

**SUPPLIER RELATIONSHIP MANAGEMENT PRACTICES AND  
PROCUREMENT PERFORMANCE OF TEA PROCESSING FIRMS IN  
NANDI COUNTY, KENYA**

**ZELPHA MALONGO**

**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER  
OF BUSINESS ADMINISTRATION**

**DEPARTMENT OF BUSINESSS ADMINISTRATION AND  
MANAGEMENT SCIENCE**

**KAIMOSI FRIENDS UNIVERSITY**

**2022**

## ABSTRACT

Tea processing firms in Kenya face unique challenges; with supplier management being the most critical. Better supplier relationship management practices enable the procurement function reduce costs in setting up deals with suppliers, foster innovation, improve quality, communication, and reduce problems related to delivery delays. Despite the implementation of supplier relationship management practices, there are still complex and strained relationships between green leaf suppliers and tea processing firms in Nandi County. Williamson Tea Limited in Nandi County has incurred annual losses of approximately 15 million as a result of engaging in business with a large number of suppliers, resulting in lapses in managing long-term relationships with suppliers, which has ultimately led in delayed deliveries, inconsistent leaf count, insufficient stock, and poor quality products due to a lack of a comprehensive approach for managing interactions with suppliers. The purpose of the study was to analyze the effect of supplier relationship management practices on the procurement performance of tea processing firms in Nandi County, Kenya. Specific objectives were to; determine the effect of supplier evaluation, examine the effect of supplier segmentation, establish the effect of supplier development, and assess the effect of supplier training on procurement performance of tea processing firms in Nandi County, Kenya. This study used resource dependence theory, networking theory, and Payne's five forces model. A cross sectional research design was adopted on a target population of 96 respondents where census sampling technique was used and data collected from the entire sample using questionnaires. The study used positivism research philosophy. Reliability of research instruments was measured through Cronbach's Alpha while construct validity tested through Kaiser Mayer Olkin and Bartlett's tests. Data was analyzed using inferential and descriptive statistics and presented in form of frequency tables and percentages. Correlation results indicated that supplier evaluation, segmentation and training had a significant correlation with procurement performance given variable coefficient  $r$ ; - 0.680, 0.538 and 0.378 respectively, while supplier development recorded an insignificant positive correlation with a variable coefficient - 0.471 and p- value 0.083 which is greater than 0.05. Findings indicated that supplier evaluation, supplier segmentation and supplier training had significant effect on procurement performance given coefficients -0.185, 0.063 and 0.236 respectively with p-values  $< 0.05$  while supplier development had insignificant effect on procurement performance given p-value  $> 0.05$ . It was concluded that supplier relationship management practices affect procurement performance. It was recommended that tea processing firms in Kenya to embrace supplier evaluation, segmentation, development and training as the coefficient of determination (0.618) was an indication that approximately 62% of variations in the procurement performance measured through cost level is explained by changes in the SRM practices.

## DECLARATION

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

Signature .....

Date.....

**Malongo Zelpha**

**Reg No: DGS/MBA/G/0004/2019**

This thesis has been submitted for examination with my approval as the University Supervisor

Signature .....

Date.....

**Dr. Nurwin Fozia (PhD)**

Signature .....

Date.....

Department of Business Administration and Management Science

Kaimosi Friends University

**Dr. Evans Kiganda (PhD)**

Signature .....

Date.....

Department of Economics

Kaimosi Friends University College

## ACKNOWLEDGEMENT

I am grateful to God for His amazing grace throughout writing this thesis. Special and immeasurable thanks to my research supervisors Dr. Fozia Nurwin and Dr. Evans Kiganda for their tireless guidance in writing my thesis, I am indebted to you. I would also like to thank Dr. Margaret Atieno and Dr. Moses Mutua for their efforts and motivation towards writing this thesis. To my family; my mother Rodah Kayuma and my siblings, thank you for your prayers, support and encouragement, my guardians Hon. MCA. Margaret Butiya. S. N. Nyautu and Madam Zibiah Amiani thank you for providing for me everything I needed during my study period including sacrificing your finances, May God bless you. To my lecturers at Kaimosi Friends University thank you for the knowledge you impacted in me. To our former and current postgraduate director, Professor Benson Ojwang and Dr. Shiundu thank you for ensuring this thesis was written in accordance to university standards and guidelines. Lastly, I am grateful to my friends; Robinson Wesonga, Lyndah Kahenda, Brian Chemase, Pamela Kongoti, Vinsencia Adhiambo, Diana Majani, Allan Kamau, Margaret Okech, Kevin Mureithi, John Mburu, Bonfas Anyanda, Jane Kanyiha, Clavis Engesa, Shavidah Amwayi, Collins Tombito and Charles Andati for the support and hope they instilled in me when writing this thesis, may the Lord bless you and open the flood gates of heaven in abundance for you.

## **DEDICATION**

I dedicate this thesis to my mum Rodah Kayuma, my guardians Hon. MCA. Margaret Butiya S.N. Nyauntu, Mr Allan Amiani and Madam Zibiah Amiani for their prayers, financial sacrifices and encouragement towards my academic prowess and the success of this thesis. I owe you a lot.

# TABLE OF CONTENTS

<b>ABSTRACT .....</b>	<b>ii</b>
<b>DECLARATION .....</b>	<b>iii</b>
<b>ACKNOWLEDGEMENT .....</b>	<b>iv</b>
<b>DEDICATION .....</b>	<b>v</b>
<b>TABLE OF CONTENTS.....</b>	<b>vi</b>
<b>LIST OF FIGURES.....</b>	<b>xii</b>
<b>LIST OF TABLES.....</b>	<b>xiii</b>
<b>ACRONYMS .....</b>	<b>xiv</b>
<b>DEFINITION OF TERMS.....</b>	<b>xv</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>1</b>
1.1 Background of the Study.....	1
1.2 Statement of the Problem.....	5
1.3 Objectives .....	6
1.3.1 General Objective.....	6
1.3.2 Specific Objectives.....	6
1.4 Research Hypotheses.....	7
1.5 Significance of the Study .....	7
1.6 Scope of the Study.....	8
1.7 Limitations .....	9
<b>CHAPTER TWO .....</b>	<b>10</b>
<b>LITERATURE REVIEW.....</b>	<b>10</b>
2.1 Introduction.....	10

2.2 Theoretical Literature Review .....	10
2.2.1 Networking Theory .....	10
2.2.2 Resource Dependence Theory .....	11
2.2.3 Payne’s Five Forces Model .....	12
2.3 Conceptual Framework .....	13
2.3.1 Procurement Performance.....	15
2.3.2 Supplier Relationship Management Practices .....	15
2.3.2.1 Supplier Evaluation .....	15
2.3.2.2 Supplier Segmentation .....	16
2.3.2.3 Supplier Development .....	16
2.3.2.4 Supplier Training.....	17
2.4 Empirical Literature Review.....	17
2.4.1 Supplier Evaluation and Procurement Performance .....	18
2.4.2 Supplier Segmentation and Procurement Performance .....	19
2.4.3 Supplier Development and Procurement Performance.....	20
2.4.4 Supplier Training and Procurement Performance .....	21
2.5 Critique and Research Gaps.....	23
<b>CHAPTER 3 .....</b>	<b>27</b>
<b>METHODOLOGY .....</b>	<b>27</b>
3.1 Introduction.....	27
3.2 Research Philosophy .....	27
3.3 Research Design.....	27
3.4 Target Population .....	28
3.5 Sampling Technique.....	30
3.6 Data Collection Instruments .....	30

3.7 Pilot Study .....	30
3.7.1 Reliability.....	31
3.7.2 Validity.....	31
3.8 Data Analysis, Presentation and Discussion .....	32
3.8.1 Diagnostic Tests .....	33
3.8.1.1 Normality .....	33
3.8.1.2 Multicollinearity.....	33
3.8.1.3 Autocorrelation.....	33
3.8.1.4 Heteroscedasticity .....	33
3.8.1.5 Measurement of Variables.....	35
3.9 Ethical Consideration .....	34
<b>CHAPTER 4 .....</b>	<b>36</b>
<b>RESEARCH FINDINGS AND DISCUSSION .....</b>	<b>36</b>
4.1 Introduction.....	36
4.2 Reliability.....	36
4.3 Validity Test .....	36
4.4 Response Rate.....	37
4.5 Nature and magnitude of supplier relationship management practices .....	37
4.6 Initiator of Supplier Relationship Management Practices .....	38
4.7 Descriptive Statistics .....	39
4.7.1 Supplier Evaluation and Procurement Performance .....	39
4.7.1.1 Evaluation of Suppliers and Cost Level .....	40
4.7.1.2 Suppliers Ensure Shorter Lead Times.....	41
4.7.1.3 Evaluation of Shorter Lead Times and Procurement Performance.....	41
4.7.1.4 Evaluation of Conformance to Quality and procurement performance.....	43



4.7.1.5 Evaluation of suppliers Based On Their Financial Capabilities.....	43
4.7.1.6 Evaluation of Suppliers’ Financial Capabilities and Procurement Performance ..	44
4.7.2 Supplier Segmentation and Procurement Performance .....	44
4.7.2.1 Categorizing Suppliers into Raw Material and Procurement Performance.....	46
4.7.2.2 Raw Material Suppliers Supply on a Continued Basis .....	46
4.7.2.3 Segmentation of Component Suppliers Based on Quality .....	47
4.7.2.4 Collaboration of Component Suppliers with the Firm and Performance .....	47
4.7.2.5 Grouping Finished Products Supplierse and Cost Level. ....	48
4.7.2.6 Collaboration Of Finished Products Suppliers With The and Cost Level.....	48
4.7.3 Supplier Development and Procurement Performance .....	49
4.7.3.1 Supplier Development and Cost Level .....	50
4.7.3.2 Offering Supplier Incentives and Procurement Performance.....	50
4.7.3.3 Supporting Suppliers Financially .....	50
4.7.3.4 Supporting Suppliers Financially and Procurement Performance .....	51
4.7.3.5 The Organization Offers Technical Support to Their Suppliers .....	51
4.7.3.6 Supplier Technical Support and Procurement Performance.....	52
4.7.3.7 Supplier Plant Visits.....	52
4.7.3.8 Supplier Plant Visits and procurement performance .....	53
4.7.4 Effect of Supplier Training on Procurement Performance .....	54
4.7.4.1 Supplier Training Programs.....	54
4.7.4.2 Supplier Training and procurement performance .....	55
4.7.4.3 Innovation Workshops .....	56
4.7.4.5 Conducting Innovation Workshops and procurement performance .....	57
4.7.4.6 Quality Assurance Seminars Are Conducted .....	57
4.8 Descriptive statistics on dependent variable .....	58

4.9 Inferential Statistics .....	59
4.9.1 Diagnostic Tests .....	59
4.9.1.1 Normality Test.....	59
4.9.1.2 Autocorrelation.....	59
4.9.1.3 Test for Multicollinearity.....	60
4.9.1.4 Heteroscedasticity Test .....	60
4.9.1.5 Correlation Analysis .....	61
4.9.1.6 Model Summary <sup>a</sup> .....	62
4.9.1.7 ANOVA <sup>a</sup> .....	63
4.9.1.8 Supplier Evaluation and Procurement Performance .....	65
4.9.1.9 Supplier Segmentation and Procurement Performance .....	65
4.9.1.10 Supplier Development and Procurement Performance.....	65
4.9.1.11 Supplier Training and Procurement Performance.....	66
4.10 Summary of Hypotheses Testing.....	66
4.11 Theory Application To the Study .....	67
<b>CHAPTER 5 .....</b>	<b>69</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>69</b>
5.1 Introduction.....	69
5.2 Summary of the Findings.....	69
5.2.1 Supplier Evaluation and Procurement Performance .....	69
5.2.2 Supplier Segmentation and Procurement Performance .....	69
5.2.3 Supplier Development and Procurement Performance.....	70
5.2.4 Supplier Training and Procurement Performance.....	70
5.3 Conclusions.....	71
5.3.1 Supplier Evaluation.....	71

5.3.2 Supplier Segmentation .....	71
5.3.3 Supplier Development.....	71
5.3.4 Supplier Training.....	72
5.4 Recommendations .....	72
5.4.1 Supplier Evaluation.....	72
5.4.2 Supplier Segmentation .....	72
5.4.3 Supplier Development.....	73
5.4.4 Supplier Training.....	73
<b>REFERENCES.....</b>	<b>75</b>
<b>APPENDICES .....</b>	<b>81</b>

## LIST OF FIGURES

<b>Fig 2.1:</b> Conceptual framework.....	15
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## LIST OF TABLES

<b>Table 2.1:</b> Critique and Research Gaps .....	23
<b>Table 3.1:</b> Target Population .....	29
<b>Table 4.1:</b> Reliability Table.....	36
<b>Table 4.2:</b> KMO and Bartlett’s Test .....	37
<b>Table 4.3:</b> Response Rate .....	37
<b>Table 4.4:</b> Most Practiced Supplier Relationship Management Practices .....	38
<b>Table 4.5:</b> Initiator of Supplier Relationship Management Practices .....	39
<b>Table 4.6:</b> Effect of supplier evaluation on procurement .....	40
<b>Table 4.7:</b> Effect of supplier segmentation on procurement performance .....	45
<b>Table 4.8:</b> Effect of supplier development on procurement performance .....	49
<b>Table 4.9:</b> Effect of supplier training on procurement performance .....	54
<b>Table 4.10:</b> Descriptive statistics on procurement performance .....	58
<b>Table 4.11</b> Jaque -Bera Test of Normality .....	59
<b>Table 4.12:</b> Test for Multicollinearity .....	60
<b>Table 4.13:</b> BP Test .....	60
<b>Table 4.14:</b> Pearson Product Moment Correlation.....	61
<b>Table 4.15:</b> Model summary .....	63
<b>Table 4.16:</b> ANOVAa .....	64
<b>Table 4.17:</b> Regression Analysis Results .....	64
<b>Table 4.18:</b> Hypotheses .....	67

## ACRONYMS

GDP	Gross Domestic Product
KAM	Kenya Association of Manufacturers
PPADA	Public Procurement and Asset Disposal Act
PP	Procurement Performance
SC	Supply chain
SCI	Supply Chain Integration
SCM	Supply Chain Management
SD	Supplier Development
SE	Supplier Evaluation
SS	Supplier Segmentation
SRM	Supplier Relationship Management
ST	Supplier Training
TBA	Tea Board of Kenya
KENGEN	Kenya Electricity Generating Company Limited

## DEFINITION OF TERMS

### **Cost Level**

The price needed for acquisition, production and maintaining a product or service whose unit of measurement is money (Collins, 2019).

### **Procurement Performance**

It is a measure of how procurement function meets its goals and objectives through cost minimization (Dolo, 2015).

### **Supplier Development**

These are activities performed by a firm to enhance supplier's performance with the aim of meeting manufacturer's need (Ochieng, 2014).

### **Supplier Evaluation**

It is assessing, measuring and monitoring supplier performance in order to reduce costs and improve performance. (Dolo, 2015)

### **Supplier Training**

Supplier training is the addition of knowledge to suppliers  
(Kiarie, 2017).

### **Supplier Segmentation**

It is the process of classifying suppliers based on specific and well-defined criteria to identify the most important suppliers with whom to engage in supplier relationship management (Muema, 2016)

**Supplier Relationship Management Practices** These are integrated approaches of interacting with suppliers to enhance mutual benefit (Nurazyyati, 2019).



# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

The world though being a global village, supply chains still challenges of supplier relationship management. Researchers have explored different operation management dimensions but managing the relationship between buyers and sellers stands out as the key pillar in the supply chain. Procurement is the acquisition of goods, services and works (Dolo, 2016). Performance entails the effectiveness of achievement of the set organization's objectives (Kosgei & Gitau, 2016). Procurement performance is a measure of how procurement function meets its goals and objectives with minimum cost through purchasing efficiency and maintaining effectiveness (Chen, 2011).

Procurement performance can be measured through procurement cost and analytic performance. Cost level is defined as the price needed for acquisition, production, and maintaining a product or service whose unit of measurement is money (Collins, 2014). Procurement costs account for 40 – 60% of organizational costs in most of the procuring entities (Bhattacharya, Mukhopadhyaya & Giri, 2015). The overall success of supply chain management is meeting goals in relation to time, cost and quality. Therefore, need for procurement departments of any organization to assess on supplier relationship management practices to create value for money (Hacket Group, 2014).

Supplier relationship management (SRM) is an integrated approach of interacting with suppliers to enhance mutual benefit through supplier evaluation, supplier segmentation, supplier development, and supplier training (Nurazyati, 2019). The role of SRM is to enable effectiveness of both the buyer and supplier firms. SRM is the process of determining how buying firms interact with suppliers.

Just as the firm desires to enhance relationships with customers, there is a need to enhance relationships with suppliers to improve the procurement performance of both manufacturing and processing firms. Supplier evaluation is the assessment of suppliers both qualitatively and quantitatively before selection and after the selection process to ensure quality suppliers are selected and minimization of costs (Kemunto, 2014). Kinyua (2017) argued that supplier evaluation begins after the determination of the purchase need. During supplier evaluation, suppliers are evaluated based on timely deliveries, quality, technical capacity, and financial capability. Establishing strategic relationships with major suppliers is crucial because it enhances value creation and build trust and commitment.

Supplier segmentation is the classification of suppliers based on specific criteria to identify the most important suppliers to engage in supplier relationship management (Muema, 2016). In contrast, as noted by Ochieng (2014), supplier development is any effort performed by an organization to improve supplier performance. Several firms face challenges of supplier inability to improve themselves, which has led to firms setting up supplier development to improve procurement performance (Certified Institute of Purchasing and Supplies, 2013).

Supplier training is the addition of knowledge to suppliers through offering resources, innovation workshops, and quality improvement seminars (Kiarie, 2017). Research has shown that through long term reciprocal performance among all participants, the supply chain can be improved (O'Brien, 2014). Globally, practitioners and academicians have pointed their aggressive concern on importance of adopting effective SRM practices (Wisner, 2013). An American survey rated Toyota among the best manufacturing companies in the world in terms of working relationships. From the report of Toyota Motor Corporation by Nkomo (2015), Toyota enables adequate cost controls though mutual relationships with suppliers.

Industries in Pakistan faced supplier relationship management problems, which were as a result of lack of trust, loyalty, incompetent staff, late deliveries, and inefficient communication (Imam, 2015). In order to increase procurement performance in the United Kingdom (UK), supplier relationship management practices were initiated in a globalized tobacco supply chain. Tobacco companies in the UK indicated commitment on supplier relationship management practices to mitigate risks associated with the supplier (Otanoz, 2011).

Decline in procurement performance in America was recorded in the manufacturing industry due to poor relationships between suppliers and manufacturing firms, which led to low profits from a rate of 10% to 3.6 % in the year 2013, causing the gross domestic product (GDP) to decline from 9.8% to 6% (World Bank, 2013). Based on a study by Kaemey (2013) in Korea, analytical results portrayed that suppliers are important actors of the supply chain network whom the organization needs to partner and collaborate with through supplier relationship management strategies. The contribution of supplier relationship management had not been felt in the Nigerian manufacturing sector, and according to World Bank (2013) report, the procurement performance of the manufacturing sector's contribution to GDP in Nigeria declined from 9.8% achieved in 2009 to 9.6% in 2013.

A report by Union Consulting Limited (2009), indicated that private companies in Uganda have embraced collaboration with suppliers by ensuring strong relationships to retain suppliers, customer satisfaction, enhancing trust, loyalty, and meeting the future needs of the procurement function. In spite of the foregoing, most of manufacturing firms in Uganda have not embraced supplier relationship management practices, thus leading to loss of trust and commitment, low levels of customer retention, failure to meet future needs, and customer dissatisfaction.

Supplier relationships in Uganda were characterized by substandard goods, failure to deliver, rejection, late delivery, and delayed payment (Eyaa, 2010). In a study by Muhwezi (2009), it was reported that suppliers and buyers relationships in Ugandan manufacturing firms last for a short time, and both parties fail to devote resources for sustaining relationships due to betrayal and dishonesty, and this ended up to supplier relationship discontinuation.

From a study by Hamad (2020), it was depicted that Tanzania faced numerous challenges, including poor supplier selection and evaluation, which lead to losses because of the selection of incompetent suppliers and contractors who failed to achieve value for money by supplying substandard goods and services to public entities. As recorded in Tanzanian audit report for the year 2017/2018, poor performance of a contract worth TZS. 95.32 million was recorded due to poor supplier relationship management practices (PPRA, 2019). According to the Public Procurement Regulatory Authority (2019) in Tanzania, there were scenarios where evaluated suppliers lacked competencies.

In Kenya, public and private entities are regulated by the Public Procurement and Asset Disposal Act (2015), though most of the Kenyan procuring entities do not plan on supplier relationship practices with effect to procurement performance due to challenges associated with capacity (Awino, 2011). In the last ten years, supplier management challenges have been rapidly growing in the manufacturing industry in Kenya, despite the fact that the manufacturing sector being the third largest GDP contributor by 10.3% (Economic Survey, 2015). In 2013, Kenya overview report by World Bank affirmed that, supplier relationship is a significant contributor to procurement performance and can be used as a building block for achieving vision 2030. Lack of effective SRM practices contributed to 61% of losses attributed to procurement bids (Awino, 2011).

From the Public procurement audit report 2012/2013, it was revealed that Kshs.18.3 billion was lost due to disorderly and inefficient procurement practices involving supplier relationship management practices, an indication that Kenyan manufacturing and processing firms, including tea firms, continue in their struggle to implement supplier relationship management practices. SRM practices enable organizations to reduce cost and increased competitive advantage (Chebet and Chapkwony, 2020).

Findings indicated that most tea firms in Kericho County have engaged in business with many suppliers with which they have failed to maintain a long term relationship, which leads to late deliveries, increased costs, and poor quality of products. Kenya is recorded as the third largest exporter globally at 23%, making tea industry one of the pillars of achieving the government vision 2030 (Export Processing Zone, 2017). The Kenyan tea sector faces various challenges where tea firms continue to struggle with poor information systems between supply chain networks, inconsistent leaf collection rates, and poor supplier relationship management practices. Therefore, to improve procurement performance, both the internal and external forces of the organizations need to be integrated (Chebet & Chapkwony, 2020).

## **1.2 Statement of the Problem**

Tea processing firms in Kenya face distinct challenges; management of suppliers being the most critical. With better supplier relationship management practices, the procurement function can be able to reduce costs in setting up deals with suppliers, foster innovation, improved quality, communication and reduce problems related to delivery delays. Despite implementation of supplier relationship management practices there still exist complex and strained relationships between green leaf suppliers and tea processing firms in Nandi County (KTDA, 2020). This makes it hard for tea processing firms to negotiate contracts and meet their suppliers' expectations.

The year 2019 Emrok tea factory incurred losses of about over 18 million annually due to lack of commitment from suppliers and leadership and this made the firm unable to attaining better procurement performance (Kemboi & Cheruiyot, 2016). Williamson Tea Limited in Nandi County have incurred losses of about 15 million annually due to engaging in businesses with a large number of suppliers causing lapses in managing long term relationships with suppliers, in turn this has led to delayed deliveries, inconsistent leaf count, insufficient stock, and poor quality products attributed to lack of a comprehensive approach for managing interactions with suppliers (Ondieki, 2015). Past studies conducted on supplier relationship management practices using other constructs such as supplier risk control, information management and procurement performance focused on different industries rather than the tea sector, which portrayed conflicting significant and insignificant results, for example, Tobacco Company (Adesenya, 2020), sugar firms (Wabombaba, 2018) and East African Breweries, (Wachiuri, 2015). Therefore, the need to analyze the effect of supplier relationship management practices on procurement performance of tea processing firms in Nandi County.

### **1.3 Objectives**

#### **1.3.1 General Objective**

To analyze the effect of supplier relationship management practices on the procurement performance of tea processing firms in Nandi County, Kenya.

#### **1.3.2 Specific Objectives**

The specific objectives of the study are to:

- i. Determine the effect of supplier evaluation on procurement performance of tea processing firms in Nandi County, Kenya.

- ii. Examine the effect of supplier segmentation on procurement performance of tea processing firms in Nandi County, Kenya.
- iii. Establish the effect of supplier development on procurement performance of tea processing firms in Nandi County, Kenya.
- iv. Assess the effect of supplier training on procurement performance of tea processing firms in Nandi County, Kenya.

#### **1.4 Research Hypotheses**

- i.  $H_{01}$  : Supplier evaluation has no significant effect on the procurement performance of tea processing firms in Nandi County, Kenya.
- ii.  $H_{02}$  : Supplier segmentation has no significant effect on the procurement performance of tea processing firms in Nandi County, Kenya.
- iii.  $H_{03}$  : Supplier development has no significant effect on the procurement performance of tea processing firms in Nandi County, Kenya.
- iv.  $H_{04}$  : Supplier training has no significant effect on the procurement performance of tea processing firms in Nandi County, Kenya.

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

The findings of this study will be significant to tea processing industry managers, policy makers, and other stakeholders. Procurement, supply chain, and logistics managers shall use the study findings linking procurement performance and supplier relationship management practices in making informed decisions relating to problems facing their organization's supply chain network.

Therefore, managers will be capable to comprehend the significance of implementing effective SRM practices in the production of different types of commodities to satisfy the end user. The study will enable tea processing firms managers to fully comprehend SRM practices effect on procurement performance and find ways to improve the processes that currently exist place, as well as strengthen regulations that will ensure tracking of processes in the supply chain to minimize acquisition costs.

Policymakers may use the findings as a basis for formulating and implementing policies on supplier evaluation, segmentation, development and training to increase for the purpose of minimization of cost in the procurement function and along the supply chain network. The findings of this study will also be used to inform policymakers in both private and public sectors, about the implications of AIS SRM on procurement performance.

Finally, academicians, researchers, and scholars will use the study as a source of literature review to interrogate research gaps on which they will build their future research problems. The research findings will also contribute to the existing literature, which may aid scholars in identifying existing knowledge gaps by providing contextual and methodological information required for future research. The study will also provide detailed information for a literature review and a starting point for examining various studies on supplier relationship management practices and procurement performance

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

The study analyzed effect of supplier relationship management practices on procurement performance of tea processing firm in Nandi, County Kenya for the period 2021. Eight tea processing firms in Nandi County were selected. Nandi County was chosen because according to KTDA report (2020), tea firms in Nandi County have experienced strikes and havoc from suppliers



due to reduced plucked tea prices per kilogram. The eight tea factories included Williamson Tea Kenya, Eastern Produce Kenya Limited, Nandi Tea Estates, Chepkumia Tea factory, Emrok Tea Factory, Chebut Tea Factory, Kaptumo Tea Factory, and Kipchabo Tea Factory. Nandi County is also one of the largest tea producers in Kenya after Kericho County and as such the results can be replicated in other counties.

### **1.7 Limitations**

The study narrowed on effect of SRM practices on procurement performance of tea processing firms in Nandi County, Kenya. In this study cost level was the only measure for procurement performance. The study only focused on supplier evaluation, segmentation, development and training though there are other SRM practices that were not incorporated in the study therefore there is need for a further study on other elements of supplier relationship management practices. During collection of raw data from the field some respondents were not consenting to fill the questionnaires thus led to a response rate that was below 100% though it was recommendable as it was above 70%.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter addressed the theoretical review, conceptual framework, empirical literature, critique, and research gaps.

#### **2.2 Theoretical Literature Review**

The study was guided by networking theory, Resource Dependency and Payne's five forces model

##### **2.2.1 Networking Theory**

Network theory explains and recognizes interactions between organizations and the effect of relationship enhancement on organizational performance. Networking theory emphasizes the aspect of strong ties in a networked environment and states that a networked supply chain helps managers to cultivate a pragmatic assessment of individuals' resources and its implication on the business performance. (Halldorsson, 2007).

Access to resources and coordination are viewed as the primary factors that trigger inter-organizational relationships applied in today's business environment (Knoppen & Christiaanse, 2007). Networking theory plays a significant role for organizations that are anticipating forming cooperative ties (Hakansson, 1997). This facilitates the alignment of supply chain actors, resources, and activities that form the components of a network (Halldorsson, 2007). Hence the study will use networking theory as the main theory.

Networking theory was applied to this study because it is useful in the investigation of trust and commitment in inter-organizational relationships (Gadde & Hakansson, 2001).

Through a networked approach, firms can be able to design the supply chain actors who can benefit from maintaining and building strong ties for management responsiveness. A further implication of the networking theory is that it is useful in demonstrating network knowledge sharing and management of buyer-supplier relationships (Miles, & Snow, 2007). Thus this was used as the anchor theory of the study.

Business interrelationships are necessitated by networking where the supply chains work closely through a network approach by sharing resources, information and dependence on each other to improve performance. Networking theory outlines the impact of enhancing strong ties between supply chain actors to enhance performance useful in management of buyer and supplier relationship.

### **2.2.2 Resource Dependence Theory**

Salancik and Pfeffer (1978) proposed resource dependence theory (RDT) in 1978. Resource dependence theory states that the environment controls organizations. The supply chain's linkage and reciprocal dependency are explained using this theory in the sense that businesses depend on one another for essential resources like raw materials, products, and services and how they can handle such relationships (Pfeffer & Salancik, 1978).

The assumptions of resource dependence theory are: strategic collaboration for mutual advantage, establishing the environment required to rely on another partner to create a sense of power and relationship confidence. According to Provan (1984), close cooperation is necessary in inter-company relationships to minimize resource reliability risks and improve performance. Supply chain partners work closely together, sharing resources and relying on one another, necessitating strategic partnerships and collaboration to enhance performance.

As a management of sources of supply is gaining strategic significance, accompanied by various activities that the purchasing department must complete (Edward, 2008). Pfeffer (1992) modified the resource dependence theory and stated that, organizations develop interrelationships so that they may be able to minimize loss, attain better performance. Resource dependence theory complements this study since procurement of external resources is a vital aspect of strategic management of any firm bringing out the concept of supplier development, which endeavours to establish relationships with other organizations to obtain sufficient resources and improve procurement performance. Resource dependence theory also explains how organizations manage their inter-dependence with other firms through supplier relationship management practices to improve procurement performance.

### **2.2.3 Payne's Five Forces Model**

Payne's Five Forces Model was developed by Payne and Frow (2005) to assess processes relevant to customer relationship management. According to Payne and Frow (2006), customer relationship management encompasses the development of strategy, creation of value, integration of channels, performance assessment, and information management. These five processes are coordinated for the success and performance of the firm. Payne's five forces model affirms that there are three aspects of value creation. Organization needs to identify value creation processes and create value for their customers.

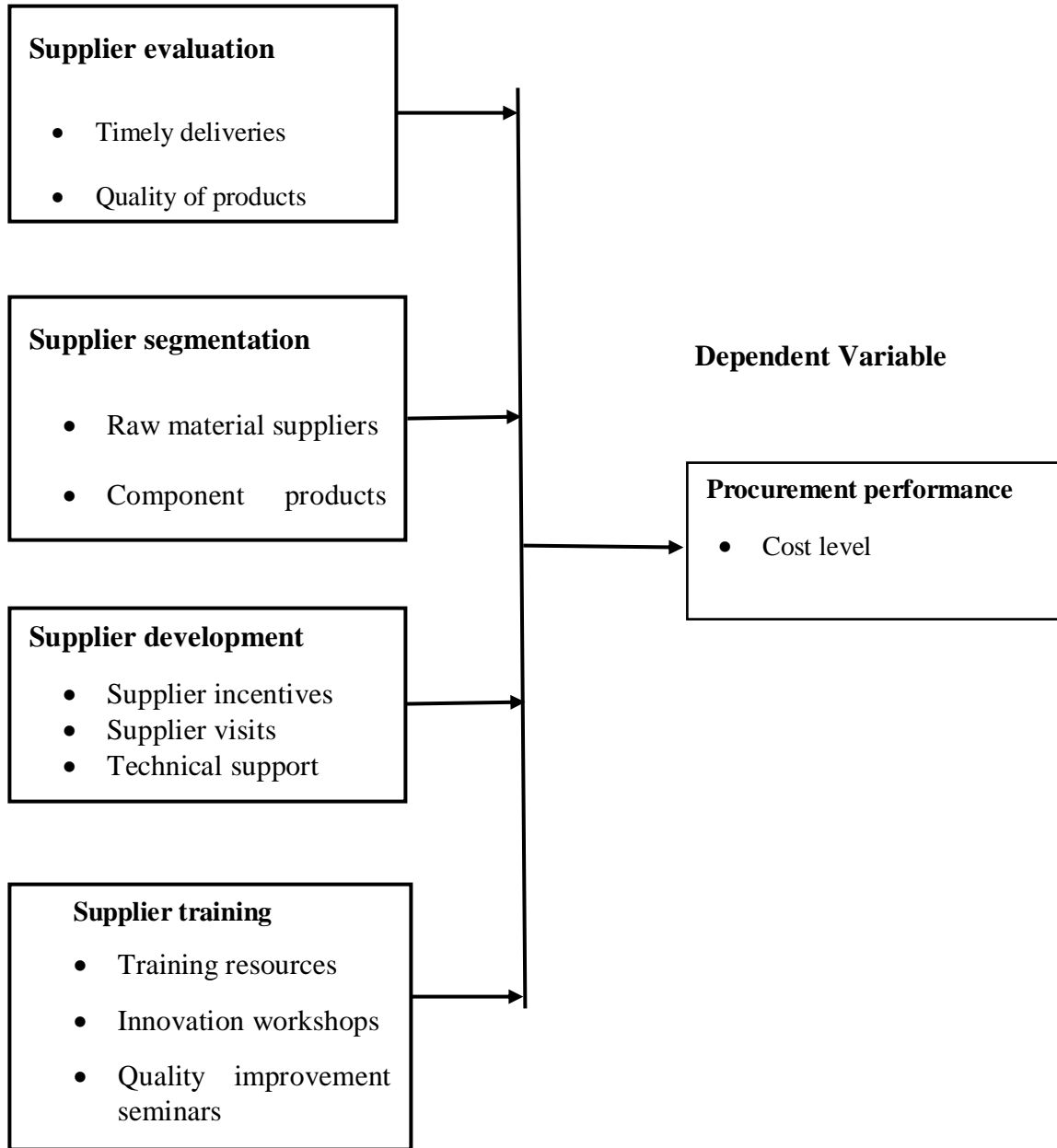
Value is maximized by identifying value-adding suppliers to the organization and emphasizes using segments for mutual exchange (Abdallah, Ayman & Khaled, 2014). Payne's five forces model is relevant to the study since it can be used in identifying suppliers to engage in long-term beneficial relationships for mutual value creation through supplier evaluation, segmentation, development, and training to improve the procurement performance of the firms.

### **2.3 Conceptual Framework**

Figure 2.1 depicts the relationship between supplier relationship management practices and procurement performance. The dependent variable is procurement performance while independent variable is supplier relationship management practices, whose components are supplier evaluation, segmentation, development, and training. Procurement performance will be measured by cost level.

## Independent Variables

### Supplier Relationship Management Practices



**Figure 2.1: Conceptual Framework**

**Source: Author, 2022**

### **2.3.1 Procurement Performance**

It refers to effectiveness and efficiency in the acquisition of goods and services measured through cost level (Chen, 2011). Cost level is the price required for acquisition, production and maintenance of a product or service usually measured in terms of money. Cost level can be either an expense, a loss or a gain in the monetary value of procurement performance. The procurement function ensures that suppliers supply at the minimum cost and are linked to the organization through coordination and cooperation of procurement practices and processes (Glas & Kleemann, 2016). Therefore, procurement performance is based on total cost level, quality and effective supplier relationship management practices (Chimwani, Iravo & Ondabu, 2014).

### **2.3.2 Supplier Relationship Management Practices**

In most manufacturing and processing companies, managers are looking for methods to create an integrated supply chain first strategy. The current corporate environment has nearly become borderless. This has necessitated the use of proactive supply chain techniques which are successful in the overall supply chain management process. Supply chain techniques such as strategic supplier collaboration are examples of supply chain practices (Lambert, 2008). This may be accomplished by supplier evaluation, segmentation, development, and training of suppliers that share similar aims and are willing to adapt to their buyers' demands.

#### **2.3.2.1 Supplier Evaluation**

Supplier evaluation is the process of assessing and monitoring suppliers in order to reduce costs and enhance performance. (Wachiuri, 2018). Despite the fact that the purchase price does not include all of the expenses related to materials and final product, the procurement department

imposes additional charges on the supplier in the form of poor quality obtained materials or late delivery of purchases (Wagner, 2011).

Acquisition costs, including expenses incurred due to poor quality, late delivery, and other factors in addition to the unit price of acquired inputs must be included when evaluating suppliers. Suppliers with exceptional technological knowhow enable businesses to continuously improve their goods in terms of performance and value (Arsan, 2011).

### **2.3.2.2 Supplier Segmentation**

Supplier segmentation entails categorizing suppliers in order to get a comprehensive knowledge of a buyer's supply base and its critical features, as well as making resource allocation modifications in response to the results (Dawson, Young, Murray, & Wilkinson, 2017). It entails obtaining a more complete and comprehensible image of all suppliers by a buyer through categorizing them into groups, which the buyer may spend their limited engagement resources on the most relevant group (Dolo, 2016).

Supplier segmentation allows a company to divide suppliers into different categories based on their needs, traits, or behavior (Tolmay & Badenhorst, 2015). Stratifying an organization's supplier base allows one to create a collaborative relationship by segmenting the suppliers into manageable groups (Tolmay & Badenhorst, 2015). It also allows the buyer to decide on the type of relationship to develop with various suppliers basing on their specializations in the supplier base (Hamad, 2020).

### **2.3.2.3 Supplier Development**

It refers to efforts performed by a purchasing firm to improve the capabilities of a supplier in order to meet the company's supply needs (Ochieng, 2014).



In order to ensure that the company meets its goals, the buying firm is usually involved in supplier development initiatives. This method can be bolstered even further by utilizing the experience of the buying organization to expand the supplier's capabilities, to increase quality of products and services (Wangechi, 2013).

#### **2.3.2.4 Supplier Training**

According to Kiarie (2017), supplier training is addition of knowledge to suppliers through spending resources on scheduling innovation workshops and quality improvement seminars. In order to ensure total procurement performance, it is critical to monitor supplier performance during the contract time. Businesses must track suppliers' performance in real time and keep them informed about how they might improve.

Supplier training measures include providing training resources, innovation workshops, and quality improvement seminars. A good supplier training approach gives suppliers feedback on how to improve their performance (Kiarie, 2017). Suppliers not only aid with innovation but also with achieving highly efficient production processes. Improving supplier performance through training programs contributes to the overall performance success as well as perceived gains in procurement performance.

#### **2.4 Empirical Literature Review**

This section contains literature reviewed by scholars on effect of supplier evaluation, segmentation, development and training on procurement performance.

### **2.4.1 Supplier Evaluation and Procurement Performance**

A study on the role of buyer supplier relationship on supply chain performance of Kenyan state corporation's organizations: a case study of the Kenyan Tea Development Agency involving a sample of 56 respondents. (Waithira, Mwangi & Shale, 2018). The findings based on the majority implied that supplier evaluation had a positive effect as it improved procurement performance in the Kenyan Tea Development Agency.

Similarly, from a study by Wachiuri, (2015), on influence of supplier evaluation on procurement performance of state corporations in Kenya, using a cross-sectional research design on a sample of 187 respondents, supplier evaluation was measured through; supplier capacity, supplier financial viability, supplier competence, and quality delivery while procurement performance measured by customer satisfaction and lead time. It was evident that supplier evaluation had a significant positive effect on procurement performance.

According to a study by Oromo and Mwangangi (2017) on the effect of supplier development on procurement performance in the public sector in Kenya: a case of Kenya Electricity Generating Company Limited (Kengen), using descriptive research design based on a sample of 160 employees indicated that supplier evaluation led to increased organizational performance due to increased profitability. The findings of the study proved that the organization usually conducts supplier visits to assess and evaluate their suppliers regularly. This led to increased procurement performance. A study by Kamenya (2014) on supplier evaluation and performance of food and beverage firms in Nairobi used a target population of 46 and found that supplier evaluation had a significant positive relationship with procurement performance of the organization.

The study measured supplier evaluation using price, employees' capabilities and environmental friendliness, and procurement performance was measured through profitability. A study conducted by Kiarie, (2017) on the influence of supplier relationship management practices on the operational performance of large manufacturing organizations in Kenya, established that supplier evaluation had a significant negative effect on procurement performance. The units of measurement for supplier evaluation were quality financial ability, supplier capability, technical capability and lead time, while procurement performance measures were customer satisfaction, production efficiency, and improved quality.

#### **2.4.2 Supplier Segmentation and Procurement Performance**

In a study by Waithira (2018) who used a cross-sectional research design on a population sample of 222 manufacturing firms in Nairobi. Findings depicted that supplier segmentation had a significant positive effect on the procurement performance of the firm; hence recommended that firms should incorporate supplier relationship management practices like supplier segmentation to improve procurement performance.

This was in line with Muema (2016) who studied supplier relationship management strategies and procurement performance of sports Kenya on a target population of 25 procurement officers and measured supplier segmentation through collaborative suppliers, transactional suppliers, and strategic suppliers, and the findings depicted that supplier segmentation had a significant positive relationship with procurement performance whose unit of measurement was costs, price, and quality.

Ndunge and Mburu (2017) did a case study on the role of supplier relationship on procurement performance in the public sector in Kenya, of the ministry of East Africa affairs commerce using

a population sample of 135 respondents measuring supplier segmentation through cost, improved service and competitive advantage, procurement performance was measured by customer satisfaction, efficiency and effectiveness and findings affirmed that supplier segmentation had a significant positive effect on procurement performance. Studies by Waithira (2018), Ndunge and Mburu (2017), and Muema (2016) contradict the study carried out by Kiarie, (2017) who investigated the influence of supplier relationship management practices on the operational performance of large manufacturing organizations in Kenya. Data having been collected from 60 manufacturing firms and Kenya's tea industry being one of them, the findings affirmed that supplier segmentation had an insignificant negative effect on procurement performance.

From a study done by Cherop, Iravo and Lagat (2017), on assessment of the effect of supplier relationship management strategies on procurement performance: A case study of Almasi Beverages Limited. Using a descriptive research design on a target population of 426 respondents found that supplier segmentation had significant positive effect on procurement performance. Another study done by Fatema (2017) on the effect of supplier relationship management on operational performance of hotels in Mombasa County, Kenya. Using a census survey research design on 42 firms found that supplier segmentation had insignificant positive effect on operational performance of the hotel.

### **2.4.3 Supplier Development and Procurement Performance**

A study by Kiarie (2017) on the Influence of supplier relationship management practices on the operational performance of manufacturing firms in Kenya found that the most commonly used supplier relationship management practice was supplier development.

A correlation analysis was conducted, and it was evident that supplier development had a significant positive relationship with the firm's performance. An increase in supplier development led to an increase in the firm's performance thereby proving that there was a statistically significant relationship. According to a study by Ochieng (2014), on effect of supplier development on organizational performance, found out that supplier development had a significant positive relationship with organizational performance.

According to Abdallah, Ayman & Khaled (2014), a study on the impact of supplier relationship management on the competitive performance of manufacturing firms in Japan, Korea, the United States of America, and Italy using secondary data, it was found out that supplier development had an insignificant positive effect on procurement performance of the organization. Supplier development was ranked the most important and widely practiced hence leading the researcher to a conclusion that buying firms need to improve on their competitive edge by effectively managing relationships with suppliers since companies cannot only depend on their internal capabilities to achieve better procurement performance.

In contradiction, Addae (2015) from Ghana found out that the idea of adopting few suppliers for supplier development did not have a positive effect on procurement performance. The units of measurement for supplier development included financial support, supplier visits, and technical support, while procurement performance was measured by profitability, productivity, and cost reduction.

#### **2.4.4 Supplier Training and Procurement Performance**

Kemunto (2017) assessed the factors affecting supplier management on procurement performance, a case study of Ogembo Tea factory company, Kisii County, on a target population of 50 respondents.

The findings revealed that supplier training had a significant positive effect on financial performance though it was practiced to an average extent. According to a study by Wabombaba (2018) on assessing supplier development practices and operational performance of sugar firms in Kisumu County, Kenya. The study covered three sugar firms, and the findings recorded that there was a higher positive and significant relationship between operational performance and supplier training.

Similarly, a case study by Wachiuri (2015), on the role of supplier development on organizational performance of manufacturing industry in Kenya, of East Africa Breweries Limited found that supplier training did not influence organizational performance though it is an important factor. The training was not properly funded by the organization as the respondents stated that it had no significant relationship with organizational performance. A study Adesanya (2020) on improving sustainable performance through supplier relationship management in the Tobacco industry found out that there existed no training for sustainable procurement performance since the organization expects suppliers to operate at the level the buying firm desires or stop dealing in business with them. The respondents further stated that avoiding spending money or resources on training the tobacco company validates the suppliers and ensures that they are fit for the purpose.

## 2.5 Critique and Research Gaps

From the reviewed literature it is evident that several studies on SRM practices and procurement performance have been conducted in Kenya and other parts of the world. However, the focus was on different industries, methodology and conflicting findings as shown in Table 2.1.

**Table 2.1: Critique and Research Gaps**

Author	Research Topic	Findings	Research Gaps	How the current study seeks to fill the Gaps
<b>Waithira, Mwangi &amp; Shale (2018)</b>	The role of buyer supplier relationship on supply chain performance of Kenyan State corporations' organizations	Supplier evaluation had a significant positive effect on supply chain performance	Target population was 56 respondents It was a case study Scope was state corporations	The current study used a population of 95 respondents The current study employed a cross sectional research design The scope was Nandi County tea processing firms
<b>Wachiuri (2017)</b>	Effects of supplier development on procurement performance in public sector in Kenya : A Case study of Electricity Generating Company Limited (KENGEN)	supplier evaluation have a significant effect on procurement performance	The study was conducted in Electricity Generating Company Limited It was a case study Used a descriptive research design	The present study established effect of supplier relationship management practices and procurement performance The study took place in Tea processing firms. The study adopted a cross sectional research design.

<b>Kamenya (2014)</b>	Supplier evaluation and procurement performance of beverage firms in Nairobi	Supplier evaluation had a significant positive relationship with procurement performance	The study was conducted in food and beverage firms in Nairobi Target population was 46 respondents	The study took place in Nandi County in tea firms Target population was 95 Supplier evaluation had significant negative effect on procurement performance
<b>Kiarie (2017)</b>	Influence of Supplier relationship management practices on operational performance of large manufacturing firms	Supplier evaluation had a significant negative effect on procurement performance	Procurement performance was measured through customer satisfaction and production efficiency The study took place in manufacturing firms	Procurement performance was measured through cost level. The study took place in tea processing firms



<b>Ndunge &amp; Mburu 2017</b>	Roles of supplier relationship procurement performance in the public sector in Kenya	Supplier segmentation had insignificant positive effect on procurement performance.	The research was carried out in public sector of ministry of East Africa Affairs Commerce. Population sample was 135 Procurement performance was measured through improved satisfaction, efficiency and effectiveness.	The study was conducted in Nandi County in tea processing firms. The target population was 95 respondents. Supplier segmentation had a significant positive effect on procurement performance measured through cost level.
<b>Mburu, (2017)</b>	Influence of supplier relationship management practices on procurement performance of large manufacturing firms	Supplier segmentation had insignificant negative effect on procurement performance	The study was conducted in 60 firms	The study was done in 8 tea processing firms. Supplier segmentation had a positive significant effect on procurement performance.
<b>Ochieng (2014)</b>	Effect of supplier development On organizational performance	Supplier development had a significant effect on organizational performance	The study took place in manufacturing firms	The current study analyzed effect of supplier relationship management practices on procurement performance of tea processing firms
<b>Abdallah, Ayman and Khaled (2014)</b>	Impact of supplier relationship management on competitive performance of manufacturing firms in	Supplier development had significant positive effect on competitive performance	The study used secondary data The study was conducted in 1 <sup>st</sup> world countries with stable economies	The study used both primary and secondary data. The study was conducted in Kenya. The findings of the study indicated an insignificant effect

<b>Kemunto (2017)</b>	Japan, Korea, United States and Italy Factors affecting supplier management and procurement performance: Case study of Ogembo Tea Factory Company, Kisii County	Supplier training had significant positive effect on procurement performance	The study was conducted in Kisii at Ogembo Tea Factory. The study used a case study research design. Used 50 respondents.	of supplier development on procurement performance The study used a target population of 96 respondents The study was conducted in 8 tea processing firms in Nandi County, Kenya
<b>Wabombaba (2018)</b>	Supplier development practices and operational performance of sugar firms in Kisumu County, Kenya	Supplier training had a significant positive effect on performance of sugar firms	The study was conducted in sugar firms. Dependent variable was operational performance	The study was conducted in Tea processing firms with dependent variable as procurement performance.
<b>Wachiuri (2015)</b>	Role of supplier development on organizational performance of manufacturing firms in Kenya.	Supplier training had no significant effect on organizational performance	The dependent variable was organization performance, The study was done in Kenya East Africa Breweries Limited.	The dependent variable was procurement performance The study was carried in tea processing firms in Nandi County, Kenya.
<b>Adesanya (2020)</b>	Improving sustainable performance through supplier relationship management in Tobacco industry	Supplier training had significant negative effect on procurement performance	The study was conducted in Tobacco industry	The current study was carried out in Tea industry

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter discussed research philosophy, research design, the target population, sampling technique, data collection tools, data collection procedure, reliability, validity, data processing, analysis, presentation and ethical consideration.

#### **3.2 Research Philosophy**

Research philosophy explains the world view and focuses on knowledge and reality. An individual's understanding of reality affects the whole research process. Thus, the study was guided by positivism research philosophy that states that the phenomena being investigated leads to dependable data construction. Positivism allows the researcher to develop and test hypotheses using quantitative statistical techniques. Positivists hold the belief that there is stability in reality; thus, the phenomenon being examined can be observed from an objective point of view (Holden, 2004).

Positivism research philosophy was the most suitable philosophy as data collected was both qualitative and quantitative. This study involved hypothesis testing while analysis was both descriptive and inferential. The hypotheses were tested through p – values obtained from the results of the regression model as it is an appropriate measure for accepting and rejecting the null hypotheses.

#### **3.3 Research Design**

The study used a cross-sectional research design as it allows description of a phenomenon observed through data collection at a given time and measures the existing relationship between

two variables (Mugenda & Mugenda, 2013). Research design is the structure of the study carried out (Newing, 2011).

### **3.4 Target Population**

Population is a set of respondents from whom information is obtained. Participants in a population group must share common visible features (Kothari, 2014). The target population of the study was 96 respondents, as in Table 3.1. The targeted respondents were procurement officers, logistics managers, quality assurance officers and finance officers. The 96 respondents were selected by interviewing all the participants in each department.

**Table 3.1: Target Population**

Department	Factory								Total
	Williamson Tea Limited	Eastern Produce Kenya	Chepkumia	Emrok	Chebut	Kaptumo	Kipchabo	Nandi Tea Estates	
Procurement	3	3	3	4	3	3	2	5	26
Logistics	2	2	2	2	2	2	2	2	16
Finance	4	3	4	4	4	4	3	4	30
Quality Assurance	2	2	4	2	4	4	2	4	24
<b>Total</b>	<b>11</b>	<b>10</b>	<b>13</b>	<b>12</b>	<b>13</b>	<b>13</b>	<b>9</b>	<b>15</b>	<b>96</b>
Percentage (%)	11.46	10.42	13.54	12.50	13.54	13.54	9.37	15.63	100.00

**List of registered tea manufactures in Nandi County****Source: Tea Board of Kenya, 2021**

### **3.5 Sampling Technique**

The study used a census sampling technique since data was collected from all the targeted officers in the respective tea firms and it was statistically insignificant to divide the population. The tea processing firms are major tea companies hence more likely to embrace supplier relationship management practices. Sampling is a procedure of picking out respondents from the entire population for data collecting (Mugenda & Mugenda, 2012).

### **3.6 Data Collection Instruments**

Primary data was collected by structured questionnaires. Questionnaires were considered as the most appropriate tool since they are easy to administer guarantees confidentiality of the respondents as the respondents answer questions without writing their names (Yang, 2013). Questions were closed ended for the purpose of providing accurate data to fulfil the requirements of the study objectives and to enable respondents to respond without restriction. The closed-ended questions were based on a five-point Likert scale to facilitate easy coding into the SPSS software for analysis and interpretation.

### **3.7 Pilot Study**

A pilot is a feasibility study conducted to test data collection instruments in preparation of the entire study. (Kothari, 2014). A pilot study was conducted at Sisibo Tea Factory Limited located in Elgeyo Marakwet County since the firm had similar characteristics with Nandi tea factories where ten questionnaires were distributed to 10% of the entire sample. Sisibo Tea Factory was chosen because it is a tea processing firm that has consistently recorded losses and experienced strikes from suppliers due to inconsistent fluctuation in leaf count and prices per kilogram of

plucked tea. The purpose was to ensure that everyone in the sample understood the questions in the same way (Mugenda & Mugenda, 2012).

### **3.7.1 Reliability**

Reliability is the level to which a research tool can be based to produce consistent results every time it is used (Mugenda & Mugenda, 2012). The greater the value, the more reliable the instrument. The reliability of coefficient of 0.7 and above was the most accepted as the best measure of reliability (Mugenda & Mugenda, 2012). To determine reliability level of pilot test items, 10 questionnaires were sent to respondents at Sisibo Tea Factory. Their responses were analysed and the reliability test produced. Cronbach's Alpha was determined which explained the consistency in measuring the effect of SRM practices on procurement performance.

### **3.7.2 Validity**

The study used both content and construct validity since it involves judgment and quantification when evaluating the performance of the research instruments. Kothari (2014) refers to validity as the degree to which a research instrument measures what is alleged to measure. Data collection instruments were subjected to supervisors who checked whether the questionnaires included an adequate set of items that tapped the concept.

## **3.9 Data Collection Procedure**

Each section of the questionnaires referred to the specific objectives. Data was collected from procurement, logistics, quality assurance and finance departments. The questionnaires were distributed using drop and pick method to enhance minimal interactions with respondents. To ensure higher response rate, an introduction letter was obtained which explained the purpose of the study and assuring respondents of their confidentiality.

Telephone calls were made to specific managers and head of departments for appointments and increasing response rate. Lastly, secondary data was extracted from document analysis and was used to analyze the dependent variable.

### **3.8 Data Analysis, Presentation and Discussion**

Data was analyzed using multiple linear regression model and presented in form of tables and percentages since they are easy to interpret and understood in their forms (Mugenda & Mugenda, 2012). Data was coded using SPSS version 24 through multiple regression analysis based on model 3.1.

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

#### **Model 3.1 Regression model**

Where:

$Y$  = Procurement Performance of tea processing firms (Measured by cost levels)

$\alpha$  = Constant Term

$\varepsilon$  = error term

$\beta_i, i = 1, 2, 3, 4$  = Beta coefficients

$X_1$  = Supplier evaluation

$X_2$  = supplier segmentation

$X_3$  = supplier development

$X_4$  = supplier training



### **3.8.1 Diagnostic Tests**

#### **3.8.1.1 Normality**

The normality test is a test carried out to determine whether the residual confounding variable in the regression model has a normal distribution. The study carried out Jaque Bera Test to see whether the residuals were normally distributed. When the p values for chi square joint test are less than 0.05 the null hypothesis is rejected.

#### **3.8.1.2 Multicollinearity**

Multicollinearity is correlation of independent variables in a regression model. Linear regression models are also based on the assumption that the independent variable is not multicollinear. This assumes that no independent variable can be expressed as a linear function of another independent variable. Multicollinearity was tested using variance inflation factor.

#### **3.8.1.3 Autocorrelation**

Durbin Watson is a regression autocorrelation measure with a value ranging from 0 to 4. Values between 2 and 4 indicate negative autocorrelation, while values between 2 and 4 indicate positive autocorrelation. A figure of 2 indicates that no auto correlation exists

#### **3.8.1.4 Heteroscedasticity**

The Breusch Pagan (BP) test was used to assess the linear regression assumption that the model's residues are not heteroscedastic but homoscedastic through chi square probabilities where p-values less than 0.05 leads to rejection of the null hypotheses.

**Table 3.2: Measurement of Variables**

<b>Variable</b>	<b>Indicators</b>	<b>Measurement</b>	<b>Tools of analysis</b>
Supplier Evaluation	Timely deliveries of products Quality of products Financial capabilities of suppliers	5 point Likert scale of three sub variables and a composite of 8 questions	Table, percentages correlation and multiple linear regression analysis
Supplier Segmentation	Raw material suppliers Component products suppliers Finished goods suppliers	5 point Linkert scale of three sub variables and composite of 8 questions	Tables, percentages, correlation and multiple linear regression analysis
Supplier Development	Supplier incentives Supplier visits Technical support	5 point Likert Scale of 3 sub variables composed of 9 items in the	Tables, percentages, Pearson product moment correlation and Regression and frequencies
Supplier Training	Training resources Innovation workshops Quality improvement seminars	5 point Linkert scale with 7 items on the three sub-variables	Tables, percentages, Pearson product moment correlation and Multiple linear regression analysis
Procurement Performance	Cost level	Secondary Data	Means correlation and regression analysis

### 3.9 Ethical Consideration

Approval letter was obtained from the Directorate of Graduate Studies. A research permit was also obtained from National Commission for Science Technology and Innovation (NACOSTI).

Permission was granted from the administration of respective tea firms while consent and confidentiality from respondents was sought through informed consent letter to the respective tea processing firms. Respondents were assured of security of the data provided that it was strictly used for academic purpose and unauthorized people were not allowed to access the information provided.

## CHAPTER 4

### RESEARCH FINDINGS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the findings and discussion of the analysis in line with the study objectives.

#### 4.2 Reliability

The findings in Table 4.1 shows that Cronbach's Alpha of the study variables was 0.832 which was greater than 70% thus indicating that the instruments were reliable.

**Table 4.1: Reliability Table**

<b>SRM practices</b>	<b>Cronbach's Alpha</b>	<b>Items</b>	<b>Results</b>
Supplier Evaluation	0.762	9	Reliable
Supplier Segmentation	0.886	8	Reliable
Supplier Development	0.785	9	Reliable
Supplier Training	0.894	7	Reliable
Procurement performance	0.832	8	Reliable

#### 4.3 Validity Test

Construct validity was tested using KMO and Bartlett's test of Sphericity to determine inter-correlation between the variables under study before computing confirmatory factor analysis. Kaiser- Mayer- Olkin and Bartlett's test were used to measure construct validity. For KMO test the value has to be greater than 0.5 for factor analysis to be carried out. The results of the SPSS in Table 4.2 indicated that all KMO value were greater than 0.5 thus leading to a recommendation of the factor analysis. Bartlett's value for Chi square was 30.738 with a significance value of 0.001 thus the research instruments were recommendable.

**Table 4.2: KMO and Bartlett's Test**

Construct	No of Items	AVE	KMO	Bartlett's test of Sphericity		
				$\chi^2$	Df	P-value
SE	8	0.520	0.562	34.856	15	0.000
SS	9	0.592	0.702	26.072	14	0.001
SD	9	0.658	0.628	29.810	14	0.002
ST	7	0.522	0.685	32.211	15	0.000
PP	8	0.573	0.694	30.738	15	0.001

#### 4.4 Response Rate

In this study 96 questionnaires were distributed to the respondents through drop and pick method. Out of the targeted 96 respondents, 83 respondents filled and returned the questionnaires. Therefore, the response rate was 86.5% as in Table 4.3. According to Kothari, (2014) a response rate of 70% and above is impressive and recommended for generalization of study findings to a larger population.

**Table 4.3: Response Rate**

Response	Frequency	Percent (%)	Cumulative percentage (%)
Responsive	83	86.5	86.5
Unresponsive	13	13.5	100
Target	96	100.0	

#### 4.5 Nature and magnitude of supplier relationship management practices

Table 4.4 presents the findings on the most practiced SRM practices. Out of 83 respondents 30 (36.1%) indicated that supplier evaluation was practiced, 12 (14.5%) affirmed that supplier segmentation was practiced, 15 (18.1%) indicated supplier development was practiced and 26 (31.3%) affirmed that supplier training was being conducted.

Therefore, majority of the respondents stated that supplier evaluation was the most practiced SRM practice at 36.1%. These indicated that tea processing firms in Nandi County had embraced SRM practices and that the findings are similar to those of Waithira, Mwangi and Shale, (2018), who conducted a study on supplier relationship management practices and procurement performance.

**Table 4.4: Most Practiced Supplier Relationship Management Practices**

<b>Supplier relationship management practices</b>	<b>Frequency</b>	<b>Percent (%)</b>
Supplier Evaluation	30	36.1
Supplier Segmentation	12	14.5
Supplier Development	15	18.1
Supplier Training	26	31.3
<b>Total</b>	<b>83</b>	<b>100</b>

#### **4.6 Initiator of Supplier Relationship Management Practices**

Table 4.5 shows the initiator of SRM practices among the tea firms in Nandi, County. The findings indicated that procurement heads 35 (42.2%), are the initiators of SRM practices, 20 (24.1%) indicated board of directors initiates SRM practices, 21 (25.3%) said SRM practices are initiated by chief officers and lastly 7 (8.4%) indicated finance heads initiate SRM practices. From the findings it was evident that most of the respondents indicated that SRM practices were initiated by the procurement heads since procurement department plays a strategic role in business growth hence there is need for supplier relationship management. These findings are similar to those of Wachiuri (2017) who conducted a study on influence of supplier evaluation on procurement performance of state corporations in Kenya and found that SRM practices were initiated by procurement heads.

**Table 4.5: Initiator of Supplier Relationship Management Practices**

Initiator of SRM practices	Frequency	Percent (%)
Procurement Heads	35	42.2
Board of Directors	20	24.1
Chief Officers	21	25.3
Finance Heads	7	8.4
<b>Total</b>	<b>83</b>	<b>100</b>

#### **4.7 Descriptive Statistics**

##### **4.7.1 Supplier Evaluation and Procurement Performance**

Table 4.6 contains responses on effect of supplier evaluation on procurement performance.

**Table 4.6: Effect of supplier evaluation on procurement**

Statement	SA	A	N	D	SD
	N %	N %	N %	N %	N %
1. Evaluation of suppliers affects procurement performance.	36 (43.4%)	35 (42.2%)	7 (8.4%)	2 (2.4%)	3 (3.6%)
2. Suppliers ensure shorter lead times.	26 (31.3%)	29 (34.9%)	13 (15.7%)	9 (10.8%)	9 (10.8%)
3. Evaluation of shorter lead times affects procurement performance	30 (36.1%)	32 (38.5%)	7 (8.4%)	7 (8.4%)	7 (8.4%)
4. The organization evaluates its suppliers basing on compliance to quality.	18 (21.7%)	39 (47.0%)	9 (10.8%)	3 (3.6%)	14 (16.9%)
5. Evaluation of conformance to quality by suppliers affects cost levels.	21 (25.3%)	33 (39.8%)	10 (12.0%)	6 (7.2%)	13 (15.7%)
6. Suppliers are evaluated based on their financial capabilities.	17 (20.5%)	34 (41%)	11 (13.3%)	7 (8.4%)	14 (16.9%)
7. Evaluation of suppliers financial capabilities affects cost levels.	20 (24.1%)	25 (30.1%)	13 (15.7%)	9 (10.8%)	16 (19.3%)

#### 4.7.1.1 Evaluation of Suppliers and Cost Level

Respondents were asked their opinion on whether evaluation of suppliers affects cost level. Results in Table 4.6 indicate that 71 (42.2%) agreed while 12 (14.4%) disagreed, that supplier evaluation had an effect on cost level. From the response, majority of the respondents agreed indicating that, most of tea processing firms in Nandi County are able to select most responsive and competent suppliers are through evaluation of their financial capabilities and lead times. Thus the tea firms



should improve on their supplier evaluation processes to enable the firms in structuring the supplier base and improving the efficiency of the supply chain and gaining the utmost value from their suppliers.

#### **4.7.1.2 Suppliers Ensure Shorter Lead Times**

Respondents were required to state whether their suppliers ensure shorter lead times. In Table 4.6, it was evident that, 55 (62.7%) agreed while 31 (37.3%) respondents disagreed that suppliers ensure shorter lead times. This was an implication that, tea processing firms in Nandi are able to avoid supply delay, which could negatively affect procurement performance, contractor dependencies, and cost efficiencies across the board.

The few respondents who disagreed that suppliers do not ensure shorter lead time was an indication that some tea processing firms in Nandi County do not adhere to shorter lead time as longer lead times can put an immediate halt on tea processing firms as factory operational managers may lack the components needed to complete production of tea. Stopping the production line puts tea processing firms behind on completing customer requests, creating another situation of having limited stock and incase a particular market experiences growth authorized distributors of processed tea may be unable to keep up with demand, this puts tea factories behind on their production demand for customers and their suppliers.

#### **4.7.1.3 Evaluation of Shorter Lead Times and Procurement Performance**

Respondents were expected to say if evaluation of shorter lead times affects procurement performance. Table 4.6 findings shows that, 62 (74.7%) agreed while 21 (25.3%) disagreed that shorter lead times has an effect on cost level. Most of the respondents agreed on effect of shorter lead time on cost procurement performance.

This is an indication that shorter lead times in tea processing firms increases output which in turn increases sales and enhance customer satisfaction. These findings were similar to those of Oromo and Mwangangi, (2017) who studied effect of supplier relationship management on procurement performance in public sector in Kenya. Their findings recorded that evaluation of lead time affected procurement performance.

#### **4.7.1.4 Evaluation of Suppliers Basing On Quality Compliance**

Respondents were expected to state whether their firms evaluate suppliers basing on quality compliance. Table 4.6 findings affirms that, 57 (68.7%) agreed while 26 (31.3%) disagreed that the organization evaluates its suppliers basing on quality of products. Majority of the respondents agreed that organizations evaluates their suppliers basing on quality compliance. This was an implication that majority of tea processing firms in Nandi County evaluate their supplier on quality compliance basis and that they are likely to have improved efficiencies, added value to their products and get best contracts in terms of quality, costs, flexibility, low-risk sources of high-quality goods through mutually beneficial, long-term business.

Respondents who disagreed implied that some tea processing firms do not evaluate their suppliers basing on quality as procurement function of some tea processing firms may not be able to understand supplier's practices and processes and they may be exposed to increase monetary and time costs. These costs may involve costs associated with additional inspection, extra freight charges, and obsolete inventory. The results were similar to those of Kiarie, (2017) who found that most of the respondents indicated that suppliers were evaluated based on quality of products.

#### **4.7.1.5 Evaluation of Conformance to Quality by Suppliers and procurement performance.**

The respondents were expected to indicate whether evaluation of conformance to quality by suppliers affect procurement performance. Table 4.6 shows the level of evaluation of conformance to quality by suppliers and its effects on cost level in the procurement function. From the findings, 54 (65.1%) respondents agreed while 29 (34.9%) disagreed that conformance to quality by suppliers affects cost level of the procurement function.

The majority who agreed implies that most of tea processing firms in Nandi County are able to minimize operational costs and enhances value of products through evaluation of suppliers basing on compliance to quality. Such tea firms will be able to provide a third-party perspective to the supplier through the supplier evaluation process and this might lead to better collaboration that will enhance cost reduction and better delivery times. The results were in line with Kamenya, (2014) who found that evaluation of conformance to quality by suppliers affects cost level of the procurement function.

#### **4.7.1.6 Evaluation of suppliers Based On Their Financial Capabilities**

Respondents were asked to say whether their firms evaluate suppliers based on their financial capabilities. In Table 4.6 the results revealed that 51 (61.3%) respondents agreed while 32 (38.7%) respondents disagreed that suppliers are evaluated based on their financial capabilities. The majority who agreed implied that most of tea processing firms are able to minimize uncertainties caused due to third parties involvement.

By measuring supplier performance using financial capabilities tea processing firms can be able to set a threshold for its supplier that can lead to higher-quality output through evaluation of

suppliers based on their financial capabilities. With supplier evaluation, most of tea processing firms in Nandi County can be in a position to plan better on new products and services based on understanding of their suppliers' capabilities and performance levels in other companies. This corresponds to Kamenya, (2014) who found that suppliers were evaluated basing on their financial capabilities.

#### **4.7.1.7 Evaluation of Suppliers' Financial Capabilities and Procurement Performance**

From the results in Table 4.6 it was revealed that, 45 (54.2%) respondents agreed while 38 (45.8%) disagreed that financial capabilities of suppliers affect procurement performance measured by cost level. The majority who agreed implied that tea processing firms in Nandi County select suppliers with financial and business stability to increases the likelihood of long term partnership to be able to offer long-term relationships, quality products and development services. Evaluation of financial capabilities enables tea processing firms to carry out their functions and avoid similar experiences of failure to complete contract with previous suppliers that may be costly due to supplier switching costs. The results were in line with Oromo and Mwangangi, (2017) who found that supplier evaluation had an effect on procurement performance.

#### **4.7.2 Supplier Segmentation and Procurement Performance**

Table 4.7 contains information on effects of supplier segmentation on procurement performance.

**Table 4.7: Effect of supplier segmentation on procurement performance**

<b>Statement</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
	<b>N %</b>	<b>N %</b>	<b>N %</b>	<b>N %</b>	<b>N %</b>
1. Categorizing suppliers into Raw material suppliers has an effect on cost level.	20 (24.1%)	26 (31.3%)	13 (15.7%)	9 (10.8%)	15 (18.1%)
2. Raw material suppliers supply on a continued basis.	20 (24.2%)	37 (44.6%)	10 (12.0%)	6 (7.2%)	20 (24.1%)
3. Component suppliers are segmented based on quality.	20 (24.1%)	32 (38.6%)	5 (6.0%)	10 (12.0%)	16 (19.3%)
4. Collaboration of component suppliers with the firm has an effect on cost level.	22 (26.5%)	33 (39.8%)	9 (10.8%)	3 (3.6%)	17 (20.5%)
5. Finished products are grouped according to homogeneous usage.	18 (21.6%)	29 (34.9%)	12 (14.5%)	12 (14.5%)	12 (14.5%)
6. Grouping finished products suppliers into their homogeneous usage has an effect on cost level.	19 (22.9%)	29 (34.9%)	12 (14.5%)	12 (14.5%)	11 (13.3%)
7. Collaboration of finished products suppliers with the firm has an effect on cost level.	25 (30.1%)	23 (27.7%)	15 (18.1%)	5 (6.0%)	18 (21.7%)
8. Finished products suppliers determine the cost level.	19 (22.9%)	26 (31.3%)	18 (21.7%)	7 (8.4%)	13 (15.7%)

#### **4.7.2.1 Categorizing Suppliers into Raw Material Suppliers and Procurement Performance**

Respondents were expected to state if categorizing suppliers into raw material suppliers affect procurement performance. According to the findings, in Table 4.7, 46 (55.4%) respondents agreed that supplier segmentation affects procurement performance while 37 (44.6%) disagreed that supplier segmentation does not affect procurement performance. The majority of the respondents who agreed implies that most of tea factories in Nandi County group their supplier into raw material suppliers. This enables their procurement functions to align their activities with the goals and objectives of the business through innovation and continuous improvement.

Through segmenting suppliers into raw material tea firms in Nandi County are able to build sustainable partnerships with their strategic suppliers to obtain the best value possible through minimum costs. The findings correspond to those of Kiarie, (2017) who conducted a study on the role of supplier relationship management practices on procurement performance. The findings based on the majority affirmed that supplier segmentation had insignificant positive effect on procurement performance.

#### **4.7.2.2 Raw Material Suppliers Supply on a Continued Basis**

As shown in Table 4.7 57 (68.6%) strongly agreed that raw material suppliers supply on a continued basis while 36 (43.4%) disagreed. The majority who agreed was an indication that most tea processing firms in Nandi County are supplied with farm inputs and raw material in form of tea leaves and other production inputs on a continued basis, hence the firms are able to reduce costs associated with failure to deliver and loss of customers.

The few who disagreed indicated that, their firms are endangered to technical shutdown due to lack of enough production input which is dangerous as this may increase production time and lead to losses that may affect the overall procurement performance of their firms. The results were similar to those of Waithira, (2018) and Muema, (2017) who found that most of the respondents agreed that raw materials suppliers supplied on a continued basis.

#### **4.7.2.3 Segmentation of Component Suppliers Based on Quality**

Respondents were asked to give their opinion on segmenting suppliers based on quality. In Table 4.7, 52 (62.7%) agreed while 31 (37.3%) disagreed that component suppliers were segmented based on quality. Basing on the findings, majority of the respondents agreed that component suppliers were segmented based on quality. This was an implication that most of tea processing firms in Nandi County segment their suppliers based on quality hence their suppliers are able to conform to required specifications and standards on quality of products and also encourages suppliers to foster excellence and better service delivery (Ndunge & Mburu, 2017). The few who disagreed implied that some few tea firms in Nandi County are not sure on whether their suppliers supply component goods basing on quality thus their firms are likely to receive poor quality products from suppliers

#### **4.7.2.4 Collaboration of Component Suppliers with the Firm and Performance**

Respondents gave their views on collaboration of component suppliers with the firm and procurement performance. According to the findings in Table 4.7, 55 (66.3%) agreed while 28 (33.7%) disagreed. This implied that most of the tea processing firms in Nandi County collaborate with component suppliers for mutual benefits which in turn lowers cost level as it is easier for negotiation on price of goods and services and supply conditions.

Collaborating with component suppliers may lead to effective time utilization in enhancement of buyer supplier relationships. The results were similar to Kiarie, (2017) who conducted a study on influence of supplier relationship management practices on procurement performance of manufacturing firms.

#### **4.7.2.6 Grouping Finished Products Suppliers Into Their Homogeneous Usage and Cost Level.**

Respondents gave their views on whether grouping finished product suppliers to their homogeneous groups affect procurement performance. The findings in Table 4.7 showed that, 47 (66.7%) agreed while 36 (43.3%) respondents disagreed that grouping finished products suppliers into their homogeneous usage has an effect on cost level. Majority of the respondents strongly agreed grouping finished products suppliers into their homogeneous usage has an effect on cost level. This was an implication that most of tea firms in Nandi County segment their suppliers basing on homogeneous usage and thus the specific tea factories are able to identify value creating suppliers to enhance procurement performance (Addae, 2015).

#### **4.7.2.7 Collaboration Of Finished Products Suppliers With The and Cost Level.**

In Table 4.7 the findings recorded that, 45 (57.8% agreed while 38 (42.2%) disagreed that collaboration of finished products suppliers with the firm has an effect on cost level. From the findings most of the respondents agreed that collaboration of finished products suppliers with the firm has an effects procurement performance. An indication that most of tea processing firms in Nandi County collaborate with their finished goods suppliers thus they are in a position to reduce internal operational cost and achieve competitive advantage in tea processing firms (Chen, 2011). (Omondi & Langat, 2019).



### 4.7.3 Supplier Development and Procurement Performance

Table 4.8 contains responses on effect of supplier development on procurement performance of tea processing firms in Nandi, County.

**Table 4.8: Effect of supplier development on procurement performance**

<b>Effect of development on procurement performance</b>	<b>SA N (%)</b>	<b>A N (%)</b>	<b>N N (%)</b>	<b>D N (%)</b>	<b>SD N (%)</b>
1. Supplier development affects cost level.	6 (7.2%)	7 (8.4%)	7 (8.4%)	50 (60.3%)	13 (15.7%)
2. Offering supplier incentives to suppliers affects cost levels.	8 (9.6%)	13 (15.7%)	13 (15.7%)	33 (39.7%)	16 (19.3%)
3. The firm supports suppliers financially	6 (7.2%)	12 (14.5%)	10 (12.0%)	35 (42.2%)	20 (24.1%)
4. Supporting suppliers financially has an effect on cost level.	4 (4.8%)	12 (14.5%)	10 (12%)	45 (54.2%)	12 (14.5%)
5. The organization offers technical support to their suppliers.	13 (15.7%)	8 (9.6%)	8 (9.6%)	42 (50.6%)	12 (14.5%)
6. Supplier technical support has an effect on cost level.	10 (12%)	9 (10.8%)	9 (10.8%)	42 (50.6%)	13 (15.7%)
7. The organization plan for supplier plant visit.	11 (13.3%)	6 (7.2%)	6 (7.2%)	42 (50.6%)	18 (21.7%)
8. Conducting supplier plant visits has an effect on cost level.	11 (13.3%)	7 (8.4%)	7 (8.4%)	40 (48.2%)	18 (21.7%)

#### **4.7.3.1 Supplier Development and Cost Level**

Respondents were to indicate whether supplier development affects procurement performance. In Table 4.8, It was noted that 63 (75.9%) respondents disagreed while 14 (24.1%) agreed that supplier development affects procurement performance. Those who disagreed was an indication that supplier development was not embraced by most of tea processing firms in Nandi County. These firms may experience technological pressures and irregular supply of quality input which cannot provide operational value that translates to higher costs, poor quality and late delivery that lowers procurement performance. The findings concur with those of Addae, (2015) who found that supplier development did not have a significant effect on procurement performance.

#### **4.7.3.2 Offering Supplier Incentives to Capable Suppliers and Procurement Performance**

Respondents were expected to say whether their firms offer supplier incentives to their suppliers. Basing on the responses in Table 4.8, 49 (59.0%) disagreed while 34 (40.9%) agreed. The results indicated that most of the respondents disagreed that, offering supplier incentives to capable supplier did not affect procurement performance as the firms had not embraced supplier development strategies. Tea processing firms that fail to support suppliers through supplier incentives cannot be able to record better procurement performance due to lack of financial strength from suppliers to enable them supply quality goods.

#### **4.7.3.3 Supporting Suppliers Financially**

Respondents were to say whether their firms support suppliers financially. Results in Table 4.8 revealed that, 55 (66.3%) respondents disagreed while 28 (33.7%) agreed, that their firms support suppliers financially.

Most of the respondents disagreed that their firms do not support suppliers financially since this may increase procurement budget on financing suppliers' capabilities. Such firms that do not support their suppliers financially may record poor procurement performance due to supply of poor quality products and longer delivery time. Respondents who agreed that their firms support suppliers financially implies that supporting key suppliers financially will boost product quality and increases the buying organization's ability to deliver high-quality and innovative products to its customers and thus reduces buyers operational costs.

#### **4.7.3.4 Supporting Suppliers Financially and Procurement Performance**

Respondents were to state whether supporting suppliers financially affects procurement performance. Findings in Table 4.8 indicated that, 57 (68.7%) disagreed while 26 (31.3%) agreed that suppliers are supported financially. From the findings, most of the respondents disagreed that supporting suppliers financially has no effect on procurement as their tea firms did not offer financial resources to suppliers an implication that such tea processing firms may miss quality contracts from capable and competent suppliers who only requires the buying firms support through partnership to deliver. The findings concur with Abdallah, (2014) where majority of the respondents disagreed that supporting suppliers financially has an effect on cost level.

#### **4.7.3.5 The Organization Offers Technical Support to Their Suppliers**

Respondents were required to indicate whether their organizations offer technical support to their suppliers. Findings in Table 4.8 shows that, 54 (65.1%) disagreed while 29 (34.9%) that their firms offer technical support to suppliers. The findings indicated that most of the respondents disagreed that firms do not offer technical support to suppliers an implication that most of tea processing firms in Nandi County do not offer technical support to their suppliers leading to poor procurement

performance. Therefore, suppliers need to be technically supported to be in a position to compete effectively in the dynamic business world. The 8 (9.6%) respondents who agreed that their firms offer technical support to their suppliers implied that their suppliers have the capability to introduce new and modified products and services thus enhancing procurement performance. These findings are in line with Abdallah (2014) and Addae (2015) whose findings indicated that supplier development had an insignificant negative effect on procurement performance.

#### **4.7.3.6 Supplier Technical Support and Procurement Performance**

Respondents were asked to indicate whether supporting suppliers technically has an effect on procurement performance. According to Table 4.8, 55 (66.3%) disagreed while 28 (33.7%) agreed that offering technical support has an effect of procurement performance. Basing on the findings most of the respondents disagreed that supplier technical support does not have an effect on procurement performance since the firms had not embraced the idea of supporting supplier's technical skills. Therefore, tea processing firms that have not put into practice supplier technical support might incur increased product and material costs hence lowering procurement performance of respective tea processing firms. The findings were similar to those of Addae, (2015) who found that offering technical support to suppliers had no effect on procurement performance.

#### **4.7.3.7 Supplier Plant Visits**

Respondents were to indicate if their firms conduct supplier visits. According to results in Table 50 (60.2%) disagreed while 23 (39.8%) agreed that the organization plan for supplier plant visit to inspect on quality of processes and procedures. Basing on the findings, most of the respondents disagreed (50.6%) that their organizations do not plan for supplier plant visit.

An indication that most of tea processing firms in Nandi County do not inspect on quality of processes and procedure as these is likely to increase additional costs to the firm and the procurement function. The few respondents who agreed that the organization plan for supplier plant visit to inspect on quality of processes and procedures implied that some tea processing firms in Nandi enable constant improvement of quality, share technology capabilities, and increase responsiveness of buying companies through supplier visits. These findings are in tandem with Ochieng and Rotich (2014) who conducted a study on effect of supplier development on organizational performance.

#### **4.7.3.8 Supplier Plant Visits and procurement performance**

In the last question on supplier development practices, respondents were to state whether supplier plant visits affect procurement performance. In Table 4.8, it was evident that, 58 (69.9%) respondents disagreed while 25 (30.1%) agreed that conducting supplier visits has an effect on procurement performance. From the findings, it is clearly outlined that most of the respondents disagreed that conducting supplier visits has no effect on procurement performance. This is an implication that most of tea processing firms in Nandi County lack clear channels of communication hence they are prone to unclear delivery schedules and inefficient logistics partners that may lead to increased cost in the supply chain. These findings were in agreement with Addae, (2015) whose findings indicated that majority of the respondents disagreed that conducting supplier visits has no effect on procurement performance.

#### 4.7.4 Effect of Supplier Training on Procurement Performance

**Table 4.9: Effect of supplier training on procurement performance**

<b>Effect of supplier training on procurement performance</b>	<b>SA N %</b>	<b>A N %</b>	<b>N N %</b>	<b>D N %</b>	<b>SD N %</b>
1. The firm has adopted supplier training programs.	27 (32.5%)	25 (30.1%)	9 (10.8%)	5 (6.1%)	17 (20.5%)
2. Supplier training programs has an effect on cost levels.	36(43.3%)	14 (16.9%)	5 (6.0%)	14 (16.9%)	14 (16.9%)
3. The organization has put in place innovation workshops.	41(49.4%)	17 (20.5%)	4 (4.8%)	7(8.4%)	14 (16.9%)
4. Best Innovative suppliers are awarded and certified.	35 (42.2%)	34 (40.9%)	6 (7.2%)	6 (7.2%)	2 (2.4%)
5. Conducting Innovation workshops has an effect on cost levels.	37 (44. 6%)	20 (24.1%)	10 (12.0%)	10 (12.0%)	6 (7.2%)
6. Quality assurance seminars are conducted.	26 (31.3%)	26 (31.1%)	13 (15.7%)	9 (10.8%)	9 (10.8%)
7. Quality assurance seminars affect cost	46 (55.5%)	19 (20.2%)	6 (7.2%)	6 (7.2%)	6 (7.2%)

##### 4.7.4.1 Supplier Training Programs

Respondents were expected to indicate whether their firms conduct supplier training programs.

The findings in Table 4.9 shows that, 52 (57.1%) agreed while 31 (42.9%) disagreed that the firm has adopted supplier training programs.

Majority of the respondents agreed that supplier training programs had been adopted by tea processing firms. This was an indication that most of the tea processing firms in Nandi County enables supplier firms to gain competitive advantage over other firms that offer the same products in the market through offering best quality to customers that in the long run leads to improving procurement performance of the buying firms. The few respondents that disagreed implies that some tea firms in Nandi County do not train their suppliers hence they might fail in offering best quality to their customers and this may have a negative effect on procurement performance of their firms for lack of competitive advantage. The findings are similar to those of Wabombaba, (2018) on assessing the effect of supplier training and operational performance of sugar firms in Kisumu County, Kenya.

#### **4.7.4.2 Supplier Training and procurement performance**

Respondents were expected to rate whether supplier training affects procurement performance. Results in Table 4.9 showed that 50 (60.2%) agreed, while 33 (39.8%) disagreed that supplier training has an effect on procurement performance. From the findings it was clearly evident that majority of the respondents agreed that supplier training had an effect on procurement performance. The majority who agreed implies that tea processing firms that has put in place supplier training appropriate tools and human intelligence ensures more focus is put on areas that are successful in improving the organizational output and minimization of costs in the supply chain. The results are in tandem with that of Kemunto, (2017), who assessed role of supplier relationship management on procurement performance. The findings recorded that, supplier training had a significant positive effect on procurement performance.

#### **4.7.4.3 Innovation Workshops**

Respondents were expected to indicate whether their firms conduct innovation workshops. From the results in Table 4.9, 58 (69.9%) agreed while 25 (30.1%) disagreed that their organization has put in place innovation workshops for suppliers. Most of the respondents agreed that their organization had put in place innovation workshops for suppliers. This implied that most of tea processing firms in Nandi County are capable of expanding their organizational capabilities through making use of supplier knowledge and skills offered during innovation workshops. (Ochieng, 2014). Respondents who disagreed implies that some tea firms in Nandi have not put in place innovation workshops therefore they might struggle with expanding their organizational capabilities.

#### **4.7.4.4 Awarding and Certified of Best Innovative suppliers**

Respondents were to indicate whether their firms award and certify their innovative suppliers. According to results in Table 4.9, 55 (66.3%) agreed, 25 (30.1%) disagreed that best innovative suppliers are awarded and certified by the firm. From the findings most of the respondents revealed that their firms award and certify best innovative suppliers. This indicates that the image of most tea processing firms is likely to be improved following their mutual relationships with suppliers hence the firms are able to attract new suppliers to collaborate with through innovation. Respondents who disagreed implied that very few tea firms in Nandi County do not award and certify their suppliers therefore there is a likelihood that suppliers do not adhere to the same standards and product specifications which may lead to consumer deception. These findings are in line with Kemunto (2017) who assessed factors influencing supplier management on procurement performance in Ogembo Tea Company, Kisii County.



#### **4.7.4.5 Conducting Innovation Workshops and procurement performance**

Respondents were to rate whether conducting innovation workshop has an effect on procurement performance. In Table 4.9, 57 (68.7%) agreed while 26 (31.3%) disagreed that conducting innovation workshops has an effect on procurement performance. Most of the respondents who agreed that conducting innovation workshops has an effect on procurement performance as innovation workshops enhances financial growth through new streams of revenue from products and services brought in as a result of innovation. This leads to optimization of costs along the supply chain. The results were in line with Ochieng and Rotich, (2014) who found that supplier training had significant effect on procurement performance.

#### **4.7.4.6 Quality Assurance Seminars Are Conducted**

According to the findings in as shown in Table 4.9, 52 (62.7%) agreed while 31 (37%) disagreed, that the firm conducted quality assurance seminars. It is evident that most of the respondents agreed that their firms conducted quality assurance seminars. This showed that the firms collaborates with suppliers in providing quality products for satisfaction of their customers through quality assurance seminars and this fosters procurement performance. Respondents who disagreed that their firms do not conduct quality assurance seminars indicated that they are likely to record poor performance due to increased cost on rejection of supplies and increased repair cost of products with defects. Wabombaba, (2018) found that supplier training had significant positive effect on procurement performance of Sugar firms in Kisumu County.

#### 4.7.4.7 Quality Assurance Seminars and procurement performance

The last question on supplier training and its effect on procurement performance was, to state whether quality assurance seminars has an effect on procurement performance as shown in Table 4.9, 65 (78.3%) agreed while 18 (2.7%) disagreed that quality assurance seminars has an effect on procurement performance. From the findings, most of the respondents affirmed that quality assurance seminars had an effect on procurement performance. The majority who agreed was an indication that most of tea processing firms in Nandi County enables optimization of cost through offering better products and service features, thus increasing operational efficiency and enhance profitability. These results concur with those of Kiarie, (2017) who found that supplier training had a significant effect on procurement performance.

#### 4.8 Descriptive statistics on dependent variable

Table 4.10 shows the descriptive statistics on procurement performance measured by cost levels. The results shows that Williamson Tea Limited had the highest cost level figure of Sh. 4,343,000 while Chepkumia tea factory recorded the minimum cost level of Sh. 1,239,863. This was an indication that some tea firms incur more cost in the procurement function as compared to others. A mean of 280717.72 was obtained with a standard deviation of 1097438.282.

**Table 4.10: Descriptive statistics on procurement performance**

<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
83	1239863	4343000	2807175.72	1097438.282

## 4.9 Inferential Statistics

### 4.9.1 Diagnostic Tests

The study performed the four critical diagnostic tests to determine the normality, multicollinearity, autocorrelation, and heteroscedasticity of the residues in the models as a complete requirement for carrying out linear regression analysis.

#### 4.9.1.1 Normality Test

The Jaque Bera test results show that the residuals did not deviate from the skewness of 0 and the kurtosis of 3, as indicated by the skewness and kurtosis. The joint test revealed that the Jaque - Bera chi-square statistic of deviation from normality had a p-values of 0.025 and 0.007 which were less than 0.05, implying that the residuals were normal. Hence the null hypothesis were rejected.

**Table 4.11 Jaque -Bera Test of Normality**

Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	Joint	
				adj chi2(2)	Prob>chi 2
Procurement performance (Y)	69	0.957	0.530	0.600	0.025
Model residuals	69	0.640	0.890	0.420	0.007

#### 4.9.1.2 Autocorrelation

Autocorrelation was tested using Durbin Watson test. The derived value of 1.925 in Table 4.10, which is approximately 2, implies that there is no autocorrelation between the variables of the study, indicating independence.

#### 4.9.1.3 Test for Multicollinearity

Variance inflation factors (VIFs) and reciprocals were calculated for each independent variable to assess multicollinearity (tolerances). The general rule is that the VIFs should not exceed ten. All of the VIFs are less than 2, implying that none of the independent variables under consideration violate the assumption.

**Table 4.12: Test for Multicollinearity**

Model	Collinearity Statistics		
	Tolerance	VIF	
1	SE	.724	1.132
	SS	.802	1.105
	SD	.853	1.170
	ST	.946	1.027

#### 4.9.1.4 Heteroscedasticity Test

The residual term is assumed to be homoscedastic, which is a common assumption in linear model estimation. Thus, a Heteroscedasticity test was carried out to ensure that the residuals of the model fitted do not exhibit Heteroscedasticity. The chi-square derived probability was greater than 0.05 at the 5% significance level, the residuals in the model were discovered to be distributed with equal variance, and thus the study failed to reject the null hypothesis of the test implying no heteroscedasticity.

**Table 4.13: BP Test**

Model	chi2(1)	Prob > chi2
BP test	2.26	0.1331

#### 49.1.5 Correlation Analysis

Correlation analysis is a statistical approach to assess the strength of a linear relationship between two variables. Correlation analysis determines how much a variable changes with regards to another variable. The Pearson product moment was employed in the study to determine the level of association between the study variables in the model. The technique calculates correlation coefficients and p values, which are used to determine the importance of the relationship between variables.

**Table 4.14: Pearson Product Moment Correlation**

	<b>SE</b>	<b>SS</b>	<b>SD</b>	<b>ST</b>	<b>PP</b>
Supplier Evaluation	1				
Supplier Segmentation	0.202 (0.334)	1			
Supplier Development	0.285 (0.201)	0.180 (0.166)	1		
Supplier Training	0.126 (0.343)	0.219 (0.157)	0.286 (0.430)	1	
Procurement Performance	- 0.680* (0.011)	0.538* (0.002)	- 0.471* (0.083)	0.378 (0.004)	1

Values in brackets are probability values which are statistically significant at 5% confidence interval. From the findings in Table 4.14, supplier evaluation and procurement performance are negatively correlated. There was a significant relationship between supplier evaluation and procurement performance at 5% significance level as indicated by the variable's coefficient  $r = -0.680$  and p-value of 0.011, which is less than the 0.05.

It was clearly seen that supplier segmentation and procurement performance are positively correlated. The association between supplier segmentation and procurement performance is significant at 5% significance level as indicated by the variable's coefficient of  $r = 0.538$  and p-value of 0.002, which is less than the 0.05. Supplier development and procurement performance are negatively correlated though the relationship was not significant at 95% confidence interval given the variable's coefficient of  $r = -0.471$  and p-value of 0.083, which was more than 0.05.

Supplier training and procurement performance were found to be positively correlated. There was a significant association between supplier training and procurement performance at 5% significance level as indicated by the variable's coefficient of  $r = 0.378$  and p-value of 0.004, which is less than the 0.05.

#### **4.9.1.6 Model Summary<sup>a</sup>**

An R of 0.786 showed that there was a strong association between values predicted by the model and values obtained from the multiple linear regression analysis. R square is a coefficient of determination used to measure the variation in Y as explained by X in a linear regression model. R square explains how well predictors fit a line or a curve.

An  $R^2$  of 0.618 indicated that approximately 62% of the variation in procurement performance measured by cost level is explained by variations in the SRM practices. Thus procurement performance is not only affected by the predictors in the model but also other factors that are not used in the model.

**Table 4.15: Model summary**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>	<b>Durbin Watson</b>
<b>1</b>	.786 <sup>a</sup>	.618	.598	.1642	1.925

**a. Predictors: (Constant), SE, SS, SD, ST**

#### **49.1.7 ANOVA<sup>a</sup>**

The results of the ANOVA in Table 4.15 indicates that SRM significantly affect procurement performance at 95% confidence level given a P- value of 0.000 which is not greater than 0.05. The F statistic of the ANOVA implies that there is a significant relationship between SRM practices and procurement performance. An F value of 8.148 is greater than the critical value (2.46) at 4 degrees of freedom. The SRM practices significantly explained the variation in procurement performance at 5% level of significance given an ANOVA Table 4.15 with a p-value 0.000 which is less than 0.05.

**Table 4.16: ANOVAa**

<b>Model</b>		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>1</b>	Regression	.879	4	.220	8.148	.000 <sup>a</sup>
	Residual	2.102	78	.027		
	<b>Total</b>	<b>2.981</b>	<b>82</b>			

**a. Predictors: (Constant), SE, SS, SD, ST**

**b. Dependent Variable: Procurement performance (Cost level)**

Results in Table 4.15 indicated that a regression model linking SRM practices and procurement performance is given as in model 4.10

$$Y = 6.567 - 0.185SE + 0.063SS - 0.094SD + 0.236ST \quad \text{Model 4.1}$$

The study carried out multiple regression analysis to support the descriptive statistics results which could not give the direction of relationship. The regression results are presented in Tables 4.16 to 4.17 and discussed in line with the study objectives.

**Table 4.17: Regression Analysis Results**

<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>T</b>	<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>		
<b>1</b>	(Constant)	6.567	.063	104.238	.000
	SE	-.185	.057	-3.246	.000
	SS	.063	.040	1.572	.000
	SD	-.094	.067	-1.403	.165
	ST	.236	.074	3.187	.002

**a. Dependent Variable: Procurement performance (Cost level)**



#### **4.9.1.8 Supplier Evaluation and Procurement Performance**

From Table 4.16 and regression model 4.1, supplier evaluation (SE) had a regression coefficient of -0.185 and a probability value of 0.000 which was less than 0.05. This implied that supplier evaluation had a significant negative effect on procurement performance measured by cost level at a 5% level of significance. That is, a unit increase in the number of supplier evaluations reduced the cost level by 0.185 units.

This indicated that the null hypothesis that supplier evaluation has no significant effect on procurement performance of tea firms in Nandi County, Kenya was rejected at 5% level of significance. The finding corroborates the descriptive statistics results and corresponds to those of Kiarie, (2017) who carried out a study on influence of supplier relationship management practices on procurement performance of large manufacturing organizations in Kenya.

#### **4.9.1.9 Supplier Segmentation and Procurement Performance**

From Table 4.16 and regression model 4.1, supplier segmentation denoted by SS had a regression coefficient of 0.063 and a probability value of 0.000 which was less than 0.05. . That is, a unit increase in the number of supplier segmentation increases cost level by 0.063units.This implied that supplier segmentation had a significant positive effect on procurement performance measured by cost level at a 5% level of significance. The findings are in line with the descriptive statistics and concurs of Muema, (2016) who found that supplier segmentation had a significant effect on procurement performance.

#### **4.9.1.10 Supplier Development and Procurement Performance**

In Table 4.16 and regression model 4.1, supplier development denoted by SD had a regression coefficient of -0.094 and a probability value of 0.165 which was more than 0.05.

This implied that supplier development had an insignificant negative effect on procurement performance measured by cost level. This indicated that the null hypothesis that supplier development has no significant effect on procurement performance was accepted at 5% level of significance. The findings are in line with the descriptive statistics results and are in tandem with those of Addae, (2015) who found that supplier development did not have a significant effect on procurement performance on ministries department agencies.

#### **4.9.1.11 Supplier Training and Procurement Performance**

Table 4.16 and regression model 4.1, shows supplier training denoted by ST had a regression coefficient of 0.236 and a probability value of 0.02 which was less than 0.05.

This implied that supplier training had a significant positive effect on procurement performance measured by cost level at a 5% level of significance. That is a unit increase in the number of supplier training increases cost level by 0.236 units.

This indicated that, the null hypothesis that supplier training has no significant effect on procurement performance of tea processing firms in Nandi County, Kenya was rejected at a 5% level of significance. The findings are supported by the descriptive statistics results and concurs with those of Kemunto, (2017) who assessed factors influencing supplier relationship management and procurement performance in Ogembo Tea Factory.

#### **4.10 Summary of Hypotheses Testing**

Table 4.17 shows a summary of the hypotheses tested with respect to the study objectives. From the multiple regression results, supplier evaluation, segmentation and training had p- values less than 0.05, an implication that they had a significant effect on procurement performance, while

supplier development recorded p-values greater than 0.05, an indication that SD insignificantly affected procurement performance.

**Table 4.18: Hypotheses**

<b>No.</b>	<b>Hypothesis</b>	<b>P-value</b>	<b>Results</b>
<b>Ho1</b>	Supplier evaluation has no significant effect on procurement performance of tea processing firms in Nandi County, Kenya.	0.000 < 0.05	Rejected
<b>Ho2</b>	Supplier segmentation has no significant effect on procurement performance of tea processing firms in Nandi County, Kenya.	0.000 < 0.05	Rejected
<b>Ho3</b>	Supplier development has no significant effect on procurement performance of tea processing firms in Nandi County Kenya.	0.165 > 0.05	Accepted
<b>Ho4</b>	Supplier training has no significant effect on procurement performance of tea processing firms in Nandi County, Kenya.	0.002 < 0.05	Rejected

#### **4.11 Theory Application To the Study**

The regression results prove that the theories supporting this study are true and relevant to the study since the estimated R square was 0.618 which implied that approximately 62% of variation in procurement performance is caused by supplier relationship management practices. Supplier evaluation, segmentation and training are reciprocal dependencies in the sense that businesses depend on each to minimize losses and attain better performance as stated by Provan, (1984) in resource dependence theory. Another theory that was applicable to the study basing on the regression results of the study is the networking theory that emphasizes the essence of strong ties, pragmatic assessment, inter-organizational relationships and collaboration between business organizations to enhance performance.

Lastly the Payne's Five Forces model by Payne and Frow, (2005) was relevant to the study since supplier relationship management becomes successful through integration and performance

assessments hence enables tea firms in identifying suppliers through supplier evaluation to facilitate supplier segmentation and trainings that in turn affect the procurement performance.

## CHAPTER 5

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

The chapter presents the summary, conclusion, recommendations, study limitations and areas for further study.

#### 5.2 Summary of the Findings

The purpose for this study was to analyze the effect of supplier relationship management practices on procurement performance of tea processing firms in Nandi County, Kenya which was based on the specific objectives. Both descriptive and inferential data analysis techniques were employed.

##### 5.2.1 Supplier Evaluation and Procurement Performance

Descriptive statistics results indicated that most respondents at 49 (59.0%) strongly agreed that supplier evaluation affected procurement performance. Regression coefficient of -0.085 with a p-value  $0.000 < 0.05$  supported the descriptive statistics and indicated supplier evaluation had a statistically significant negative effect on cost level such that a unit increase in the number of supplier evaluations reduced the cost level by 0.085. This led to the rejection of the null hypothesis that supplier evaluation had no significant effect on procurement performance of tea firms in Nandi County, Kenya at 5% level of significance.

##### 5.2.2 Supplier Segmentation and Procurement Performance

Descriptive statistics proved that a larger percentage of respondents at 31.3% agreed that categorizing suppliers into their respective groups had an effect on cost level.

Regression coefficient of 0.063 with a p-value  $0.000 < 0.05$  supported the descriptive statistics and indicated that supplier segmentation had a positive significant effect on cost level, such that a

unit increase in the number of supplier segmentations increases cost level by 0.063. Hence, the null hypothesis that supplier segmentation had no significant effect on procurement performance of tea processing firms in Nandi County, Kenya was rejected at a 5% level of significance.

### **5.2.3 Supplier Development and Procurement Performance**

Descriptive statistics showed that a larger percentage of respondents disagreed (41.0%) that supplier development did not have an effect on procurement performance measured by cost level. Regression coefficient of  $-0.094$  with a p-value  $0.165 > 0.05$  supported the descriptive statistics and indicated that supplier development had an insignificant negative effect on cost level. The null hypothesis that supplier development had no significant effect on procurement performance of tea processing firms in Nandi County, Kenya was accepted at a 5% level of significance. These findings are similar to those of Abdallah 2014 who found out that supplier development had insignificant effect on procurement performance.

### **5.2.4 Supplier Training and Procurement Performance**

Descriptive statistics pointed that most of the respondents agreed (38.6%) that supplier training had an effect on cost level. Regression coefficient of  $0.236$  with a p – value  $0.002 < 0.05$  supported the descriptive statistics and indicated that supplier training had a significant positive effect on procurement performance. That is a unit increase in the number of supplier trainings increases cost level by  $0.236$ . Therefore, the null hypothesis that supplier training had no significant effect on procurement performance of tea processing firms in Nandi County, Kenya was rejected at a 5% level of significance.

The results concur with those of Kemunto, (2017) who assessed the factors influencing supplier relationship management and procurement performance a case study of Ogembo Tea Factory.

## **5.3 Conclusions**

The study made conclusions with regards to inferential and descriptive statistics results.

### **5.3.1: Supplier Evaluation**

There is a significant positive relationship between supplier evaluation and procurement performance of Tea processing firms in Nandi County, Kenya. That is when supplier evaluation practices are increased procurement performance improves significantly. It is therefore important to enhance supplier evaluation for selecting suppliers who have the capabilities to deliver high quality products to improve procurement performance of tea processing firms.

### **5.3.2: Supplier Segmentation**

There exists a significant positive relationship between supplier segmentation and procurement performance. Therefore, when supplier segmentation is improved procurement performance also improves significantly. Tea processing firms should put more effort on supplier segmentation to enable the procurement function group suppliers into their respective groups for efficient management of supplies to improve procurement performance.

### **5.3.3: Supplier Development**

There exists an insignificant negative relationship between supplier development and procurement performance. From the regression results, it can be established that SD had some influence on procurement performance even though it is insignificant.

Therefore it is important for tea processing firms in Nandi County to ensure they conduct supplier visits, offer supplier incentives and technical support to their suppliers as a means of encouraging innovation and improve procurement performance.

### **5.3.4 Supplier Training**

There is a significant positive relationship between supplier training and procurement performance. It is clearly seen that improvement of supplier trainings conducted by a firm will significantly lead to improved procurement performance. Training resources, innovation workshops and quality improvement seminars should be enhanced by tea processing firms to improve procurement performance

## **5.4 Recommendations**

The following recommendations were established from the research findings.

### **5.4.1 Supplier Evaluation**

Despite most of the respondents agreeing that supplier are evaluated based on lead time, conformance to quality and financial capabilities, there were still few respondents who disagreed that their firms do not evaluate their suppliers based on the above criteria as the inferential statistics implied that supplier evaluation has a significant positive effect on procurement performance.

Hence it is recommended that tea processing firms need to embrace supplier evaluation to ensure selection of competent suppliers, elimination of hidden costs, management of risks and reduction of procurement cycle time to improve on procurement performance of their firms. This will help tea processing firms to structure their supply base and improve on supply chain efficiency that will foster improvement on the overall organizational performance.

### **5.4.2 Supplier Segmentation**

As there were few respondents who disagreed that their firms do not group suppliers into their respective segments, It is therefore recommended that tea processing firms should ensure supplier segmentation is put into practice to enable procurement professionals in identifying most suitable



supplier across businesses and enable managers to perform their duties effectively through efficient supplies management.

#### **5.4.3 Supplier Development**

The inferential and descriptive statistics implied that supplier development had insignificant effect on procurement performance where majority of respondents disagreed that they do not offer incentives to their suppliers, technical support or conduct supplier visits. It is recommended that, tea firms need to embrace supplier development as a way of gaining utmost value from their suppliers by enhancing their capabilities and minimization of costs that may be attributed to poor technical skills from the suppliers and ensure continuous performance improvement.

#### **5.4.4 Supplier Training**

As the descriptive statistics indicated that most of the respondents agreed that supplier training practices were embraced by majority of the tea processing firms, the same was supported by the inferential statistics that supplier training has a significant effect on procurement performance. Therefore tea processing firms should comprehend supplier training to be able to ensure supplier improvement in their capabilities, promote innovation, total quality management and ensure timely delivery of products at the minimal costs.

#### **5.5 Areas for Further Studies**

Future studies to be carried out on SRM practices on procurement performance using other practices such as supplier risk management practices and supplier information control. It is also remarkable that future studies to be conducted on effect of supplier development in another sector for instance manufacturing firms and county government to confirm the consistency of the results as the current study found supplier development was insignificant related to procurement

performance. Lastly other studies should be carried out on other factors that affect procurement performance of tea processing firms as the R square implied that approximately 62% variation in procurement performance is due to supplier relationship management practices

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## APPENDICES

### **Appendix I: Letter of Introduction**

Kaimosi Friends University College (KAFUCO)

P.O Box 385-50309

Kaimosi, Kenya,

To: The Head Office,

Dear Sir/Madam,

#### **RE: Request for data collection and participation**

I am Malongo Zelpha, Registration number DGS/MBA/G/0004/2019, a Master of Business Administration student at Kaimosi Friends University. I am conducting a study entitled ‘supplier relationship management practices and procurement performance of tea processing firms in Nandi County’.

I have chosen your firm as it meets the characterized processing firms appropriate for this study.

The information obtained from your firms will be treated with confidentiality.

I look forward to your assistance.

Yours faithfully,

Malongo Zelpha

**Appendix II: CONSENT LETTER**

ZELPHA MALONGO,

P.O Box 385-50309,

Kaimosi, Kenya,

To: The Head Office,

The main purpose of this study is to analyze the effect of supplier relationship management practices on procurement performance of tea processing firms in Nandi County, Kenya.

- 1) The questionnaires are divided into various sections
- 2) Section A contains questions on nature and magnitude of Supplier relationship management practices. Kindly tick where applicable.
- 3) Section B - E has questions on respective SRM practices and their effect of procurement performance. Use the five point Linkert scale ranging from Agree to strongly disagree.
- 4) After signing this, letter the respondents are free to withdraw from participating in this study without any fine or penalty.
- 5) The participants will not be forced to participate in this study.
- 6) Please don't write your names on.

I \_\_\_\_\_ has agreed to all the stated guidelines and promise to abide by the conditions.

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

### Appendix III: Study Questionnaires

Tick appropriately where possible. Your confidentiality will be highly maintained.

#### SECTION A: Nature and magnitude of supplier relationship management practices

(Tick where appropriate)

1. Has the tea factory embraced supplier relationship management practices?

Yes

No

2. If yes, which one is the most practiced activity?

Supplier evaluation

Supplier segmentation

Supplier development

Supplier training

3. Who initiates supplier relationship management practices among the tea factories in Nandi County?

Board of members

Chief Officers

Finance heads

Procurement heads

Suppliers

**SECTION B: Supplier Evaluation and Procurement Performance**

4. The following are supplier evaluation practices and its effect on procurement performance among the tea factories in Nandi County (**Tick where appropriate**) Where 1= Strongly Disagree, 2 =Disagree, 3 =Neutral, 4= Agree, 5= Strongly Agree

<b>Effect of supplier evaluation on procurement performance</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Evaluation of suppliers affects cost level					
2. Suppliers ensure shorter lead times.					
3. Shorter lead times has an effect on cost level					
4. The organization evaluates its suppliers basing on quality.					
5. Conformance to quality by suppliers affects cost level of the procurement function.					
6. Suppliers comply with quality specifications.					
7. Suppliers are evaluated based on their financial capabilities.					
8. Evaluation of suppliers' financial capabilities affects cost level of the procurement function.					

**SECTION C: Supplier Segmentation and Procurement Performance**

**(Tick where appropriate)**

5. The following are supplier segmentation aspects and its effect procurement performance among tea factories in Nandi County. **(Tick where appropriate)** where 1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 =Agree, 5 = Strongly Agree

<b>Effect of supplier segmentation on procurement performance</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Raw material suppliers are segmented based on their regions and performance.					
2. Categorizing suppliers into Raw material suppliers has an effect on cost level					
3. Raw material suppliers supply on a continued basis					
4. Component suppliers are segmented based on quality.					
5. Collaboration of component suppliers with the firm has an effect on cost level					
6. Finished products are grouped according to homogeneous usage.					
7. Grouping finished products suppliers into their homogeneous usage has an effect on cost level					
8. Collaboration of finished products suppliers with the firm has an effect on cost level					
9. Finished products suppliers determine the cost level.					

**SECTION D: Supplier Development and Procurement Performance**

6. The following are supplier development aspects and its effect on procurement performance among tea factories in Nandi, County (**Tick where appropriate**) Where 1= strongly Disagree, 2 =Disagree, 3= Neutral, 4 =Agree, 5 =Strongly Agree

<b>Effect of supplier development practices on procurement performance</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Supplier development programs has an effect on cost level					
2. Offering supplier incentives to a capable supplier affects cost level					
3. The firm supports suppliers financially					
4. Supporting suppliers financially has an effect on cost level					
6. The organization offers technical support to their suppliers					
7. Supplier technical support has an effect on cost level					
8.The organization plan for supplier plant visit to inspect on quality of processes and procedures					
9.Conducting supplier plant visits has an effect on cost level					

**SECTION E: Supplier Training and Procurement Performance**

7. The following are supplier training aspects and its effect procurement performance among Tea factories in Nandi (**Tick appropriately**). 1= Strongly Agree, 2 Agree =, 3 Neutral, 4 = Disagree, 5 = Strongly Disagree

<b>Effect of supplier training on procurement performance</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. The organization has put in place supplier training programs.					
2. Supplier training has an effect on procurement performance					
3. The organization has put in place innovation workshops					
4. Best innovative suppliers are awarded and certified by our firm.					
5. Conducting supplier Innovation workshops has an effect on procurement performance					
6. Quality assurance seminars are conducted.					
7. Quality assurance seminars has an effect on procurement function procurement performance					

**Thank you for your time.**

Appendix IV: Research Permit

National Commission for Science, Technology and Innovation -

**Ref No: 213503**

**RESEARCH LICENSE**

**This is to Certify that Miss: ZELPHA MALONGO MUKU of Masinde Muliro University of Science and Technology, has been licensed to conduct research in Nandi on the topic: EFFECT OF SUPPLIER RELATIONSHIP MANAGEMENT PRACTICES ON PROCUREMENT PERFORMANCE OF TEA PROCESSING FIRMS IN NANDI COUNTY, KENYA for the period ending : 21/December/2022.**

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