LOGISTICS MANAGEMENT PRACTICES AND PERFORMANCE OF LEADING SUPERMARKETS IN NAIROBI COUNTY, KENYA

BY

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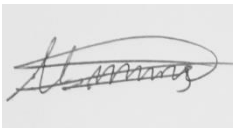
2020

DECLARATION

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

……  ……. …*24th AUGUST 2020*……

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Supervisors' Declaration

This research project has been submitted for examination with our approval as University appointed supervisors.

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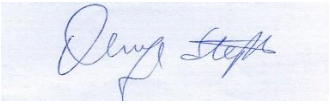
……  **……** **…***24TH AUGUST 2020***…….**

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I thank the Almighty God for giving me sufficient grace to complete this thesis. My sincere gratitude to M/s Salome Richu and Mr Onserio Nyamwange for their immense commitment and support to ensure that I remained focused and dedicated to working on this document. God bless you abundantly.

DEDICATION

I dedicate this Research Project to my late Father Abdi roble and my Mother Nada Abdi and all family members due to their financial and moral support they gave me.

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ABBREVIATIONS AND ACRONYMS

FMCGs	Fast-Moving Consumer Goods
LMP	Logistic Management Practice
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Science
TCT	Transaction Cost Theory

ABSTRACT

Majority of the supermarkets in Nairobi city are currently facing challenges including poor coordination of materials, overstocking resulting into opportunity cost due to tied up capital and poor information flow within logics personnel. These challenges have adversely affected most of these supermarkets as some of them including Nakumatt Holdings and Ukwala have been forced out of the business. The link between logistic management practices and performance was explored in this investigation. The specific focus of the inquiry was adopted logistic management practices and their link with performance of the leading supermarkets in Nairobi, Kenya. The adopted design was descriptive survey targeting 37 supermarkets supported by census. Views of the participants in the investigation were gathered as aided by first hand sources with analysis being conducted descriptively and inferentially. Tabular forms helped in presentation. It was noted that material handling practices was the highly practiced aspect of logistic management among the leading supermarkets in Nairobi County followed by warehousing management practices, packaging practices, transportation management practices, information management practices, inventory management practices and lastly order processing practices. The study concluded that the adoption of logistic management practices has significantly impacted on customer satisfaction and lead times of the leading supermarkets in Nairobi. The study recommended that the marketing managers of the leading supermarkets in Nairobi should leverage on material handling practices so as to improve customer satisfaction as a measure of performance of their respective firms. In order to optimize lead time, the logistic managers of the leading supermarkets in Nairobi should seek to continuously improve on order processing practices in place. The study was limited by Covid-19 pandemic especially with regard to data collection. The study recommended for further studies on other firms like the leading pharmaceutical firms, the manufacturing Small and Medium Enterprises (SMEs) or the online shopping malls like Jumia and Kilimall.

Key Words: Logistics management practices, firm performance, leading supermarkets, Nairobi County, Kenya.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Well performing organizations do embrace logistics management practices so as to reduce their costs, enhance their competitive advantage as well as operational performance. Studies have confirmed that firms that embrace logistics management practices are associated with superior performance (Amin & Shahwan, 2020). In order to remain successful through improved performance, firms effectively manage their logistics practices so as to enhance efficiency while reducing the overall costs (Petkovski, Ristovska & Kozuharov, 2017). Simply viewed as a means of acquiring adequate resources, logistics activities are broadly classified as inbound as well as outbound. While inbound logistics relates with the incoming materials to the firm, the outbound logistics relates to activities that are carried once products have been produced all through to after sales services (Correa, Maruyama, Albernaz & Maciel, 2014).

The link between logistics management practices (LMPs) and firm performance can be explained by the resource-based view theory, the transaction cost theory, and the institutional theory. The resource-based view theory was advanced by Barney (1986) and it argues that firms enhance their competitive advantage and thus performance by use of their resources. This theory therefore links the dependent variable of the study which is firm performance (Yang & Lirn, 2017). The institutional theory explains how the organization establishes the structures, routines, norms and rules that guide the desired form of behavior (Chu, Xu, Lai & Collins, 2018). Firms exist so as to satisfy the pressure from customers and the legal requirements and this pressure force them to adopt new and sound practices including logistics management (Zawawi, Wahab, Osman, ShaharudinLatif & Fazal, 2018). According to the transaction cost theory, organizations incur

some costs while trying to carry out transactions in the market (Liu, Wang, Yao & Yue, 2016). These costs according to this theory can be reduced when firms adopt certain mechanisms (Coase, 1988 & Williamson, 1971) including investment in logistics management practices.

Supermarkets deal with a range of products including the fast-moving consumer goods (FMCGs), perishable as well as nonperishable products. These firms largely operate in the service sector and the industry is very competitive after the entry of international firms like Carrefour and Shoprite in the market (Kamau, Thomsen & McCormick, 2019). Majority of the supermarkets in Nairobi city are currently facing challenges including poor coordination of materials, overstocking resulting into opportunity cost due to tied up capital and poor information flow within logics personnel (Karonjo, Peterson & Omukoko, 2019). These challenges have adversely affected most of these supermarkets as some of them including Nakumat Holdings and Ukwala have been forced out of the business. Other supermarkets like Uchumi Ltd are currently struggling with their performance (Karanja, 2019).

1.1.1 Logistic Management Practices

Logistics manages the flow of materials (finished goods, work in progress and component parts) as well as information among the supply chain partners (Solomon, 2018). Logistics requires that a firm plans and organizes activities to ensure that resources in place to ensure that activities are conducted in an effective and efficient manner in the firm (Spillan & Mellat-Parast, 2014). The two broad logistic activities in the firm are inbound and outbound (Burduroglo & Lambert, 2000). While inbound logistics include operations aimed at procuring of materials, handling. Storage as well as transportation, outbound logistics cover the activities conducted to collect, maintain and distribute the products to the final consumers (Fontaine, Crainic, Jabali & Rei, 2017).

The Charted Institute of Logistics and Transport (2007) view logistic management (LM) practice as a component of supply chains which ensure that products and information are well planned for implemented and controlled as they move from their original point to the final point of consumption. Logistic management has emerged as a priority for most organizations striving to enhance on their performance today (Chandra, Ghosh & Srivastava, 2016). According to Defee and Fugate (2010), success in logistic management is jointly shaped by differentiation, effectiveness and efficiency.

Logistic management practices include transportation, warehousing, packaging, order processing, and inventory, information management and material handling. Transportation management ensures that products are delivered at the right place (Shi, Arthanari, Liu & Yang, 2019). Information management helps to coordinate the movement of goods and services from the point of origin to the required destination in the supply chain (Worku, 2018). Inventory management ensures that an organization has stocked the required products in right quantity and quality to cushion against unexpected changes in consumer demands (Kumar, Nallusamy & Ramakrishnan, 2018). Order processing management ensures that each workstation and machine gets the right product in the right quantity and quality within the required time (Olajide & Kwak, 2018). Materials handling is where products are moved, protected, stored and controlled from the time they are manufacture, warehoused, distributed, consumed and disposed (Sahu, Sahu & Sahu, 2017).

1.1.2 Firm Performance

Performance is the general operation and functioning of the firm including the results from the operations of the business and how well the market based and financial goals of the firm are

realized (Chan, Ngai & Moon, 2016). According to Santos and Brito (2012), firm performance is multi-dimensional and enhancing it requires measurements that are broadly classified as either accounting or market measures. Sales and growth in market share are key market-based indicators of performance of the firm while growth in profits as well as the returns on investments and assets is regarded as the financial indicators of performance of the business entity (Erhardt, 2018). This study used customer satisfaction and lead time as the measures of performance.

The ultimate goal of the firm is to gain a long term and sustainable level of performance in the industry. Presently, firms are focusing in delivery of customer value through their logistics (Taouab & Issor, 2019). Across the world, firms are faced with dynamics in demands of customers for instance the need for better prices and efficient customer service. In view of these dynamics, firms are now focusing their resources and attention on supply chain activities like logistic management practices so as to reduce their overall costs and remain competitive (Herciu & Șerban, 2018).

1.1.3 Supermarkets in Kenya

It is within the larger retail sector that the supermarkets carry out their operations in Kenyan context. The Kenyan supermarkets play a role towards the growth of the economy by opening up job opportunities while generating revenues in terms of taxes to the government (Karanja, 2019). All supermarkets strive to provide all the required products under a single roof which a key factor that attracts customers their customers (Isaenko & Degtyar, 2015). In most cases, it is the available population and its associated attributes like level of income that inform location of these supermarkets. This is because most of these supermarkets are located in areas that have a large population of potential customers with a purchasing power (Karonjo et al., 2019).

There are about 37 leading supermarkets with operations in Nairobi as illustrated by appendix II. There exist variations in these supermarkets in Nairobi on the basis of their sizes, the staff capacities, the overall number of branches and their form of ownership. Presently, the supermarkets in Nairobi are undergoing challenges including poor performance (Karanja, 2019). Such challenges have been evident in some of the firms like Uchumi that has closed down most of its branches. Tuskys is another supermarket that is liquidity challenges that have affected its performance (Kamau et al., 2019). Because of the challenges in the retail sector, other supermarkets like Ibrahim's and Nakumat have been forced to completely wind up their operations (Kamau et al., 2019) and thus the motivation of the present study.

1.2 Research Problem

Logistics management practices cover practices like transportation, warehousing, packaging, order processing, and inventory and information management that all play an important role as far as performance of the firm is concerned (Solomon, 2018). Through logistics management practices, firms are able to effectively respond to customer demands besides management of demand uncertainty (Solomon, 2018). Existence of inefficient logistic management practices in the firm adversely affects the competitive positioning of the firm as seen through a reduction in revenue generation (Atz, 2019).

In Kenya, supermarkets operate in a highly turbulent and competitive retail industry (Mua & Anyieni, 2019). Apart from performance, there are also challenges relating with logistics management for instance over accumulation of inventories that results into tied up capital which is an opportunity cost (Makori, Magutu, Omai & Akello, 2016). Hence, there is need for urgent policy direction to address the challenges that these supermarkets face as failure would result into

collapse of the entire retail industry and thus adversely affecting the economy in terms of job losses (Mwakio & Awuor, 2018).

Empirical investigations on logistic management practices exist in different contexts. For instance, In United States of America, Helm (2018) conducted a study on sustainable logistics and competitive advantage. The study noted that sustainability in logistics can be source of competitive advantage to the firm. In Macedonia, Ristovska, Kozuharov and Petkovski (2017) looked at logistic management practices and their effect on firm performance. It was shown that sufficient inventories, information management, warehousing, transportation and storage results into cost reduction to the firm. Karim, Mohamed, Alaa and Mohi (2018) did a study on logistics and their interaction with competitive advantage using evidence from freight firms in Egypt. The study noted that logistics help the firm to remain competitive. These studies were conducted in other advanced countries and they also focused on competitive advantage and not firm performance which creates gaps.

Locally in Kenya, Gitonga (2017) did a study on logistic management practices on operational performance using evidence from FMCG manufacturing firms and noted postive relationship between logistic management and firm performance. Mangala and Moronge (2019) did a study on logistic management practices and their influence on firm performance using evidence from oil marketing entities and shared that it is important that firms have in place sound coordination on mechanisms of transportation for maximum benefits. Mukolwe and Wanyoike (2015) used a case of Mumias Sugar Ltd to assess the interaction between logistic management practices and operational efficiency and indicated that automation of warehousing activities as well as transport

management and physical distribution of products all result into cost reduction and performance of the firm.

From the reviewed studies, it is clear that some of them were conducted in other developed countries; other studies were done in manufacturing firms and not the service firms. Other studies were done focusing on competitive advantage, operational performance and operational efficiency and not specifically on performance of the firm. This creates contextual and conceptual gaps which the current study seeks to fill by answering the following research question: how do logistic management practices affect performance of supermarkets in Nairobi, Kenya?

1.3 General Objective

The general objective of the study was to determine the effect of logistics management practices on performance of leading supermarkets in Nairobi County, Kenya

1.3.1 Specific Objective

i. To establish the logistics management practices among leading supermarkets in Nairobi County, Kenya
ii. To determine relationship between logistics management practices and performance of leading supermarkets in Nairobi County, Kenya

1.4 Value of the Study

The results of the study would be important to industry players in the retail sector, policy makers in the government and the future scholars. The study was guide the management of firms in retail sector on improving their logistic management practices. The management of supermarkets would

leverage on the findings of the study to implement or improve on their logistic management practices. This way, performance of their firms would also improve and thus the general growth of the economy.

There are various policy makers in government who play an important role in formulating policies and regulations that guide and govern the entire economy of the country as a whole. To formulate these policies, policy makers require real time information on a number of issues. Thus, the study would shed more light on logistic management practices which would appropriately guide formulation of policies by the government policy makers.

Future scholars would be able to carry out literature review by borrowing information on theories from this study. This would help in growing and advancing the body of literature on logistic management practices and their interaction with firm performance.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The focus of this chapter is on the literature covering the theories and empirical inquiries. The conceptual framework is provided with the variables which are the independent and the dependent variables. The reviewed literature is summarized with gaps arising from it indicated.

2.2 Theoretical Review

The study was guided by the resource-based view theory, the transaction cost theory and the institutional theory.

2.2.1 Resource-Based View

Barney (1991) advanced this theory to offer an explanation of how the entity can be competitive by leveraging on the resources in place. A firm can have internally or externally generated resources that aid it to be competitive (Oliveira, Godinho, Gonçalves, Costa, Silva & Amorim, 2018). Strategic resources have unique features which helps the firm to remain competitive: they are rate, cannot easily be copied by competitors and they have no perfect substitutes. For being competitive, this theory raises the need for the entity to leverage on their resources in place (Yang & Lirn, 2017).

The theory explains the role played by resources as far as the implementation of logistic management practices is concerned. Based on this RBV, a positive relationship is expected between logistic management practices and firm performance. This is because availability of resources would enhance the implementation and success of logistic management practice which would enhance performance of the firm.

2.2.2 Transaction Cost Theory

The transaction cost theory (TCT) was developed by Coase (1937). The term transaction cost refers to the expense incurred in the effort to offer some goods and services via the market as opposed to having the product provided within the business entity. In the effort to carry out market transaction, it is important that the firm clearly determine and establish who it is dealing and relating with so that it is possible to negotiate bringing about a reduction in costs. In specific sense, transaction costs include the expenses incurred in search for information, bargaining costs, enforcement as well as policing (Yuan, Chu, Lai & Wu, 2020). According to Yuen, Wang, Wong and Zhou (2018), inability to consider transaction costs, it would be impossible to understand the operationalization and working of economic systems. The theory argues that the interaction between firms is influenced and shaped by market prices. However, in an industry, firms make decisions that collectively aim at maximization of profits subjected to market prices. The firm meets transaction costs as it interact with other parties and firms could be in the same industry (Yang & Zhao, 2016).

The theory is relevant to the study as it explains how firms implement logistic management practices so as to reduce their transaction costs and thus improve on their performance. Without

efforts to reduce the transaction costs inured by the firm, it would be impossible to maximize the revenues generated from its operations. In economics school of thought, costs include such elements as time. Hence, logistic management practices would enhance efficiency in movement of products within the supply chains that saves on time which is an important component of costs in an organization and this may improve on performance of the firm.

2.2.3 Institutional Theory

The theory was formulated by Richard (1995) and it regards an organization as a composition of social structures and rules. The theory provides a rationale and justification as to why firms do establish schedules, standards and guidelines that shape and predict the social interactions (Yang, Lau, Lee, Yeung & Cheng, 2019). According to Chu, Xu, Lai and Collins (2018), an organization can leverage on institutional conditions and surrounding environment to come up with clearly established formal structures. The theory further argues that organizations that do accept change easily are better placed to respond and cope with changes and dynamics in the environment which they operate (Hirschinger, 2016).

In order to survive, firms do establish different structures including having in place logistic management practices so as to enhance on their performance. In fact, logistic management practices has emerged as an important tool that firms have adopted in the ever changing business environment so as to remain competitive. The theory provides a rationale as to why firms have in place logistic management practices.

2.3 Logistic Management Practices

Logistic management practices include transportation, warehousing, packaging, order processing, and inventory, information management and material handling. Transportation management creates time and place utility as it ensures that goods reach customers in time. This is because it facilitates the movement of goods and people from one point to the desired destination (Shi, Arthanari, Liu & Yang, 2019). Transportation is an important component of logistics management as it accounts for over 30 per cent of the overall logistics costs. Transportation management is vital in the entire procedure of production starting from the time a product is manufactured all through to the time it is delivered and consumed at its final stage (Mohn, Sekula, Kakumanu, Tuttle, Fuglewicz, Anderson & Martin 2019). A strong transportation system in the logistic management would enhance the level of efficiency in logistics operations, lower the costs of operation and enhance the overall quality of the services. In logistics, there are three important factors that determine performance of the transport system: the degree of consistency, the speed and the costs (Achahchah, 2018). The costs include payments made for shipping among two different locations. The quality of the transportation system can be gauged in terms of consistency and speed (Hamilton, 2015).

Warehousing is a key component of a logistic system as it facilitates the storage of product from their original point all through to the final consumption point. As a service, warehousing can be offered by either the warehouses or the centers of distribution (Heragu, 2019). The criteria used to locate the warehousing facilities of the firm are a critical decision to be made. Some of the criteria to consider in deciding on the warehouse facilities include issues related with costs,

resources including skilled labor, accessibility, and reliability and time considerations (Santos, 2018).

Packaging is another dimension of logistic management and it includes primary packaging, secondary packaging as well as tertiary packaging. Since logistics is the entire process of moving products across the supply chain, packaging is important as these goods are being moved. Efforts should be made to ensure that packaging is designed in a proper way and customized to the requirements and needs of the customers. In logistics, packaging helps in protecting the products plays an informative role as well as recycling capability (Singh, Smith, Singh & Rutledge, 2018). It is important to ensure that packaging has been adapted to the functional and technical attributes of the products (García-Arca, Garrido & Prado-Prado, 2017). A package may have symbols which relay basic information concerning the product functionalities. Packaging ensures that the product is physically protected against changes in temperature, mechanical pressure and shocks. Packaging also serves a hygiene role since it provides barrier against entry of pathogens into the product. The other key roles played by packaging including transmission of information and for marketing and promotion (Lisińska-Kuśnierz & Bar, 2016).

Order processing is a process related with selection, packaging and delivery of the packaged products to an identified center for shipment. The basic element of order fulfillment is order processing. According to Kain and Verma (2018), order processing originates from the side of the customer when the client shops online, creates an account and places an order. Once the order has been placed by the customer (usually done online), it is confirmed by the marketing staff in the organization. Loaded and Kwak (2018) opine that order fulfillment will then follow where when all the details have been confirmed and verified; the specified goods of the customer are packaged

and delivered to shipping center. From this shipping center, the product is shipped to an identified place where customers can pick the item. The shipped goods can be delivered to specified picking centers including the office locations and in the homes of the customers. Depending on the terms, the customers can pay for the order before delivery or on delivery once it has been delivered (Füßler & Boysen, 2017).

Inventories include the finished products, the semi-finished products (work in progress), raw materials, parts and components (Mohamad, Udin & Sharif, 2018). Inventories are required for the day to day running and operations of the business, whether service or manufacturing entities. There are various reasons why an organization should effectively manage its inventory levels. First, a large built of inventories results into an opportunity cost to the firm since it represent tied up capital that could otherwise have been utilized in enhancing performance. Calmon and Graves (2017) argued that at the same time, there are various costs associated with maintenance of inventories in an organization for instance, storage costs, material handling costs and risks of breakage and obsolesce. Thus, effective inventory management requires that an organization balances the inventories in place that would enable it to respond to the needs of the customers. The level of inventory maintained by the firm should be sufficient to cushion the firm against excess demand by the customers and minimizing the costs related with inventory handling and storage. The rise in technology has seen some of the firms adopt just in time systems in management of inventories where goods are produced in response to the demands of the customers. This system serves to reduce unnecessary built up of inventory items in the organization (Disney, Maltz, Wang & Warburton, 2016).

Information management looks at the flow of data across different functions in an organization. Improving performance require timely flow of information across various functions in an organization (Ristovska et al., 2017). Information management ensures that an organization is able to effectively and timely respond to the increasingly turbulent needs and preferences of the customers and this determines performance (Anunciação, Rosa, Costa & Oliveira, 2018). Information management is the basis of collaboration within logistic management operations of the firm. Voronkova, Kurochkina, Firova and Bikezina (2017) noted that information management looks at data on sales, the status of the orders of the customers, delivery schedules and capacity and the levels of inventories in an organization. Information management is associated with more flexibility in respect to resources utilization.

Material handling is the entire process where finished goods and materials are moved from the manufacturing entities to the intermediaries and all through to the final consumers. Therefore, material handling results into place as well as time utility (Furmans, Seibold & Trenkle, 2019). The underlying objectives of material handling include satisfaction of consumers and overall profitability of the enterprise. Through material handling, Yilmaz, Oztaysi, Durmusoglu and Oner (2017) suggested that an organization is able to effectively respond to the needs of the customers. It also seeks to ensure that every work station and machine gets the required products in the adequate quantity within the required time. Material handling seeks to ensure that the flow in value addition processes has been streamlined and controlled and this ensures that non-value addition processes have been eliminated (Sahu, Sahu & Sahu, 2017).

2.4 Firm Performance

Performance is a general term that offer a description of how an organization meets the formulated goals and objectives in a given time period for instance a financial year. Performance can also be viewed in terms of how an organization effectively utilizes its resources to create the value for its shareholders. The other definition of performance is given by Mkumbo, Ibrahim, Salleh, Sundram and Bahrin (2019) as the overall output resulting from the system as products (goods and services). Performance is therefore the best way which an organization realizes it's financial and market related goals.

Herciu and Șerban (2018) contend that performance is a multi-dimensional concept and it is the underlying goal why firms exist. The two basic criteria of measuring firm performance include the financial and the non-financial aspect. The key metrics in the financial perspective of firm performance include returns on investments, sales revenues, the overall share of the market of the firm, returns of the firm on its assets and equities. On the other hand, non-financial measures of performance cover elements like efficiency, effectiveness, customer satisfaction and flexibility (Daouia, Simar & Wilson, 2017). This study used financial and non-financial measures as indicators of firm performance. Specifically, the study focused on customer satisfaction and lead times as measures of firm performance.

2.5 Empirical Review

A study was conducted in Nigeria by Abdul, Oladipo and Olota (2019) demonstrated that transport and inventory management and information flow significantly predict the ability of an organization to perform. A similar study in Nigeria by Muazu (2019) did operationalize logistic management

into inbound and outbound logistics. From the results, the inbound and outbound logistic operations were all found to have a direct influence on firm's performance. Natasha, Shasho and Vladimir (2017) shared that the key targets of the logistic managers include effective management of the flow of information, inventory levels, warehousing as well as transportation systems.

In Albania, Korsita and Cania (2016) noted that communication and packaging are the key activities in logistic management that require improvement so as to enhance logistic operations. Khadijeh and Mohammad (2015) opine that logistics performance and supply chain performance are positively related and all have a significant link with firm performance. In Kenya, Mangala and Moronge (2019) indicated that organizations should work to improve on their transportation systems to optimize the potential benefits. With a key focus on Fast Moving Consumer Goods (FMCGs) in Nairobi, Muiga and Patrick (2019) indicated that management of inventories, order processing, transportation management and the flow of information all have significant interaction with performance of the entity.

Maata and Ombui (2018) found out that the integration of ICT is an important predictor of performance of an entity. Odhiambo, Onyango, Kibet and Kimutahi (2017) revealed that material handling and transportation management all significantly predict the ability of the firm to perform. An analysis by Mulongo (2017) covered reverse logistics, inventory management and warehousing as the variables, where all them were found to significantly predict performance of the firm. Mwangangi (2016) adopted the measures of logistic management to transport and inventory management, information flow, order processing and logistic information system as a moderator indicator. All the identified measures of logistics were found to significantly enhance performance of the firm.

2.6 Conceptual Framework

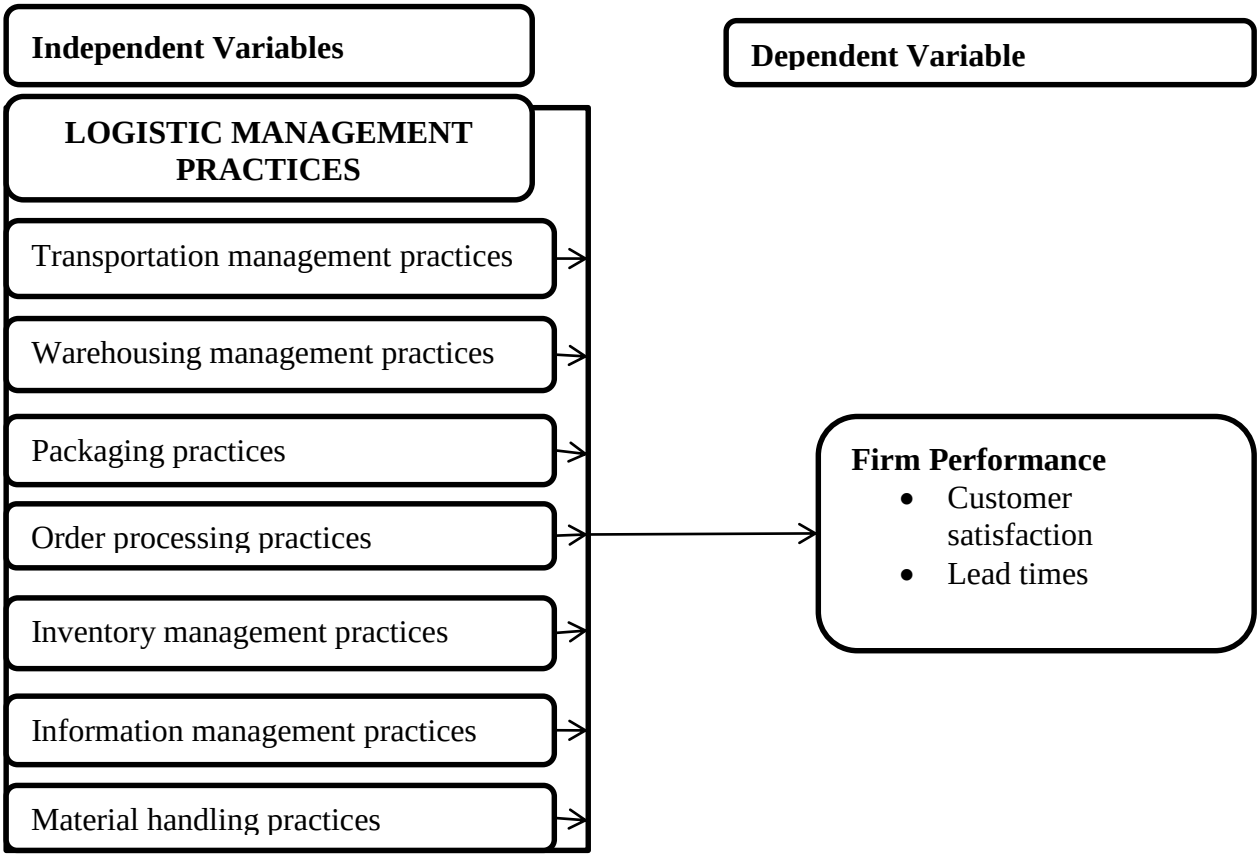

Figure 2.1: Conceptual framework
Source: Author (2020)

From Figure 2.1, the independent variables include transportation, warehousing, packaging, order processing, and inventory, information management and material handling. The dependent variable will be firm performance and it will be operationalized into customer satisfaction and lead times. The customer perspective of the BSC will be represented by customer satisfaction. Customer satisfaction will be measured by the number of customer complaints and the number of repeated purchases made by customers. Chepkoech (2013) operationalized customer satisfaction into number of customer referrals, repeated purchases, customer complaints, customer feedback

and the level of loyalty of customers on the product. Another study conducted by Ngar and Bichanga (2017) identified three measures of customer satisfaction as referrals, repurchase and customer retention.

2.7 Summary of Literature and Research Gaps

A summary of the studies reviewed with related gaps are indicated in subsequent Table.

Table 2.1: Summary of Literature and Research Gaps

Author & Year	Study	Methodology	Key Findings	Gaps	How to fill the gaps
Abdul et al. (2019)	Logistics management and organization's performance	Descriptive design adopted Done in Nigeria	Transport, inventory management and information flow significantly predict the ability of an organization to perform.	The study was conducted in Nigeria in flour milling industry and not in retail sector in Kenya	The present study was done in Kenya in the retail sector
Muazu (2019)	Interaction between logistics management and performance	Variables included inbound and outbound logistics	The inbound and outbound logistics operations have a direct influence on firm's performance	The study focused on manufacturing firms in Nigeria	The present study was conducted in Kenya among supermarkets
Mangala and Moronge (2019)	Logistics management practices and performance of firms that engaged in marketing of oil products	Covered oil marketing firms	Organization should invest more in information management to enhance the flow of products.	The study focused on oil marketing firms	The current study concentrated on supermarkets
Muiga and Patrick (2019)	Logistics management and distribution performance	Conducted among Fast Moving Consumer Goods	Management of inventories, order processing, transportation management and the flow of information all have significant interaction with performance of the entity	The study covered distribution performance	The present study looked at firm performance

Maata and Ombui (2018)	Logistics services offered by third parties and performance of supply chains	simple random technique of sampling used	The integration of ICT is an important predictor of performance of an entity.	The study looked at supply chain performance	The present study focused on firm performance
Odhiambo et al. (2017)	An assessment of logistics activities and how they interacted with performance.	descriptive survey used among agro processing firms	Material handling and transportation management all significantly predict the ability of the firm to perform.	The study covered only two constructs of logistics operations	The present study covered seven dimensions
Mulongo (2017)	Logistics practices in a strategic dimension and firm's performance.	Case study design used	Reverse logistics, inventory management and warehousing significantly predict performance of the firm.	The focus of the study was on the sugar industry with a case of Kibos Sugar Ltd.	The present study was cross sectional covering 27 supermarkets

Source; Author (2020)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides the methodologies that guided realization of the formulated objectives. Specifically, the chapter looks the research that was adopted by the inquiry with the targeted responded, how the views of the participants were sought and processed.

3.2 Research Design

This study adopted a descriptive survey research design. A descriptive design helped the study in determining the logistic management practices that are in place among supermarkets in Nairobi and as well as their performance. Similar studies that have used this design include Gitonga (2017) in an assessment of logistic management practices on operational performance using evidence from FMCG manufacturing firms. Mangala and Moronge (2019) also in an inquiry into logistic management practices and their influence on firm performance among oil marketing entities adopted a descriptive survey design.

3.3 Target Population

The target population of the study comprised of 37 supermarkets operating in Nairobi (Appendix II). Since the target population is relatively small and easily accessible, the study used census.

3.4 Data Collection

The view of the participants were sought through first hand methods aided by the questionnaire that had 3 sections. Section A looked at the general information; section B covered information

on logistic management practices while section C had information on firm performance. Some of the items on logistic management practices (transportation management, warehousing management, packaging, order processing, inventory management, information management and material handling) and firm performance was rated on a five point Likert scale The questionnaires were administered to respondents electronically through the email. The respondents included logistic managers/officers, procurement managers, transportation/warehousing managers and finance managers from supermarkets in Nairobi.

3.5 Data Analysis

The processing of the gathered views from the participants was done as aided by SPSS tool. This entailed use of descriptive and inferential statistics. Table 3.1 gives a breakdown of the analysis of the two specific objectives:

Table 3.1: Summary of Data Collection and Analysis

Objective	Data Analysis
To establish the logistic management practices among supermarkets in Nairobi, Kenya	Descriptive Statistics Means Standard Deviation
To determine relationship between logistic management practices and performance of supermarkets in Nairobi, Kenya	Inferential Statistics (Regression Analysis) $\mathbf{Y= \beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+ \beta_5X_5+ \beta_6X_6+ \beta_7X_7+\varepsilon}$**.....(i)** Where Y_1= Customer satisfaction B_0 = constant; β_1, β_2, $\beta 3$ and $\beta 4$ are coefficients e = error term X_1= Transportation Management X_2= Warehousing Management X_3= Packaging X_4= Order Processing X_5= Inventory Management X_6= Information Management X_7= Material Handling $\mathbf{Y_2=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\beta_6X_6+\beta_7X_7+\varepsilon}$**.....(ii)** Where $\mathbf{Y_2}$= Lead times $\mathbf{B_0}$ = constant; β_1, β_2, $\beta 3$ and $\beta 4$ are coefficients **e** = error term $\mathbf{X_1}$= Transportation Management $\mathbf{X_2}$= Warehousing Management $\mathbf{X_3}$= Packaging $\mathbf{X_4}$= Order Processing $\mathbf{X_5}$= Inventory Management $\mathbf{X_6}$= Information Management $\mathbf{X_7}$= Material Handling

Source: Author (2020)

CHAPTER FOUR: DATA ANALYSIS PRESENTATION AND INTERPRETATION

4.1 Introduction

The chapter details the views of the participants and how they were processed. The views were obtained with aid of the first hand sources. The processing was conducted through SPSS tool version 24.

4.2 Response Rate

Out of the 37 questionnaire that were issued to the supermarkets, 31 of them were dully filled and returned which was equivalent to a response rate of 83.8%. This response rate was supported by Yin (2014).

4.2 General Information

The study sought to understand the background information of the respondents which included; position held, working experience, level of education and years of operation. The categories are presented in the subsequent sections.

4.2.1 Position Held by Respondents

Table 4.1 is the breakdown of the position held by the particiopants. .

Table 4.1: Position Held by Respondents

	Frequency	Percent
Logistic manager/officer	9	29.0
Procurement manager	6	19.4
Transportation/warehousing manager	2	6.5
Finance manager	14	45.2
Total	**31**	**100.0**

Table 4.1 indicate that 45.2% of the respondents were finance managers, 29.0% were logistic manager/officer, 19.4% were procurement managers and only 6.5% were transportation/warehousing managers. This indicated that majority of the respondents were finance managers and therefore information collected was reliable.

4.2.2 Years of Experience

Table 4.2 gives the years of experience of the participants of the inquiry.

Table 4.2: Years of Experience

	Frequency	Percent
Less than 3 years	3	9.7
3-6 years	11	35.5
6- 9 years	15	48.4
Over 9 years	2	6.5
Total	**31**	**100.0**

The findings revealed that 48.4% of the respondents had worked for 6-9 years, 35.5% for 3-6 years, 9.7% had worked for less than 3 years and 6.5% for over 9 years. Majority of the respondents had worked for 6-9 years. This implies that majority of the respondents had enough experience and

understood better their work hence were able to provide relevant information that could be used for analysis.

4.3.3 Highest-level of Education

The results on the level of education of the respondents are indicated in Table 4.3.

Table 4.3: Highest-level of Education

	Frequency	**Percent**
Diploma & below	13	41.9
Undergraduate degree	14	45.2
Post graduate degree	4	12.9
Total	**31**	**100.0**

From the results, 45.2% of the respondents had undergraduate degrees, 41.9% had diplomas and below and 12.9% had postgraduate degrees. Hence, the participants had basis education to understand the issue at hand.

4.3.4 Years of Operation

Table 4.4 gives details in years of operation

Table 4.4: Years of Operation

	Frequency	Percent
Less than 3 years	3	9.7
3-6 years	7	22.6
6- 9 years	12	38.7
Over 9 years	9	29.0
Total	**31**	**100.0**

Table 4.4 shows that 38.7% of the firms had been in operation of 6-9 years, 29.0% for over 9 years, 22.6% for 3-6 years and 9.7% for less than 3 years. This shows that most firms had enough experience and therefore provided reliable information.

4.3 Logistics Management Practices

The study sought to establish the logistics management practices among leading supermarkets in Nairobi County, Kenya.

4.3.1 Transportation Management Practices

Table 4.5 is a summary of the findings on transportation management practices among the studied organizations.

Table 4.5: Transportation Management Practices

	Mean	Std. Dev
Transport management helps this firm to ensure goods reach customers in time	3.38	1.022
The transportation system of the firm has enhanced efficiency in logistics operations	3.45	.960
The transportation system of this firm is consistent	3.19	.909
The transportation system of this firm seeks to enhance the overall quality of the services	3.48	1.091
Overall Score	**3.38**	**0.996**

From the results, respondents stated that they did not know if the transportation system of their firm sought to enhance the overall quality of the services (M= =3.48 SD= =1.091) and that the transportation system of the firm had enhanced efficiency in logistics operations (M=3.45 SD=1.960. These results contradict with Shi, et. al (2019) who noted that transportation management creates time and place utility as it ensures that goods reach customers in time. Moreover, respondents were neutral that transport management helped the firm to ensure goods reach customers on time (M=3.38 SD=1.022) and that the transportation system of the firm was consistent (M=3.19 SD= 0.909). The findings contradict with Achahchah (2018) who stated that in logistics, there are three important factors that determine performance of the transport system: the degree of consistency, the speed and the costs.

4.3.2 Warehousing Management Practices

The descriptive statistics on warehousing management practices and performance of the leading supermarkets in Nairobi County, Kenya are summarized in Table 4.6.

Table 4.6: Warehousing Management Practices

	Mean	Std. Dev
The firm has a warehouse that helps to store goods	3.80	.654
The firm has competent warehousing staff	3.83	.454
The warehouse of this firm is easily accessible	2.67	.832
Stored goods help the firm to create time utility for its customers	3.83	.637
Overall Score	**3.53**	**0.644**

As indicated in Table 4.6, respondents agreed that stored goods helped the firm to create time utility for its customers (M= 3.83 SD= 0.637) and that the firm had competent warehousing staff (M= 3.83 SD= 0.454. the statements are in line with Heragu (2019) who noted that warehousing is a key component of a logistic system as it facilitates the storage of product from their original point all through to the final consumption point. Respondents also agreed that the firm had a warehouse that helped to store goods (M=3.80 SD= 0.654) and disagreed that the warehouse of the firm was easily accessible (M=2.67 SD= 0.832.

4.3.3 Packaging Practices

The findings on packaging practices among the studied organization are as shown in Table 4.7.

Table 4.7: Packaging Practices

	Mean	Std. Dev
Products are packaged in line with customer specifications in this firm	3.67	.979
The packaging materials used by the firm can easily be recycled by customers	3.74	.855
Packaging is used to protect products from mechanical damages in this firm	3.58	.885
Packaging is used to market the products of this firm to customers	2.96	.948
Overall Score	**3.49**	**0.917**

From the findings, Respondents of the study agreed that the packaging materials used by the firm can easily be recycled by customers (M=3.74 SD= 0.855), products are packaged in line with customer specifications in the firm (M=3.67 SD= 0.979) and that packaging was used to protect products from mechanical damages in the firm (M= 3.58 SD= 0.885). The results conquer with Lisińska-Kuśnier *et.al* (2016) who said that packaging ensures that the product is physically protected against changes in temperature, mechanical pressure and shocks. However, respondents disagreed that packaging is used to market the products of the firm to customers (M=2.96, SD= 0.948.

4.3.4 Order Processing Practices

Table 4.8 gives the results on order processing practices in the studied organizations.

Table 4.8: Order Processing Practices

	Mean	Std. Dev
The firm has online platforms where customers can place their orders	2.64	.877
The marketing staff of this firm confirm online orders of the customers on time	2.54	.505
The firm has partnered with delivery gents to make home deliveries to its customers	2.25	.444
Goods ordered online are usually paid on delivery by our customers	3.41	.992
Overall Score	**2.71**	**0.705**

As shown in Table 4.8, Respondents were not sure whether goods ordered online are usually paid on delivery by customers (M= 3.41 SD= 0.992). Furthermore, respondents disagreed that the firm had online platforms where customers can place their orders (M= 2.64 SD= 0.877), the marketing staff of the firm confirm online orders of the customers on time (M= 2.54 SD= 0.505) and also disagreed that the firm had partnered with delivery gents to make home deliveries to its customers (M= 2.25, SD= 0.444). The findings contradict with Kain and Verma (2018) who opined that order processing originates from the side of the customer when the client shops online, creates an account and places an order.

4.3.5 Inventory Management Practices

The summary of descriptive statistics on inventory management practices and performance of firms are presented in Table 4.9.

Table 4.9: Inventory Management Practices

	Mean	Std. Dev
The firm maintains a buffer stock to respond to changes in customer demands	4.16	.454
The firm has a just in time (JIT) inventory system in place	2.45	.567
JIT helps this firm order goods in response to the demands of the customers	2.29	.528
JIT helps the firm to reducing unnecessary built up of inventory items	2.32	.791
Overall Score	**2.81**	**0.585**

From the results in Table 4.9, Respondents were in agreement that the firm maintains a buffer stock to respond to changes in customer demands (M= 4.16 SD= 0.454). Respondents however disagreed that the firm had a just in time (JIT) inventory system in place (M= 2.45, SD= 0.567), JIT helped the firm to reducing unnecessary built up of inventory items (M= 2.32 SD= 0.791) and that JIT helped the firm order goods in response to the demands of the customers (M= 2.29 SD=0.528). The findings contradict with Kumar et.al, 2018 who noted that Inventory management ensures that an organization has stocked the required products in right quantity and quality to cushion against unexpected changes in consumer demands.

4.3.6 Information Management Practices

The study sought to determine the different opinions of the respondents on information management practices and performance of firms. The findings are shown in Table 4.10.

Table 4. 10: Information Management Practices

	Mean	Std. Dev
Customers can access information on the status of the orders in this firm	2.35	.984
The firm share information on delivery schedules with suppliers	2.45	.809
Information on customer complaints is collected for continuous improvement	3.77	.844
Information on competitors is collected to establish areas of improvement	3.67	.944
Overall Score	**3.06**	**0.895**

From the results, respondents agreed that information on customer complaints is collected for continuous improvement (M= 3.77, SD= 0.844) and that information on competitors is collected to establish areas of improvement (M= 3.67, SD= 0.944). The findings are in line with Worku (2018) who found out that information management helps to coordinate the movement of goods and services from the point of origin to the required destination in the supply chain. However, respondents disagreed that the firm share information on delivery schedules with suppliers (M= 2.45, SD= 0.809) and that customer can access information on the status of the orders in this firm (M=2.35, SD= 0.984).

4.3.7 Material Handling Practices

The findings on material handling practices are as indicated in Table 4.11.

Table 4.11: Material Handling Practices

	Mean	Std. Dev
Material handling helps the firm to create place utility for its customers	3.83	.820
The firm creates time utility for customers through material handling	4.09	.597
Material handling helps the firm to eliminate non-value adding activities	2.90	1.011
Material handling helps the firm to respond to the needs of the customers.	3.80	1.013
Overall Score	**3.66**	**0.860**

As indicated in Table 4.11, respondents agreed that the firm creates time utility for customers through material handling (M= 4.09 SD=0.597), material handling helped the firm to create place utility for its customers (M= 3.803, SD= 0.820) and that material handling helped the firm to respond to the needs of the customers (M= 3.80, SD=1.013). The results conquer with Furmans, et.al (2019) who narrated that material handling results into place as well as time utility. Respondents disagreed that material handling helped the firm to eliminate non-value adding activities (M= 2.90, SD=1.011).

4.4 Correlation Matrix

Correlation analysis was conducted between logistic management practices and performance. The results are as detailed in subsequent sections.

4.4.1 Logistics Management Practices and Customer Satisfaction

Table 4.12 gives correlation results on logistic management practices and customer satisfaction.

Table 4. 12: Correlation of Logistics Management Practices and Customer Satisfaction

		Customer Satisfaction	Transportation Management Practices	Warehousing Management Practice	Packaging Practice	Order Processing Practice	Inventory Management Practice	Information Management Practice	Material Handling Practices
Customer Satisfaction	Pearson Correlation	1							
	Sig. (2-tailed)								
	N	31							
Transportation Management Practices	Pearson Correlation	.135	1						
	Sig. (2-tailed)	.851							
	N	31	31						
Warehousing Management Practice	Pearson Correlation	.120	-.182	1					
	Sig. (2-tailed)	.520	.327						
	N	31	31	31					
Packaging Practice	Pearson Correlation	.264	-.092	.644**	1				
	Sig. (2-tailed)	.151	.624	.000					
	N	31	31	31	31				
Order Processing Practice	Pearson Correlation	.182	-.163	.226	.331	1			
	Sig. (2-tailed)	.327	.382	.221	.069				
	N	31	31	31	31	31			
Inventory Management Practice	Pearson Correlation	.102	.257	.069	-.043	-.283	1		
	Sig. (2-tailed)	.585	.163	.711	.817	.123			
	N	31	31	31	31	31	31		
Information Management Practice	Pearson Correlation	.206	.020	.186	.320	.066	.353	1	
	Sig. (2-tailed)	.266	.916	.317	.079	.725	.051		
	N	31	31	31	31	31	31	31	
Material Handling Practices	Pearson Correlation	.319	-.120	-.407*	-.535**	-.180	-.091	-.208	1
	Sig. (2-tailed)	.080	.521	.023	.002	.333	.628	.261	
	N	31	31	31	31	31	31	31	31

The results in Table 4.12 indicate that there exists postive but weak relationship (r=0.135) between Transportation Management Practices and customer satisfaction. It was noted that warehousing management practice had a weak and postive relationship (r=0.120) with customer satisfaction. Furthermore, packaging practice (r=.264), order processing practice (r=.182), inventory management practice (r=.102), information management practice (r=.206) and material handling practices (r=.391) all had postive relationship with customer satisfaction of leading supermarkets in Nairobi.

4.4.2 Logistics Management Practices and Lead Times

Table 4.13 gives a summary of the correlation between LMP and lead times.

Table 4.13: Correlation of Logistics Management Practices and Lead Times

		Lead Times	Transportation Management Practices	Warehousing Management Practice	Packaging Practice	Order Processing Practice	Inventory Management Practice	Information Management Practice	Material Handling Practices
Lead Times	Pearson Correlation	1							
	Sig. (2-tailed)								
	N	31							
Transportation Management Practices	Pearson Correlation	.202	1						
	Sig. (2-tailed)	.276							
	N	31	31						
Warehousing Management Practice	Pearson Correlation	.396*	-.182	1					
	Sig. (2-tailed)	.028	.327						
	N	31	31	31					
Packaging Practice	Pearson Correlation	.345	-.092	.644**	1				
	Sig. (2-tailed)	.057	.624	.000					
	N	31	31	31	31				
Order Processing Practice	Pearson Correlation	.077	-.163	.226	.331	1			
	Sig. (2-tailed)	.679	.382	.221	.069				
	N	31	31	31	31	31			
Inventory Management Practice	Pearson Correlation	.218	.257	.069	-.043	-.283	1		
	Sig. (2-tailed)	.240	.163	.711	.817	.123			
	N	31	31	31	31	31	31		
Information Management Practice	Pearson Correlation	.024	.020	.186	.320	.066	.353	1	
	Sig. (2-tailed)	.897	.916	.317	.079	.725	.051		
	N	31	31	31	31	31	31	31	
Material Handling Practices	Pearson Correlation	.286	-.120	-.407*	-.535**	-.180	-.091	-.208	1
	Sig. (2-tailed)	.118	.521	.023	.002	.333	.628	.261	
	N	31	31	31	31	31	31	31	31

Table 4.13 indicate that transportation management practices (r=.202), warehousing management practice (r=.396) and packaging practice (r=.345) all had postive correlation with lead times of the leading supermarkets in Nairobi. At the same time, order processing practice (r=.077), inventory management practice (r=.218), information management practice (r=.024) and material handling practices (r=.286) all had postive relationship with lead time of the leading supermarkets in Nairobi.

4.5 Regression Results on Logistics Management Practices and Performance

LMP and performance link is explored in the subsequent sections.

4.5.1 Logistics Management Practices and Customer Satisfaction

In order to determine the effect of logistics management practices on customer satisfaction, the study used regression analysis. In this regard, the logistic management practices were regressed against customer satisfaction.

Table 4.14 Model Summary on Customer Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733[a]	.537	.396	1.90801

The R^2 is given as 0.537, showing that 53.7% change in performance of leading supermarkets in Nairobi County, Kenya is explained by (transportation management practices, warehouse management practices, packaging practices, order processing practices, inventory management practices, information management practices and material handling practices).

Analysis of Variance on Customer Satisfaction

Table 4.15 is the ANOVA

Table 4.15 Analysis of Variance on Customer Satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Regression	97.236	7	13.891	3.816	.007[b]
Residual	83.732	23	3.641		
Total	**180.968**	**30**			

From the results in Table 4.15, the overall study model was significant. Table 4.16 is the coefficient

Table 4.16: Regression Coefficients on Customer Satisfaction

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	16.493	7.502		2.198	.038
Transportation Management Practice	.043	.205	.033	.210	.836
Warehousing Management Practice	.268	.406	.102	.659	.517
Packaging Practice	.396	.282	.234	1.406	.173
Order Processing Practice	.050	.273	.031	.182	.857
Inventory Management Practice	.142	.271	.086	.525	.605
Information Management Practice	.461	.227	.314	2.030	.054
Material Handling Practice	.747	.180	.645	4.139	.000

a. Dependent Variable: Customer Satisfaction

Consider the below link

$$\mathbf{Y = 16.493+0.043X_1 + 0.268X_2 +0.396X_3+0.050X_4+0.142X_5+0.461X_6+0.747X_7}$$

Where **Y** = Customer Satisfaction

$\mathbf{X_1}$ = Transportation Management Practice

$\mathbf{X_2}$= Warehousing Management Practice

$\mathbf{X_3}$= Packaging Practice

X_4= Order Processing Practice

X_5= Inventory Management Practice

X_6= Information Management Practice

X_7= Material Handling Practice

From the results in Table 4.16, of logistics management practices and customer satisfaction of leading supermarkets in Nairobi County, Kenya would be 16.493 units. Raising transportation management by a unit would see customer satisfaction improve by 0.043b units among the retail firms. A unit improvement in warehousing management practice would lead to an increase of .268 unit in customer satisfaction of leading supermarkets in Nairobi County, Kenya. A steady increase in packaging practice would lead to an increase of .396 customer satisfaction of leading supermarkets in Nairobi County, Kenya. Furthermore, an increase in order processing practice would lead to an increase in customer satisfaction of leading supermarkets in Nairobi County, Kenya by 5.0% unit. A steady improvement in inventory management practice would lead to .142 unit increase in customer satisfaction of leading supermarkets in Nairobi County, Kenya, a unit improvement in information management practice would lead to an increase in customer satisfaction of leading supermarkets in Nairobi County, Kenya by .461 unit and also a unit increase in material handling practice would result to an increase in customer satisfaction of leading supermarkets in Nairobi County, Kenya by 0.747 units.

At 5% level of significance, only information management practice and material handling practice had p-values ($p<0.05$), which means that they had significant effect on customer satisfaction.

4.5.2 Logistics Management Practices and Lead Times

Transportation management practice, warehousing management practice, packaging practice, order processing practice, inventory management practice, information management practice and material handling practice as the independent variables of the study were regressed against Lead times.

Table 4.17: Model Summary on Lead Times

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760[a]	.577	.449	1.61302

a. Predictors: (Constant), Material Handling Management Practice, Order Processing Practice, Information Management Practice, Transportation Management Practice, Warehousing Management Practice, Inventory Management Practice, Packaging Practice

The findings in Table 4.17 show the coefficient of correlation R as 0.760, indicating a positive correlation of effect of logistic management practices on lead times of leading supermarkets in Nairobi County, Kenya. The R^2 is given as 0.577, showing that 57.7% change in lead times is explained by logistic management practices (transportation management practices, warehouse management practices, packaging practices, order processing practices, inventory management practices, information management practices and material handling practices). Table 4.18 gives ANOVA details

Table 4. 18: ANOVA Statistics

	Sum of Squares	df	Mean Square	F	Sig.
Regression	81.706	7	11.672	4.486	.003[b]
Residual	59.842	23	2.602		
Total	**141.548**	**30**			

a. Dependent Variable: Lead-time

b. Predictors: (Constant), Material Handling Management Practice, Order Processing Practice, Information Management Practice, Transportation Management Practice, Warehousing Management Practice, Inventory Management Practice, Packaging Practice

Table 4.18 confirms that the model was significant hence relevant for application in this inquiry.

Regression Beta Coefficients and Significance on Lead Times

Table 4.19 gives the details on beta coefficients.

Table 4.19: Regression Beta Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	26.585	6.342		4.192	.000
Transportation Management Practice	.629	.173	.543	3.629	.001
Warehousing Management Practice	.264	.344	.114	.769	.450
Packaging Practice	.222	.238	.148	.929	.362
Order Processing Practice	.669	.231	.468	2.897	.008
Inventory Management Practice	.332	.229	.225	1.447	.161
Information Management Practice	.069	.192	.053	.360	.722
Material Handling Practice	.305	.153	.298	2.000	.057

Below is the fitted model:

$$\mathbf{Y = 26.585+0.629X_1 + 0.264X_2 +0.222X_3+0.669X_4+0.332X_5+0.069X_6+0.305X_7}$$

Where **Y** = Lead Times

$\mathbf{X_1}$ = Transportation Management Practice

$\mathbf{X_2}$= Warehousing Management Practice

$\mathbf{X_3}$**=** Packaging Practice

$\mathbf{X_4}$= Order Processing Practice

$\mathbf{X_5}$= Inventory Management Practice

$\mathbf{X_6}$= Information Management Practice

$\mathbf{X_7}$= Material Handling Practice

It was noted that raising transportation management practices by a unit would raise lead times by 0.629. Improving warehousing management practices by a unit would lead to 0.264 unit increase in lead times. A steady increase in packaging practice would lead to an increase of .222 unit lead times of leading supermarkets. Moreover, an increase in order processing practice would lead to an increase in lead times of leading supermarkets by 0.669 unit. A steady improvement in inventory management practice would lead to 0.332 unit increase in lead times of leading supermarkets, a unit improvement in information management practice would lead to an increase in lead times of leading supermarkets by .069 unit and also a unit increase in material handling practice would result to an increase in lead times of leading supermarkets by 0.305 unit. At 5%

level of significance, only transportation management practice, order processing practice and material handling practice had p-values ($p<0.05$) and thus they had significant effect on lead times.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is set out to detail a summary of the views from the analysis. The recap of the key issues established from the processing of the views of the participants is also provided with recommendations. The constraints and areas that need further inquiries are also pointed out in the chapter.

5.2 Summary of the Findings

5.2.1 Logistics Management Practices among Leading Supermarkets in Nairobi County, Kenya

The study established that material handling practices was the highly practiced aspect of logistic management among the leading supermarkets in Nairobi County followed by warehousing management practices, packaging practices, transportation management practices, information management practices, inventory management practices and lastly order processing practices. Since stock a little of inventories for sale, it therefore requires the adoption of material handling practices to effectively manage these items. In fact, some of the items stocked by these supermarkets are volatile, flammable and corrosive and thus the need to embrace material handling practice and probably the reason why it is the highly practiced aspect of logistic management in the leading supermarkets in Nairobi. Order processing was least practiced because majority of the leading supermarkets in Nairobi have not embraced online method to avail products to the

customers. It is therefore a normal practice for customers to physically visit these supermarkets as they purchase their essentials.

5.2.2 Logistics Management Practices and Performance of Leading Supermarkets in Nairobi County, Kenya

The study evaluated the interaction between logistic management and two measures of performance: customer satisfaction and lead times. From correlation results, logistic management practices had postive relationship both with customer satisfaction and lead times of the leading supermarkets in Nairobi. From the results of regression analysis, over half percent change in customer satisfaction of leading supermarkets in Nairobi County, Kenya is explained by logistic management practices in place. The ANOVA findings showed that logistic management practices significantly influences customer satisfaction of the leading supermarkets in Nairobi. Furthermore, material handling practice had the largest effect on customer satisfaction of the leading supermarkets in Nairobi followed by information management practice, packaging practice, warehousing management practice, inventory management practice, order processing practice and transportation management practice. However, information management practice and material handling practice were significant in respect to customer satisfaction.

The findings of the study further indicated that over half per cent change in lead times among the leading supermarkets in Nairobi County is explained by logistic management practices. The ANOVA findings showed that logistic management practices have significant effect in lead times of the leading supermarkets in Nairobi County. At the same time, order processing practice had the largest effect on lead timers of the leading supermarkets in Nairobi followed by transportation management practice, inventory management practice, material handling practice, warehousing

management practice, packaging practice and information management practice. Surprisingly, only transportation management practice, order processing practice and material handling practice were significant in affect lead times of the leading supermarkets in Nairobi.

5.3 Conclusion

Most of the leading supermarkets in Nairobi have highly adopted material handling practices, warehousing management practices and packaging practices as their logistic management practices. The other logistic management practices that major supermarkets in Nairobi have adopted include transportation management practices and information management practices. Among the least adopted logistic management practices among the leading supermarkets in Nairobi include order processing practices and inventory management practices.

The adoption of the logistic management practices has had far reaching effect on customer satisfaction and lead times. Material handling practice has the largest effect on customer satisfaction of the leading supermarkets in Nairobi followed by information management practice, packaging practice, warehousing management practice, inventory management practice, order processing practice and transportation management practice. Furthermore, order processing practice has the largest effect on lead times of the leading supermarkets in Nairobi followed by transportation management practice, inventory management practice, material handling practice, warehousing management practice, packaging practice and information management practice.

5.4 Recommendations of the Study

The policy makers in the leading supermarkets in Kenya should formulate relevant policies regarding logistic management practices to enhance performance. The policy makers in the County government on Nairobi should come up with policies that are geared towards promoting and improving logistic management practices of the leading supermarkets in Nairobi.

Logistic managers, procurement managers and supply chain managers of the leading supermarkets in Nairobi should improve on the logistic management practices in place so as to enhance performance. The marketing managers of the leading supermarkets in Nairobi should leverage on material handling practices so as to improve customer satisfaction as a measure of performance of their respective firms. In order to optimize lead time, the logistic managers of the leading supermarkets in Nairobi should seek to continuously improve on order processing practices in place.

5.5 Limitations of the Study

During collection of data, the Covid-19 pandemic had created the health crisis that affected physical interaction with the respondents. In fact, majority of the respondents were adhering to the Guidelines by the World Health Organization and the Ministry of Health in Kenya which made it hard to administer the questionnaire to the respondents during collection of data. Some of the respondents were working from home which called for adoption of online method in administration of the questionnaire to these respondents.

5.6 Suggestions for Further Research

The focus of further investigations should be on other firms like the leading pharmaceutical firms, the manufacturing Small and Medium Enterprises (SMEs) or the online shopping malls like Jumia and Kilimall. Further studies should be conducted linking logistic management practices and other proxies like growth, competitive advantage or operational performance aside from firm performance.

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APPENDICES

Appendix I: Questionnaire

I am Abbas Abdi Roble, a student at Nairobi University currently undertaking a research study on **LOGISTICS MANAGEMENT PRACTICES AND PERFORMANCE OF LEADING SUPERMARKETS IN NAIROBI COUNTY, KENYA**. You have been selected to participate in this study and I would highly appreciate if you assisted me by responding to all questions in the attached interview guide as completely, correctly and honestly as possible. Your response will be treated with utmost confidentiality and will be used only for research purposes of this study.

Your cooperation is highly appreciated. Thank you.

Yours sincerely

Abbas Abdi Roble

Feel Free to contact me on 0724101326

SECTION A: GENERAL INFORMATION

1. Kindly indicate the position you hold in your firm?

   Logistic manager/officer ( ) Procurement manager ( ) Transportation/warehousing manager ( ) Finance manager ( ) other……..specify

2. Kindly indicate the number of years you have served in your current position

   Less than 3 years ( ) 3-6 years ( ) 6- 9 years ( ) Over 9 years ( )

3. Kindly indicate your highest level of education

   Diploma & below ( ) Undergraduate degree ( ) Post graduate degree ( ) other…… Specify

4. Kindly indicate the number of years your firm has been in operation

   Less than 3 years ( ) 3-6 years ( ) 6- 9 years ( ) Over 9 years ( )

5. Do you have logistic management practices in your firm?

   Yes ( ) No ( ) I don't know ( )

SECTION B: LOGISTIC MANAGEMENT PRACTICES

7. Given below are statements on logistic management practices. Kindly indicate the extent of your agreement with these statements using a scale of 1-5; where 1=strongly disagree, 2=disagree, 3=don't know, 4=agree and 5=strongly agree.

TRANSPORTATION MANAGEMENT PRACTICES	1	2	3	4	5
Transport management helps this firm to ensure goods reach customers in time					

The transportation system of the firm has enhanced efficiency in logistics operations					
The transportation system of this firm is consistent					
The transportation system of this firm seeks to enhance the overall quality of the services					
WAREHOUSING MANAGEMENT PRACTICES	**1**	**2**	**3**	**4**	**5**
The firm has a warehouse that helps to store goods					
The firm has competent warehousing staff					
The warehouse of this firm is easily accessible					
Stored goods help the firm to create time utility for its customers					
PACKAGING PRACTICES	**1**	**2**	**3**	**4**	**5**
Products are packaged in line with customer specifications in this firm					
The packaging materials used by the firm can easily be recycled by customers					
Packaging is used to protect products from mechanical damages in this firm					
Packaging is used to market the products of this firm to customers					
ORDER PROCESSING PRACTICES	**1**	**2**	**3**	**4**	**5**
The firm has online platforms where customers can place their orders					
The marketing staff of this firm confirm online orders of the customers on time					
The firm has partnered with delivery gents to make home deliveries to its customers					
Goods ordered online are usually paid on delivery by our customers					
INVENTORY MANAGEMENT PRACTICES	**1**	**2**	**3**	**4**	**5**
The firm maintains a buffer stock to respond to changes in customer demands					

The firm has a just in time (JIT) inventory system in place					
JIT helps this firm order goods in response to the demands of the customers					
JIT helps the firm to reducing unnecessary built up of inventory items					
INFORMATION MANAGEMENT PRACTICES	**1**	**2**	**3**	**4**	**5**
Customers can access information on the status of the orders in this firm					
The firm share information on delivery schedules with suppliers					
Information on customer complaints is collected for continuous improvement					
Information on competitors is collected to establish areas of improvement					
MATERIAL HANDLING PRACTICES	**1**	**2**	**3**	**4**	**5**
Material handling helps the firm to create place utility for its customers					
The firm creates time utility for customers through material handling					
Material handling helps the firm to eliminate non-value adding activities					
Material handling helps the firm to respond to the needs of the customers.					

SECTION C: FIRM PERFORMANCE

8. Given below are statements on firm performance. Kindly indicate the extent of your agreement with these statements using a scale of 1-5; where 1=strongly disagree, 2=disagree, 3=don't know, 4=agree and 5=strongly agree.

CUSTOMER SATISFACTION	**1**	**2**	**3**	**4**	**5**
The number of customer complaints have reduced in this firm					
The number of repeated purchase by customers in this firm have increased					
The number of customer referrals of this firm have increased					
We receive positive feedback from our customers on the product offering in this firm					
We have loyal customers					
We have retained most of our customers					
LEAD TIMES	**1**	**2**	**3**	**4**	**5**
There has been a reduction in lead time in this firm					
The low lead time of this firm enables it to respond to changes in market demand					
Reduction in lead time has enabled this firm to fulfill customers' orders on time					
Reduction in lead times has resulted into reorder levels in this firm					
There has been a reduction in lead time variability in this firm					

END

THANK YOU

Appendix II: Supermarkets in Nairobi

1. Binka Mega Supermarket
2. Budget Supermarket
3. Carrefour Supermarket Kenya
4. Chandarana Supermarket
5. Choppies Supermarket
6. Cleanshelf Supermarkets
7. Eastmatt Supermarkets
8. Ebrahim Supermarkets
9. G-Mart Supermarkets
10. Grit Supermarket
11. Jaharis Supermarkets
12. Jatomy Supermarkets
13. JD's Supermarket

14. Karia Supermarket
15. Karrymatt Supermarkets
16. Kassmart Supermarkets
17. Maathai Supermarkets
18. Maguna Andu Supermarkets
19. Mulleys Supermarkets
20. Nairobi Matt Supermarket
21. Naivas Supermarkets
22. Ng'ororgaa Supermarkets
23. PakMatt Supermarket
24. Quickmart Supermarkets
25. Rikana Supermarket
26. Rikana Supermarkets
27. Rongai supermarket
28. Royal Seals Supermarket
29. Selfridges Supermarkets
30. Shoppers Supermarket
31. Shoprite Supermarket
32. Society Stores Supermarkets
33. StageMatt Supermarket
34. Suntec Supermarkets
35. Tumaini Self Service Limited
36. Tuskys Supermarkets

37. Uchumi Supermarkets

Source; Ministry of Industry, Trade and Cooperatives (2020)