis enabled the researcher to examine the strength and direction of the relationship among the explanatory variables. Table 4.12 below illustrates the results based on the correlation analysis. To assess the strength and direction of the relationship between the variables, the correlation coefficient (r) value was calculated.

The results show the existence of a weak but insignificant correlation between taxation policy and the supply chain performance of logistic companies in Kenya ( $r = -.150$ ,  $p\text{-value} = .001$ ). On the other hand, licensing policy and supply chain performance of the logistic companies have a moderate but significant positive correlation between them ( $r = .192$ ,  $p\text{-value} = .004$ ). Moreover, there is a small but positive significant correlation between price control and supply chain performance of the logistic companies ( $r = .271^{**}$ ,  $p\text{-value} = .008$ ). Lastly, there is a weak and insignificant correlation between tariff policy and the supply chain performance of logistic companies in Kenya ( $r = -.307$ ,  $p\text{-value} = .003$ ).

**Table 4. 13 Correlation Analysis**

		<b>Correlations analysis</b>				
		Taxation policy	Licensing Policy	Price Control	Tariff Policy	Supply Chain Performance
Taxation policy	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	98				
Licensing Policy	Pearson Correlation	.491**	1			
	Sig. (2-tailed)	.000				
	N	98	98			
Price Control	Pearson Correlation	.043	.153	1		
	Sig. (2-tailed)	.549	.140			
	N	98	98	98		
Tariff Policy	Pearson Correlation	-.025	-.003	-.018	1	
	Sig. (2-tailed)	.814	.978	.349		
	N	98	98	98	98	
Supply Chain Performance	Pearson Correlation	-.150	.192	.271**	-.307**	1
	Sig. (2-tailed)	.001	.004	.008	.003	
	N	98	98	98	98	98

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

**Source: Field Data (2022)**

#### **4.6.6 Regression Analysis**

Regression analysis refers to a statistical method conducted to establish the relationship between two or more research variables. The current study conducted a regression analysis to ascertain the association between the study variables which were the effect of government trade policies on the supply chain performance of logistic companies in Nairobi Kenya. The regression analysis was done at a 95% significance level. The multiple regression analysis produces three outputs that are the model summary, the analysis of variance (ANOVA), and the coefficient of

determination. The result is presented in the three tables below. Table 4.13 present the model summary.

#### 4.6.7 Model Summary

Based on the results, the model summary table explains the strength of the association between the model and the dependent variable where the linear correlation between observed values and predicted values of the dependent variable is established. The study used a coefficient of determination to evaluate the model fit. The R<sup>2</sup>, which is also called the coefficient of multiple determinations, explains the variance in terms of percentage in the dependent variable which is explained jointly by the independent variables. The model had an average coefficient of determination (R<sup>2</sup>) of .225, which implied that only 22.5% of the variations in the independent variable (government trade policies) and dependent variable (supply chain performance) are explained by the model. Thus, 77.5% of variations can be accounted for by the factors not included in the model.

**Table 4. 14 Model Summary**

<b>Model Summary</b>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.508 <sup>a</sup>	.258	.225	.55169	.258	7.750	4	89	.000

a. Predictors: (Constant), Tariff Policy, Licensing Policy, Price Control, Government Trade Policies

**Source: Field Data (2012)**

#### 4.6.8 Analysis of Variance (ANOVA)

Further, the research conducted an analysis of variance to ascertain the level to which each explanatory variable independently enhances the dependent variable. Further, it shows whether there is a static difference between the means of the study variables. From the ANOVA statistics,

the study established the regression model was significant at a 5% level since the overall p-value of 0.000 is an indication that the data were ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The calculated value was greater than the p-value (0.05), an indication that advance taxation, licensing policy, price control, and tariff policy, were all effective in enhancing the supply chain performance of logistic companies in Nairobi County. The significance value was less than  $0.000 < 0.05$ , indicating that the model was significant at a 95% confidence level. The F-values of 7.750 indicates that differences among the study variables are statistically significant. Meaning that government trade policies have a significant influence on the supply chain performance of logistic companies in Nairobi County. The findings based on ANOVA analysis can be presented in table 4.14 below.

**Table 4. 15 ANOVA**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.436	4	2.359	7.750	.000 <sup>b</sup>
	Residual	27.089	89	.304		
	Total	36.524	93			

a. Dependent Variable: Supply Chain Performance

b. Predictors: (Constant), Tariff Policy, Licensing Policy, Price Control, Government Trade Policies

**Source: Field Data (2022)**

#### **4.6.9 Regression Coefficient**

The coefficient of determination was conducted to establish how well the regression model explains the outcome of the analysis. Multiple linear regression was conducted to establish the relationship among the study variables. Four independent variables (Tariff Policy, Licensing Policy, Price Control, and Government Trade Policies) were used together with one dependent

variable (supply chain performance). Table 4.15 below illustrates the results of the coefficient of determination values.

The results revealed that four independent variables of government trade policies depicted the different influences of the supply chain performance of logistic companies. For instance, licensing policy and price control positively influenced the supply chain performance, while Taxation policy and tariff policy depicted inverse relations. However, the overall model indicates that holding other factors constant, the supply chain performance of the logistic companies improves by 4.017 units.

Further results indicated that a unit change in taxation policy would negatively influence supply chain performance. Thus, the increase in taxation policy lead to a decline in the supply chain performance of the logistic companies. These findings align with those by Bian and Zhao's (2020) who found an inverse relationship between taxation policy and supply chain performance. Theoretically, poor taxation policy has a negative influence of the supply chain performance of the companies thus this findings support the theoretical perspective of the negative influence of the taxation policy.

Also, a unit change in licensing policy enhanced supply chain performance. Thus there is a positive relationship between licencing policy and supply chain performance of the logistic companies. The findings by Kiarie (2017) supports these findings in that licensing policy in outsourcing strategy improved the supply chain performance of logistic companies in Mombasa County. These findings support the theoretical context that a licenced logistic company is able to operate in any location without disruption both locally and internationally. Thus, this findings support this theoretical context that any logistic company with proper working license improves its supply chain performance.

Further, a unit change in price control leads positive change in supply chain performance. Thus, price control has a positive influence on the supply chain performance. These results are supported by those by Rana and Sharma (2019) who found that price control and supply chain performance have a positive and significant relationship. The theoretical perspective is supported by these findings. This is because, it's expected that controlled price ensures that firms don't incur extra costs and ensure price stabilization globally and locally.

And lastly, a unit change in tariff policy resulted in a decline in supply chain performance. Thus, tariff policy must be considered and reduced since it negatively affects the supply chain performance of logistics companies. These findings are in line with those by Hafezalkotob, (2018) the intervention policies of the government affect the operations of the price-energy saving competition among the green supply chains moreover, Dong and Kouvelis (2020) who established a connection in the supply chain in various industries that may be beneficial to policymakers in trade policy change.



**Table 4. 16 Regression Coefficient**

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.017	.342		11.754	.000
	Taxation policy	-.150	.069	-.227	-2.182	.032
	Licensing Policy	.137	.062	.231	2.204	.030
	Price Control	.130	.054	.227	2.397	.019
	Tariff Policy	-.295	.113	-.246	-2.616	.010

a. Dependent Variable: Supply Chain Performance

**Source: Feld data (2022)**

The results can be illustrated in a regression model 4.1

$$SCP = 4.017 - .227TP + 0.231 LP + 0.227 PC - .246TP \dots \dots \dots 4.1$$

From model 4.1, it is clear that the magnitude through which the Government trade policies influence the supply chain performance of logistic companies in Kenya depicts different statistical influences in terms of magnitude and direction. It can be noted that two of the four variables positively influence supply chain performance. They have a significant and favourable influence on supply chain performance. Licensing policy and price control are depicted as a positive and significant influence on the supply chain performance of logistic companies in Mombasa County. Thus, increase changes in licensing policy and price control, caused a positive influence on the supply chain performance of logistics companies.

On the other hand, two variables that are taxation policy and tariff policies depicted a negative but significant influence on the supply chain performance of logistic companies. Thus an increase in taxation and tariff policies causes a decrement in the supply chain performance of logistic companies. Thus, although, the two variables that are taxation policy and tariff policies are statistically significant however they go against the empirical literature. According to the

literature, the increase in this variable should lead to an increase in the supply chain performance of the logistic companies which is not the case with these two variable taxation policy and tariff policies.

Thus, in general, based on the overall results, there is a need for policies to be formulated that should change the procedure and process of these government trade policies to experience positive results on supply chain performance. Given that licensing policy and price control have positive results regarding the supply chain performance of logistics companies. Both the licensing policy and price control should be enhanced for more favourable outcomes in the supply Chain performance of these logistic companies. On the other hand taxation policy and tariff policies have negative influence they should be formulated so that they can have a positive influence on the supply chain performance of logistics companies.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATION**

#### **5.1 Introduction.**

This chapter provides a summary of the data findings as well as a discussion of the data findings, a conclusion derived presented, and recommendations made. The recommendations derived are geared towards achieving the study objective, which was to establish the effect of government trade policies and supply chain performance of logistics firms based in Mombasa County, Kenya.

#### **5.2 Summary of the Study**

The study objective was to determine the effect of government trade policies on the supply chain performance of logistics firms based in Mombasa County, Kenya. This study was motivated by the fact that, despite the fact that most of the logistics companies are striving towards achieving greater profitability and gain competitive advantage both locally and internationally, their performance has been hampered by government trade policies. This is because most of these logistics companies operation across the border and offer service both locally an internationally. According to Ishengoma (2018) poor performance of logistic companies can associates it with licencing processes, while Dhar and Khandelwal (2021) noted that this can be as a result of advance tax process. According to the Kenyan logistics and freight transport report, 2022, the decline is due to inefficient data tracking systems, a lack of artificial intelligence and automation, a lack of digitization adaptation, and a lack of resiliency.

The study therefore formulated a comprehensive conceptual framework to guide the study variables below; To examine the effect of advance taxation policy on supply chain performance of logistics firms based in Mombasa County, Kenya; To establish the effect of licensing policy

on supply chain performance of logistics firms based in Mombasa County, Kenya; To determine the effect of price control policy on supply chain performance of logistics firms based in Mombasa County, Kenya; to examine the effect of tariff policy on the supply chain performance of logistics firms based in Mombasa County, Kenya.

The current study employed a descriptive research design. A descriptive design is appropriate in making descriptions of and characteristics associated with the subject of the study population. The target population for the study were 8 logistics firms based in Mombasa. This study employed self-administered questionnaires as the main data collection instrument. Questionnaire was preferred because it captures view, observation and opinions of the respondents regarding the study objective. The study employed a descriptive statistics to describe the data collected and make a summary of it. On the other hand inferential statistics was conducted to establish the direction and the strength of the relationship between the study variables. Further, Normality tests, linearity test, and multicollinearity test was used to test the model specification. The study had four objectives tested.

### **5.2.1 The effect of advance taxation policy on supply chain performance of logistics firms based in Mombasa County, Kenya.**

Taxation policy involves an income tax policy that gives guidelines regarding the choices of the government on what to levy and the amount that should be levied measured in terms of tax rates, tax administration, tax compliance, bureaucratic process involved and tax complicity. The current study sought to establish the effect of advance taxation policy on supply chain performance of logistics firms based in Mombasa County, Kenya. For instance a unit change in taxation policy lead to a negative influence of  $-.227$  based on the supply chain performance of

the logistic companies. These findings align with those of Bian and Zhao's (2020) findings, revealing an inverse relationship between taxation policy and supply chain performance.

### **5.2.1 Effect of licensing policy on the supply chain performance of logistics firms based in Mombasa County, Kenya**

The second objective was to examine the effect of licencing policy on the supply chain performance of logistic companies in Mombasa County. Licensing policy is government guidelines on registration and the issuance of permits for business operations measured through registration procedures, licencing procedures, and the validity of this license. The study to examine the effect of licensing policy on the supply chain performance of logistic companies in Mombasa County. From the results a unit change in licensing policy positively enhanced the supply chain performance of logistic companies in Mombasa County. Kiarie's (2017) findings support these findings in that licensing policy in outsourcing strategy improved the supply chain performance among private companies in developing countries. Thus, licensing policy should be enhanced since it depicts a positive influence on the supply chain performance of logistic companies within Mombasa County.

### **5.2.1 Effect of Price Control on the supply chain performance of logistics firms based in Mombasa County, Kenya**

The third objective was to examine the effect of price control on the supply chain performance of logistic companies in Mombasa County. Price control refers to the price levels set by the government to control prices and avoid customer manipulation, measured in terms of price ceiling and price floor. The study sought to examine the influence of price control on the supply chain performance of on supply chain performance of logistics firms based in Mombasa County, Kenya. Results found that price control positively enhanced the supply chain performance of

logistic companies in Mombasa County. Thus, a change in price control leads to a positive influence on the supply chain performance of logistic companies within Mombasa County. These results are supported by those by Rana and Sharma (2019) who found that price control is a statistically significant determinant of Supply chain performance measurement. The research found that price control and supply chain performance have a positive and significant relationship.

#### **5.2.4 Effect of Tariff policy on supply chain performance of logistics firms based in Mombasa County, Kenya.**

The fourth objective was to establish the effect of tariff policy on the supply chain performance of logistic companies in Mombasa County. Tariff policy is a form of tax-imposed government of goods and services when they leave or enter national frontier. It means the tax imposed by the government on logistics operation in Kenya measured using total revenue created and total value of imports. The study sought to establish the effect of tariff policy on the on supply chain performance of logistics firms based in Mombasa County, Kenya. Based on the results, Tariff policy depicted a negative but significant influence on the supply chain performance. A unit increase in tariff policy resulted in to decline in supply chain performance. Thus, tariff policy must be considered and reduced since it negatively affects the supply chain performance of logistics companies. These findings are in line with those by Hafezalkotob, (2018) the intervention policies of the government affect the operations of the price-energy saving competition among the green supply chains moreover, Dong and Kouvelis (2020) established a connection in the supply chain in various industries that may be beneficial to policymakers in trade policy change.

### **5.3 Conclusions**

Based on the findings the government trade policies have different effect on the supply chain performance of logistic companies in Mombasa County. Some policies have a positive influence on the supply chain performance of logistics companies while others have a negative influence. Thus it seem that many of the logistics companies in Kenya are facing challenges in their supply chain performance due to improper or poor government trade policies. Thus, despite the fact that logistic companies have heavily invested in their companies to enhance the improved supply chain performance, they are near yet far from achieving the desired supply chain performance.

The researcher made conclusion that government trade policies despite the fact that they are meant to enhance supply chain performance of the logistic companies yet they are creating a negative influence due to their excessive ness or tough trade policies otherwise they are meant to support these companies to trade well both locally and internationally and create international competitiveness.

For instance the researcher made conclusion that the government trace polices with negative influence to the supply chain performance of the logistic companies should be reformulated or improved in a way that can be accommodative and friendly to the companies operation. For example taxation policy lead to a negative influence of on the supply chain performance of the logistic companies thus taxation polices should be looked into to ensure they obey the cannon of taxations that is tax benefit. Both national and county governments need to improve the formulation and implementation of trade policies that enhance the positive performance of supply chain performance of these logistic companies.

Also, conclusion that since licensing policy created a positive influence on the supply chain performance it should be enhanced and properly implemented to create more positive influence on the supply chain performance of the logistics companies. Thus, logistics companies should embrace the licensing policy that ensures their smooth operations and hence improved supply chain performance.

Moreover, results depicted that price control positively enhanced the supply chain performance of logistic companies in Mombasa County. Thus, a change in price control leads to a positive influence on the supply chain performance of logistic companies within Mombasa County. Thus the researcher made conclusion that for improved supply chain performance the logistic companies the government should embrace price control and ensure they are followed to the later to improve the supply chain performance of the logistic companies.

Based on the tariff policy the researcher made conclusion that since the tariff policy depicted a negative but significant influence on the supply chain performance. Sometimes the logistic companies have no choice on the tariff policy since it's a government directive, there should be proper stakeholder participation to ensure proper tariff policies are put in place which are favourable to the companies.

#### **5.4 Policy Recommendations**

The two trade policies with a positive influence on supply chain performance that is licensing policy positively enhanced the supply chain performance of logistics companies in Mombasa County and price control positively enhanced the supply chain performance of logistics companies in Mombasa County. Thus the study recommends that these policies need to be



enhanced since they have a positive influence on the supply chain performance of logistic companies.

On the other hand, regarding the other two policies with a negative influence on the supply chain performance of logistic companies the study recommends that there is a need to be dealt with that they can have a positive influence on SCP. Taxation policy had a negative influence on supply chain performance and tariff policy resulted in to decline in supply chain performance. The government needs to establish how these two government trade policies can be employed to enhance supply chain performance. Thus it is evident that government trade policies play a significant role in determining the supply chain performance of logistic companies.

#### **5.5 Areas for Further Study.**

The general objective of the study was to examine the effect of government trade policies on the supply chain performance of logistics firms based in Mombasa County, Kenya. The recommendation made is that further study can be done in other countries and other public sectors. Furthermore, a similar study can be done in other countries. The current study considered four trade barriers that are taxation policy, licensing policy, price control, and tariff policy. Other trade barriers omitted were quota systems and subsidies which may significantly influence the supply chain performance of logistic companies. Thus the further study can be done to consider these trade barriers that is quota systems and subsidies and establish their influence of the supply chain performance of logistics companies.

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## APPENDICES

### APPENDIX I: QUESTIONNAIRE

#### Introduction Letter.

Greetings,

I am a Kenyatta University student doing a research study on the “**GOVERNMENT TRADE POLICIES AND SUPPLY CHAIN PERFORMANCE OF LOGISTICS FIRMS BASED IN MOMBASA COUNTY, KENYA**”. In partial fulfilment of the course requirements of masters’ degree in business administration (procurement and supply chain management) of Kenyatta university. You are therefore requested to take few minutes and fill the questionnaire below that can help in this study. The collected data was handled with the highest confidentiality and will only be used for academic study. Remember to take part in this data process is voluntary, and no any victimization whatsoever if you decline not take part.

Your cooperation is highly valued and appreciated.

Thank you,

Yours faithfully

**ANSELM MWADIME CHAO**

**D53/OL/MSA/20373/2020**

#### Instructions

The purpose of this questionnaire was to collect data on the government trade policies and supply chain performance of logistics firms based in Mombasa County, Kenya. Kindly, do not indicate your name on the questionnaire. Tick (√) as necessary to indicate your response to each question.

#### Section A: Background information

1. Name of the logistic company
2. Highest academic qualification?  
Phd [ ]  
Master’s degree [ ]

- Undergraduate [ ]  
 Diploma [ ]  
 Certificate [ ]

3. How many years have you been employed by the company?  
 0-5 years [ ] 6-10 years [ ] above ten years

**SECTION B: Government trade policies and Supply Chain Performance**

1. Kindly indicate your level of agreement about the influence of tax policy on supply chain performance. Use, 5-scale point of measurement in the form of strongly disagree (SD), disagree (D), Neutral (N), agree (A) strongly agree (SA).

Statement	Strongly Disagree (SD)	Disagree (D)	Neutral (N),	Agree (A)	Strongly Agree (SA).
Tax rates positively enhanced affect the customer satisfaction					
Tax administration reduced the delivery process as well as time					
The delivery lead time is affected by tax compliance hence affecting performance.					
Bureaucratic process negative affects the logistic companies operations hence reducing the profit margin.					
Tax complicity affects the flexibility of the supply chain performance of logistic companies.					

Any other specify.....

2. Kindly indicate your level of agreement about the influence of licensing policy on supply chain performance. Use, 5-scale point of measurement in the form of strongly disagree (SD), disagree (D), Neutral (N), agree (A) strongly agree (SA).

Statement	Strongly Disagree (SD)	Disagree (D)	Neutral (N),	Agree (A)	Strongly Agree (SA).
Business registration procedure positively enhanced the supply chain					



performance of logistic companies					
Licensing procedure for logistic companies affects their supply chain performance.					
License validity affect the long-term investments for logistic company.					
Licensing processing requirement consumes the time of operation reducing the profit margin.					
Regulatory management systems affect the operations of the companies to a great extent.					

Any other factor specify.....

3. Kindly indicate your level of agreement about the influence of price control on supply chain performance. Use, 5-scale point of measurement in the form of strongly disagree (SD), disagree (D), Neutral (N), agree (A) strongly agree (SA).

Statement	Strongly Disagree (SD)	Disagree (D)	Neutral (N),	Agree (A)	Strongly Agree (SA).
Transportation cost negatively affects the supply chain performance of logistic companies.					
Price ceiling reduces the profit margin of logistic companies' hence poor supply chain performance.					
Price floor set disadvantage the logistic companies hence affecting there supply chain performance.					
Rents controls negatively affect performance of supply chain performance.					

Any other specify.....

4. Kindly indicate your level of agreement about the influence of tariff policy on supply chain performance. Use, 5-scale point of measurement in the form of strongly disagree (SD), disagree (D), Neutral (N), agree (A) strongly agree (SA).

Statement	Strongly Disagree (SD)	Disagree (D)	Neutral (N),	Agree (A)	Strongly Agree (SA).
Total tariff revenue accrued as a result of supply chain performance increased.					
Total Value of Imports decreased given the implementation of the tariff policy.					
Average across product increased the supply chain performance through the tariff policy					
Weighted imports reduced the volume supply chain performance given the implementation of tariff policy.					

Any other specify.....

5. Supply chain performance

Statement	Strongly Disagree (SD)	Disagree (D)	Neutral (N),	Agree (A)	Strongly Agree (SA).
There is efficiency in responsiveness to customer need.					
Reliability in terms of service delivery was enhanced by the government trade policies implemented.					
The level Returns to scale was registered in the entire periods					
Flexibility in terms of service					

delivery to customers reduced due to government trade policies implemented.					
The amount of Service delivered improved for the entire period					
Asset management is well maintained.					
Percentage of orders delivered to customers on time increased.					

## APPENDIX II: WORK PLAN

PERIOD	FEBRUARY 2022	MARCH 2022	APRIL 2022	MAY /JUNE 2022	JUNE 2022
Developing a proposal					
Literature review					
Proposal presentation					
Data collection					
Data processing					
Report writing					
Result presentation					

### **APPENDIX III: LIST OF LOGISTICS COMPANIES**

<b>Category</b>
1. Kenfreight Logistics Company,
2. Agility Logistics K Limited,
3. Hellmann worldwide logistics company,
4. East African Commercial and Shipping Co. Ltd,
5. Kencont Logistics Services Limited,
6. Mitchell Cotts Logistics,
7. Sasa Logistics Limited
8. Siginon Logistics.

**APPENDIX IV: BUDGET**

<b>Budget Item</b>	<b>Estimated expenditure</b>
Typing	6,000
Printing	14,500
Binding	2,800
Travelling expenses	20,000
Data Collection expenses	15,000
Miscellaneous expenses	10,000
<b>Total</b>	<b>68,300/-</b>