EFFECT OF IN-STORE LOGISTICS OPERATIONS PRACTICES ON CUSTOMER SATISFACTION IN SUPERMARKETS IN MOMBASA COUNTY

BY

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DECLARATION

This research project is my original work and has not been submitted for the award of a degree in any other university.

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DEDICATION

First and foremost, I dedicate this work to almighty God for taking me through tough times during my course and in this life. Secondly I dedicate this work to my mother who never stepped her foot in class but talks with authority to what an educated mind can do its beholder, to the community and the world at large. I will never forget what she did to my life when I was heading straight into oblivion. Thirdly I dedicate this work to my lovely wife Monicah and our two daughters Vivian and Mary. I will never forget the long waits you had to endure for me to arrive to have dinner together. Finally, I dedicate this work to men and women of good will that I met during my course. Your encouragements kept me moving, your support rejuvenated my weakening strength to go on and your presence tamed my fears of the unknown. Thank you very much.

ABSTRACT

The study focus was to establish the relationship between in-store logistics operations practices on customer satisfaction in supermarkets in Mombasa County. The objectives of the study were as follows: determine the in-store logistics operations practices that have been adopted by supermarkets in Mombasa County, establish the effect of in-store logistics operations practices on customer satisfaction and to determine the challenges faced by the supermarkets when adopting in-store logistics operations practices. The study used descriptive cross sectional census survey design which describes people responses to questions about a phenomenon and perceptions. The study population was 10 supermarkets based on Mombasa County. The data collection was done by use of questionnaires that we administered to the respondents using drop and pick later method. The respondents were supermarket managers because they were deemed to be well versed with in-store logistics operations practices in their respective supermarkets. Descriptive statistics such as mean, standard deviation and frequency were used in the analysis. The study used correlation analysis to establish the relationship between independent variables (in-store logistics operations practices) and dependent variable (customer satisfaction). The study also used regression analysis to establish the association between independent variables and dependent variable. The study found out that supermarkets adopted a variety of in-store logistics operations practices in the areas of forward and reverse logistics, in-store activities, inventory management, multi-retail activities and data management and master store planning. The study also found out that customer satisfaction improved as a result of adopting in-store logistics operations practices. It was also established that the model had a moderate explanatory power of the relationship between in-store logistics operations practices and customer satisfaction. From the findings of the study, the researcher recommended that supermarkets should adopt forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning in-store logistics operations practices because they contribute to customer satisfaction. However, forward and reverse logistics operations practices was found to require careful management because it can easily lead to customer dissatisfaction if mismanaged. Policies and guided frameworks on integration of in-store logistics operations practices on routine operations of supermarkets were also recommended.

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LIST OF ABBREVIATIONS AND ACRONYMS

DC   Distribution Center

RFID   Radio Frequency identification Device

GAIN   Global Agricultural Identification Network

EDP   Expectancy – Disconfirmation Paradigm

GDP   Gross Domestic Product

RBV   Resource Based View

ASNs   Advanced Shipping Notices

CRM   Customer Relations Management

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Developing and maintaining a competitive advantage is becoming increasingly difficult for retail stores in today's hypercompetitive business and ever more complex global environment. As customers demand for more customized products and services offerings increases, stores are looking for new and innovative ways to differentiate themselves. An interesting opportunity is presented by the excellence in logistics operations (Yazdanparast, Manuj, & Swartz, 2010) . In-store logistics operations include handling, ordering, arranging and processing of merchandise within the store (Samli, Pohlen, & Jacobs, 2005). It focuses on all flow processes within outlets of store-based retailing (Kotzab & Teller, 2005). Kotzab (2000) characterized in-store logistics as consisting of point of destination (shelves), point of delivery, objects (single stock keeping units and related information) and tasks which involves transportation, inventory carrying and shelf management, and labelling and order management. The ultimate goal of in-store logistics is efficiency, which means to offer quantities of items as requested by end-users at lowest cost possible (Kotzab & Teller, 2005).

One of the propositions of a unified theory of logistics is that competitive advantage goal of the firm is to continuously create customer value to satisfy end users. Johnson (1998) determined that success in the market place rests on the firm's ability to attract, satisfy, and retain its customers by creating customer value. Accordingly, Bowersox *et al.* (2000) argued that the goal of integrated logistics, both inside and outside a firm within the supply chain, is to enhance customer value. Creating customer value is possible by focusing on

logistics customer service (Manrodt, Holcomb, & Thompson, 1997). Oliver (1980) proposed Expectancy-Disconfirmation Paradigm (EDP) as the most promising theoretical framework for assessment of customer satisfaction. According to this paradigm, consumers purchase goods and services with pre-purchase expectations about the anticipated performance. The expectation level then becomes the standard against which the product or service is judged once it is consumed or used with outcomes being compared with the expectations. Resource Based View explains that the identification and possession of internal strategic resources contributes to a firm's ability to create and maintain a competitive advantage and improve performance (Crook, Ketchen, Combs, & Todd, 2008).

Kenya has the second most developed retail market in sub-Saharan Africa with about 30 per cent of the retail shopping being done in formal outlets and it is the second most formalized African country in terms of formal retail penetration with retail penetration standing at around 30 per cent (Citigroup Report, 2012). The growth of supermarkets in Kenya has been attributed to increased urbanization, a growing middle class with a changing lifestyle as well as market liberalization that has led to competition in the sector. The dominant players in this sector include Nakumatt, Tuskys, Uchumi, Ukwala, Chandarana, Eastmatt and Naivas as well as Budget amongst other recent entrants. The Kenyan retail industry is hypercompetitive as a result of increased globalization, well informed and increasingly demanding customers as well as increased bargaining power of suppliers.

1.1.1 In-Store Logistics Operations Practices

In-store logistics involve the operations that manage the inventory flow from the store's receiving dock to the point of sale passing through the stock room (store warehouse). In-store logistics operations include handling, ordering, arranging and processing of merchandise within the store (Samli, Pohlen, & Jacobs, 2005). In-store logistics operational activities can be grouped into five main categories: forward and reverse logistics, in-store activities, inventory management, multichannel (online/store) retail activities, data management and in-store master planning.

Forward store logistics involves delivery to the store from distribution centers as well as from external vendors. Reverse in-store logistics involves returns from the customers as well as end of season returns from the store to the Distribution Center (DC). Forward and reverse logistics activities also manifests store-to-store transfers. In-store activities consists of the receiving process of the stock into the store, hanging point-of-sale labels, price tickets, promotional stickers and security tags. It also involves product put-away, replenishment and stocking operations as well as performing physical counts. Inventory management involves activities such as inventory optimization, accuracy and loss prevention as well as use of RFID technology. Multichannel (online/store) retail activities involves management of orders made online for in-store pick and researching online prior to making a purchase in the store.

1.1.2 Customer Satisfaction

Customer satisfaction is defined as a function of the customer's expectations and perceptions of performance according to the expectancy - disconfirmation paradigm (Tse & Wilton, 1988) and it is a construct closely related to perceived service quality (Magi &

Julander, 1996). Rust and Oliver (1994) suggests that customer satisfaction or dissatisfaction – a "cognitive or affective reaction" – emerges as a response to a single or prolonged set of service encounters. Satisfaction is a "post consumption" experience which compares perceived quality with the expected quality (Anderson & Fornell, 1994). Conceptually, satisfaction is an outcome of purchase and use resulting from the buyer's comparison of the rewards and costs of the purchase in relation to the anticipated consequences. Operationally, satisfaction is similar to attitude in that it can be assessed as the sum of the satisfactions, with the various attributes, of the product or service (Gilbert & Carol, 1982).

Satisfaction is a result of positive evaluation of the quality and value of various service elements. Customers compare their actual experiences with retailer's service with the expectations and the desired outcomes – thus satisfaction will depend on the competitive structure of the market, the degree of differentiation, customer involvement and shopping experience (Anderson *et al.,* 1994). In a retail setting, customers evaluate their service experience in various dimensions (Dick *et al.,* 1995). The first dimension is the store's servicescape in that many argue that satisfaction with the service experience increases when retail store makes it easy for the customers to find the products they are looking for, when the store layout seems logical and when there are enough signs (Bitner *et al.,* 1992, Richardson *et al.,* 1996). The second dimension is the store's products or merchandise (Bloemer & De Ruyter, 1998) and the third dimension involves interactions with the retail store personnel (Semeijn *et al.,* 2004). Personal interactions with the service provider are considered crucial to customer satisfaction (Bitner, 1990; Hartline *et al.,* 2000).

Customer satisfaction can be achieved by improving service quality. Ciavolino, Enrico & Jens (2007) contend that service quality is the measure of service levels based on the attributes of the core product or service. Such attributes include facility layout, clean environment, clear labeling, location, process - queue management, waiting time, express checkouts, operation hours, delivery time, additional services like parking, parent and baby facilities, loyalty/membership cards, variety of groceries, durability, merchandise quality and merchandising.

1.1.3 Supermarkets in Mombasa County

Between 2000 and 2010, Kenya has recorded a rapid growth in supermarkets and hypermarkets, with a growth of 32 per cent being realized (Kenya Economic Report, 2013). The wholesale and retail sub-sector is the second single largest source of growth after agriculture becoming a major source of employment and growth despite the facts that it is characterized by large number of small and microenterprises as well as informality. Supermarkets have been spreading very rapidly in major towns but with some base in the capital city. According to the Global Agricultural Information Network - GAIN report (2008), Kenya had over 494 supermarkets and 22 hypermarkets in 2008. Although many of the supermarkets are located in Nairobi, they have been gradually expanding to other towns. In 2012, the leading supermarkets in Kenya included Nakumatt (44 branches), Uchumi (37 branches), Tuskys (36 branches), Naivas (28 branches) and Ukwala (24 branches) (Kenya Economic Report, 2013). As is the case in other parts of the world, supermarkets are mainly found in major urban centres in Kenya such as Nairobi, Mombasa, Kisumu, Eldoret, Nyeri and Nakuru, among other upcoming towns. This can be anticipated

because in these towns there are a large number of middle income earners with requisite purchasing power.

The supermarkets in Mombasa County are Nakumatt, Uchumi, Tuskys, Naivas and Budget. Other smaller supermarkets also exist such as A-One supermarket. Majority of supermarkets in Mombasa County are branches of major supermarkets in Kenya with most of their headquarters being in Nairobi but they have independent operations from their mother supermarkets. A listing of all supermarkets in Mombasa County can be found at the *Appendix II* of this document.

All of these supermarkets offer a variety of fast moving household products and food as well as a wider range of non-food products. They occupy large floor space and their store design and layout is strategic. Most of them also offer good retail environment to attract and retain customers and are strategically located in major routes of Mombasa County and Mombasa Island district. Because of this, retail environment in Mombasa County is very competitive. The retailers who will be able to do more to customers by doing less will survive in the retail industry in Mombasa County.

1.2 Research Problem

In-store logistics is a part of retail logistics that has become an important issue for practitioners and researchers especially when focusing on the 'last mile' problem within an e-commerce context (Kopczak, 2001). The vast majority of retailers are losing up to 4 per cent sales annually from inefficient execution of critical day-to-day processes in the store emanating from stock out situations not being alerted on time, inconsistent and inefficient store execution from limited standardization of store processes, low visibility of

products and processes in the store and back room as well as poor execution of promotions and new products introductions (CEVA, 2009). Levy and Weitz (2004) suggested 'in-store logistics' as a 'hot topic' because of the dominance of retail-based retailing. Liebmann and Zentes (2001) observed that the analysis of the flow of goods within a self-service retail outlet from a supply chain perspective can be of two reasons quite 'appealing': that the availability of products in the shelves is an important key performance indicator for the purchasing transaction and that the inventory carrying and handling costs as well as costs for human resources are at that level of supply chain relatively intense.

In Kenya, wholesale and retail trade form the largest component of domestic trade and provide more opportunities for employment as well as playing a critical role in the growth of Kenyan economy (Kenyan Economic Report, 2013). In the last five years, the wholesale and retail trade has maintained an average of 10.2 per cent contribution to the GDP (Kenya Bureau of Statistics, 2013). Trends in today's retail markets such as increased globalization, easy access to the internet and well informed and increasingly demanding customers have made the retailing environment very competitive and complex (Olfa *et al.,* 2012). However, competitive strategies in this industry revolves around transactional approaches – the use of 4Ps (Product, Place, Price and Promotion) (Zineldine & Philipson, 2007). This is one of the reasons why retail industry is characterized by razor sharp rate of return margins. This over emphasis of use of transactional approaches has led to ignorance of in-store logistics operations potential in creation of customer value (Olfa et al., 2012) and as a way of achieving a competitive advantage.

Olfa *et al.* (2012) study on in-store logistics operations performance and customer outcomes found out that customers may derive a substantial share of their satisfaction from

interactions with the in-store logistics operations with customer-perceived performance of these operations influencing the customer satisfaction directly, but also through its influence on store image. Ton and Harrow (2010) carried out a study on how the Spanish supermarket chain Mercadona fixes the retail's 'last 10 yards' problem and found out that the secret for retail stores to offer aggressive prices, high-touch customer service, above-average employee wages and excellent employee training lies in the in-store logistics operations – the operations between loading dock and customer hands.

According to van Riel (2012), various threats from the retailing environment have prompted retailers to rethink their competitive strategies and thus they have started to seek more innovative ways to differentiate themselves from their competitors and have begun to view a distinctive service experience as vital to attracting and retaining customers. From the a foregoing discussion it is evident that many retail managers overly rely on transactional approaches to create competitive strategies, a trend which has led to ignorance of in-store logistics operations potential in creating customer value (Olfa *et al.*, 2012) as well as razor thin margins in retail industry. It is for this reason that this study sought to answer the question: What is the effect of in-store logistics operations practices on customer satisfaction in supermarkets in Mombasa County?

1.3 Research Objectives

The objectives for this study were:

i) To determine the in-store logistics operations practices that have been adopted by supermarkets in Mombasa County

ii) To establish the effect of in-store logistics operations practices on customer satisfaction in supermarkets in Mombasa County

iii) To determine the challenges of adopting in-store logistics operations practices by supermarkets in Mombasa County

1.4 Value of the Study

The study offers valuable contribution to theory, policy and practice of in-store logistics. More importantly, the study offers value to the body of operations management discipline by determining the relationship between in-store logistics operations practices and customer satisfaction that will form the basis of further study by identifying the knowledge gap that arises from this study. This study also offer scholars a foundation into the extent of application of in-store logistics operations practices.

In practice, the findings of this study can benefit the retail store managers and in-store logistics operations staff by providing an insight into how their respective stores can effectively manage their in-store logistics practices to create customer value as well as a competitive strategy in Kenya's increasingly complex and volatile retailing environment. This study offers an understanding on the importance of adopting in-store logistics operations practices and how they can be integrated within the store to gain a competitive advantage. This study can also help the retail managers and store designers to properly understand in-store logistics operations so that they can give more emphasis to in-store logistics operations thus mitigating their potentially negative impacts and turning them into drivers of an effortless retail experience.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature on the in-store logistics practices and the way they affect customer satisfaction in a retail environment. Five in-store logistics operations practices and their respective relationship with customer relationship are defined. This section finally establishes the research gap which is the foundation of this research.

2.2 Theoretical Review

This chapter defines the theoretical foundations in which this study is based which include unified theory of logistics, satisfaction theory as well as resource based view theory. The relationships of these theories with this study are elaborated at the end of description of each theory.

2.2.1 Unified Theory of Logistics

One of the proposition of a unified theory of logistics is that competitive advantage goal of the firm is to continuously create customer value to satisfy end users. A review of the theories of the firm leads to the conclusion that the role of logistics is to provide the boundary-spanning, demand and supply coordinating capabilities the firm needs to create customer value to satisfy customers. The logistics contribution to the firm's competitive advantage is significant in both efficiency (cost leadership) and effectiveness (customer service). Logistics capabilities for competitive advantage include demand-management interface capabilities (customer service and logistics quality), supply-management

interface capabilities (low cost supply and distribution), and information management capabilities (information sharing via information technology and connectivity).

Logistics capabilities also play an important role in boundary-spanning interfaces between internal functional areas and between the focal firm and supply chain partners. Coordinated with the marketing function, logistics can differentiate product and/or service offerings to fulfill unique customer requirements (Mentzer et al., 2001). When joined with production, logistics offers cost and investment reductions while maintaining service levels. Logistics capabilities also help the firm cooperate with supply chain partners (i.e. suppliers, distributors, and other intermediaries) in coordinating supply and demand flows to deliver customer value and, in return, in sharing benefits. Thus, logistics is an integral part of the larger concept of supply chain management.

Retailer's logistics, particularly in-store logistics operations, determine for a large part the interaction between a customer and the retail servicescape (Samli et al., 2005) leading to a "cognitive evaluation of the service experience" (Sandstrom, Edvardsson, Kristensson, & Magnusson, 2008). Stores can differentiate their offerings by streamlining the shopping experience and making customer's use of the service more convenient and satisfactory (Sandstrom et al., 2008). When customers decide where to shop or whether to return to a retailer, the quality of logistics services was found to be an important factor (Rafiq & Jaafar, 2007) with timeliness, availability, and delivery conditions creating value for customers and functioning as criteria for customer evaluations of logistics operations (Mentzer et al., 1999, 2001). Logistics can directly convey value to the customer in terms

of convenience and time saving, through an effortless interaction with the retail servicescape.

2.2.2 Expectancy – Disconfirmation Paradigm (EDP)

Oliver (1980) proposed Expectancy-Disconfirmation Paradigm (EDP) as the most promising theoretical framework for assessment of customer satisfaction. According to this paradigm, consumers purchase goods and services with pre-purchase expectations about the anticipated performance. The expectation level then becomes the standard against which the product or service is judged once it is consumed or used with outcomes being compared with the expectations. If the outcome matches the expectation, confirmation occurs, otherwise, a disconfirmation occurs wherever there is a difference between outcomes and expectations.

This paradigm notes that, a customer is either satisfied or dissatisfied as a result of positive or negative difference between expectations and perceptions. In this perspective, when the service performance is better than what the customer had initially expected, there is a positive disconfirmation between expectations and performance which results in satisfaction, while when the service performance is as expected, there is a conformation between expectations and perceptions which results in satisfaction. In contrast, when service performance is short of what the customer expected, there is a negative disconfirmation between expectations and perceptions which results in dissatisfaction. Satisfaction is a result of a positive evaluation of the quality and value of various service elements. Customers compare their actual experiences with the retailer's service with their

expectations and desired outcomes. Customers may derive a substantial share of their satisfaction from interactions with in-store logistics operations (Olfa *et al.,* 2012).

The main criticisms of this approach focus on the use of expectations as a comparison standard in measuring customer satisfaction, the dynamic nature of expectations and the timing of its measurement, the meaning of expectations to respondents, the use of difference scores in assessing satisfaction, and the reliability and validity of the EDP in predicting customer satisfaction (Yuksel & Yuksel, 2001). One of the problems related to the EDP is the suggested sequence of the model, which presupposes that everyone has precise expectations prior to the service experience. It is obvious that without these prior expectations, dis/confirmation of expectations cannot occur (Halstead, Hartman, & Schmidt, 1994). However, the logic of the EDP, stating that everyone has firm expectations of all attributes prior to service experiences, might be less meaningful in situations where customers do not know what to expect, until they experience the service.

2.2.3 Resource Based View Theory

Resource Based View (RBV) explains that the identification and possession of internal strategic resources contributes to the firm's ability to create and maintain a competitive advantage and improvement of firm's performance (Crook et al., 2008). Strategic resources are those that are valuable, rare or specific and inimitable in order to contribute to improving the performance of the firm. The theory is of the view that firs attempt to identify strategic resources that will most likely make them more competitive in the market and then employ these resources to their value (Sirmon, Hitt & Ireland, 2007).

In-store logistics operations, consisting of the handling, arranging, ordering and processing of merchandise within the store (Samli *et al*., 2005), can directly convey value to the customers in terms of convenience and time saving, through an effortless interaction with the retail servicescape thus becoming a strategic resource for the firm which they can use for competitive advantage.

2.3 In-Store Logistics Operations Practices

In-store logistics operational activities can be grouped into five main categories: forward and reverse logistics, in-store activities, inventory management, multichannel (online/store) retail activities, data management and in-store master planning.

2.3.1 Forward and Reverse Logistics

Forward store logistics involves delivery to the store from Distribution Centers (DCs), external vendors as well as from the promotional and merchandise materials. As the product is needed, it is first send to a Distribution Center (DC), and then to the retail stores. At each level in the network, forecasts can be used to help predict what will be needed, and shipments are sent in response to the need at the DC, or the retail level. At each level, advanced shipping notices (ASNs) provide visibility of the product coming in (Rogers & Tibben-Lembke, 2001).

Reverse in-store logistics involves returns from the customers as well as end of season returns from the store to the distribution center. It is defined as the movement of products or materials in the opposite direction for the purpose of creating or recapturing value, or for proper disposal (Rogers & Tibben-Lembke, 2001). Reverse logistics flow is much more reactive, with much less visibility as firms generally do not initiate reverse logistics activity

as a result of planning and decision making on the part of the firm, but in response to the actions by consumers or downstream members. When a customer returns an item to a retail store, the store collects the items to be send to a centralized sorting facility. At the time of the return, information about the product and its condition may be entered into the retailer's information system, and forwarded to the returns processing center. Forward and reverse logistics activities also manifests store-to-store transfers.

2.3.2 In-store Activities

In-store activities consists of the receiving process of the stock into the store, hanging point-of-sale labels, price tickets, promotional stickers and security tags. It also involves product put-away, replenishment and stocking operations as well as performing physical counts. These may be referred to as interior retail atmospherics. The purpose of effective manipulation of all elements of retail atmospherics is to generate positive consumer behavior towards the store and this behavior can be linked to increased levels of browsing and increased levels of consumer spend in store. The overall store atmosphere can influence transaction spend, repeat purchases, consumer opinion of the store, consumer opinion of products and the amount of time spent browsing in store (Swinyard, 1993). Turley and Chebat (2002) put forward the need to integrate operational management with atmospherics in store to contribute to successful sales performance and the building of consumer satisfaction and loyalty.

Interior store atmospheric variables include such factors as color, lighting, sounds, smells and decor. Turley and Milliman's (2000) 12-point of purchase atmospherics (including shelf space, displays and product labelling) were considered to be elements that could be

changed to achieve more sales. Where consumers have minimal product knowledge then the prominence of a product (in terms of shelf space and display) affects the level of sales it enjoys (Healy, Beverland, Oppewal, & Sands, 2007). Atmospheric variables such as in-store promotions and product placement can improve a retail outlet's performance by causing the consumer to undertake unplanned or impulse purchases (Beatty and Ferrell, 1998).

In any retail setting, customers tend to evaluate their service experience in various dimensions (Dick et al., 1995). The first of these dimensions is the store's servicescape or physical environment, in that, satisfaction with service is argued to increase when the store makes it easy for customers to find the products they are looking for, when the layout of the store looks logical, and when there are enough signs (Richardson et al., 1996). The second dimension is the store's products or merchandise (Bloemer & De Ruyter, 1998) and the final dimension involves the interactions with store personnel (Semeijin et al., 2004). Personal interactions with the service provider are considered crucial to customer satisfaction (Hartline, Maxham, & McKee, 2000) because they reflect both the quality of the personnel and the ease with which the customers can interact with the service provider.

2.3.3 Inventory Management

The main aim of inventory management is to ensure that firms hold inventories at the lowest cost possible while at the same time ensuring that the firm has adequate and uninterrupted supplies to enhance continuity of operations (Mpwanya, 2004). Bhausaheb and Routroy (2010) found out that companies are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately

ensure customer satisfaction. According to retail historian, Robert Spector, a critical factor for retailers is that they have to have a good inventory system. If the retailer does not have a good inventory system, they will not be able to forecast demands with any kind of accuracy.

High levels of inventory increases the probability that the customers are likely to get what they want, increases sales and service levels (Cachon & Terwiesch, 2006). High inventory levels however lead to both stock holding costs and in-store logistics errors because it becomes difficult for the employees to perform shelving and replenishment which makes goods physically available in the store but the employees cannot trace those (phantom products) (Ton & Raman, 2005). It is on this reason that maintaining optimum levels of inventory is important in an organization because excess inventory results in stock holding costs (rental charges, opportunity costs, obsolescence costs, breakages, pilferage) and inadequate inventory (stock outs) is also costly as customers may leave to competitors (Berling, 2011). Efficient inventory management ensures that materials needed in the organization are available in the right quality and quantity thus avoiding issues of overstocking and understocking and ultimately guaranteeing customer satisfaction and profits (Ewuola et al., 2005).

2.3.4 Multi-channel Retail Activities

Multi-channel (online/store) retail activities involves management of orders made online for in-store pick and researching online prior to making a purchase in the store. Firms that provide interchangeable service channels "appear increasingly appealing to customers" (Bendoly et al., 2005) because the opportunity to use additional service channels may mean

more service outputs, convenience, time savings and reliability (Coughlan et al., 2001) with the firm benefiting in cross-selling, service innovations, cost reductions, customization and flexibility (Bitner et al., 2000). According to Johnson (2004), the future of retailing belongs to those retailers who execute seamless multi-channel access simply because retailers must be where shoppers want them, when they want them, anytime, anywhere and in multiple formats (Feinberg, Trotter & Anton, 2000). The goal of retailing is to attract customers, keep customer, and increase "wallet share" and a multi-channel presence increases the probability of all three (Chu & Pike, 2002).

One can construct an argument for the importance of multi-channel retailing for retail success by noticing that most of retail sales on the Internet are done by multi-channel retailers (Johnson, 2004). Patricio et al. (2003) reasoned that customers may have different channel preferences and expectations for different service types depending on their needs and demands, as well as on the capabilities of the service delivery channel.

2.3.5 Data Management and Store Planning

The ability to acquire, manage and model customer information is key to sustaining a customer advantage (Hogan, Lemon & Rust, 2002). Customer Relations Management system (CRM) enable firms to customize their offerings for each customer. By accumulating information across customer interactions and processing this information to discover hidden patterns, CRM applications help firms customize their offerings to suit the individual tastes of their customers. Customized offerings enhance the perceived quality of products and services from a customer's viewpoint. Because perceived quality is a determinant of customer satisfaction, it follows that CRM applications indirectly affect

customer satisfaction through their effect on perceived quality. CRM also enable firms to improve the reliability of consumption experiences by facilitating the timely, accurate processing of customer orders and requests and the ongoing management of customer accounts. Both an improved ability to customize and reduce variability of the consumption experience enhance perceived quality, which in turn positively affects customer satisfaction. CRM applications also help firms manage customer relationships more effectively across the stages of relationship initiation, maintenance, and termination (Reinartz et al., 2004) which is the key to managing customer satisfaction and customer loyalty.

Store planning activities include space allocation, dealing with circulation within the store and preventing shrinkages in the store. The core activity in store planning involves coming up with a master floor plan - a schematic that shows where merchandise and customer service departments are located, how customer circulate through the store and how much space is dedicated to each department. Different types of space are needed: backroom, office and other functional spaces, aisles, service areas and other non-selling areas of the main sales floor, wall merchandising space as well as floor merchandising space. Different store flow layouts can be adopted by the retailer depending on the size of the space available.

2.4 In-store Logistics Operations Practices and Customer Satisfaction

The quality of logistics services was found to be an important factor that influence customers to decide where to shop or whether to return to a retailer (Rafiq & Jaafar, 2007). Timeliness, availability, and delivery conditions create value for customers and functions as criteria for customer evaluations of logistics operations (Zineldin, 2004). In-store

logistics operations influence the interaction between the customer and the store affecting the potential of customer value co-creation (Olfa, Allard, van Riel, & Simeijn, 2012). Retailer's logistics operations, particularly its in-store logistics (Samli *et al.*, 2005) determine for a large part how customer experience this interaction (Yazdanparast *et al.*, 2010).

Product presence is one of the observable outcome of proper in-store logistics operations performance (Olfa et al., 2012) in that only when the products are available can the customers evaluate them and decide whether or not to purchase them. Shelf stock-outs, the unavailability of products to the customer even though there is a sufficient stock at the retailer's stock room, is an indicator of poor in-store logistics operations and it affects the level of customer satisfaction (Mentzer et al., 1989), loyalty (Keebler et al., 1999).According to Dabholkar *et al* (1996), customers care about returns – merchandise or returnable packaging taken back to the retailer (Dunne et al., 1992) to the extent that it can affect their choice of the next shopping destination. Customers expect a dedicated service desk to receive defective or unwanted merchandise with clean and easily accessible receptacles.

The product information provided by the retail store affects how the customers perceive the retail service because with adequate information, customers can make better purchase decisions (Mentzer et al., 1999) which creates value for them hence satisfaction. Checkout lanes and their associated waiting time, and the availability of shopping aids such as packaging materials and shopping carts (Silberer & Friedemann, 2011) may directly affect customer satisfaction and can have a disproportionate influence on the customer perception of the store (van Riel *et al.*, 2012).

According to retail historian, Robert Spector, a critical factor for retailers is that they have to have a good inventory system. If the retailer does not have a good inventory system, they will not be able to forecast demands with any kind of accuracy. This might result in them running out of stock every so often (Levinson, 2005). Stock outs have a direct impact on retailer financial performance because they lead to lost sales when shoppers opt to purchase some items elsewhere or cancels their shopping trip altogether. Immediate sales losses due to stock outs are estimated at 4 percent of sales (Gruen *et al*., 2002), which is about the same as the average 5 percent of sales retailers spend on logistics (Sivakumar, 2010). Bhausaheb and Routroy (2010) found out that companies are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately ensure customer satisfaction. Efficient inventory management ensures that materials needed in the organization are available in the right quality and quantity thus avoiding issues of overstocking and understocking and ultimately guaranteeing customer satisfaction and profits (Ewuola *et al*., 2005). Lee and Kleiner (2001) stated that in order to manage inventory management successfully, "retailers should understand customer needs, vendor partnerships, technology, data integrity, and performance measurements". However, results of a study carried out by Rosenfield and Simchi-levi (2010) shows that inventory management has a huge financial implication on both the customer satisfaction and financial performance of an enterprise.

Firms that provide interchangeable service channels "appear increasingly appealing to customers" (Bendoly *et al*., 2005) because the opportunity to use additional service channels may mean more service outputs, convenience, time savings and reliability (Coughlan *et al*., 2001) with the firm benefiting in cross-selling, service innovations, cost

reductions, customization and flexibility (Bitner *et al*., 2000). According to Johnson (2004), the future of retailing belongs to those retailers who execute seamless multi-channel access simply because retailers must be where shoppers want them, when they want them, anytime, anywhere and in multiple formats (Feinberg, Trotter & Anton, 2000). Customers may have different channel preferences and expectations for different service types depending on their needs and demands, as well as on the capabilities of the service delivery channel (Patricio *et al.,* 2003). Shankar *et al.* (2003) stated that on and off channels have their distinct (dis)advantages that might cause "some carryover of (dis)satisfaction with the shopping process to (dis)satisfaction with the service provider.

The ability to acquire, manage and model customer information is key to sustaining a customer advantage (Hogan, Lemon and Rust, 2002). Customer Relations Management system (CRM) enable firms to customize their offerings for each customer. By accumulating information across customer interactions and processing this information to discover hidden patterns, CRM applications help firms customize their offerings to suit the individual tastes of their customers. Customized offerings enhance the perceived quality of products and services from a customer's viewpoint. Because perceived quality is a determinant of customer satisfaction, it follows that CRM applications indirectly affect customer satisfaction through their effect on perceived quality. CRM also enable firms to improve the reliability of consumption experiences by facilitating the timely, accurate processing of customer orders and requests and the ongoing management of customer accounts. Both an improved ability to customize and reduce variability of the consumption experience enhance perceived quality, which in turn positively affects customer satisfaction. CRM applications also help firms manage customer relationships more

effectively across the stages of relationship initiation, maintenance, and termination (Reinartz, Krafft, and Hoyer, 2004) which is the key to managing customer satisfaction and customer loyalty.

2.5 In-Store Logistics Operations Challenges

Shelf stock-outs is one of the major challenge of in-store logistics operations and it is an indicator of poor in-store logistics which affect level of customer satisfaction (Mentzer et al., 1989). Keeping sufficient inventory at any given time in a store is a challenge because high-stock levels can prove costly especially for perishable items. Store-level activities account for a considerable part of total supply chain costs in form of in-store handling costs, transportation costs (DC to store), DC handling costs as well as inventory costs. Labor costs (for in-store logistics staff) can make up more than 57 percent of total operating costs (Broekmeulen *et al.,* 2004).

Returns is another challenge as it requires clean and accessible receptacles as well as a service desk (Olfa *et al.,* 2012) which increase the store operating costs. Multi-channel operations adoption is inhibited by consumer's limited access to broadband internet service, operational difficulties of integration and costs of multi-channel offerings (Zhang *et al.,* 2010). The costs associated with acquisition and operation of big data analytical tool also poses a challenge to the in-store logistics operations. Poor store plan creates many bottlenecks within the store which results to inefficient in-store logistics operations.

2.6 Empirical Literature Review

In-store logistics operations play a strategic role in store retail's success (Bienstock et al., 1997; Mentzer et al., 2001). They aren't perceived anymore as a simply operational

activity, but rather as a strategic variable which is an essential factor for the consumers'

satisfaction and loyalty (Gil-Saura et al., 2010). Thus, retailers must understand the needs

of customer in term of logistics service in order to provide them the highest value. Failure

to meet customer's needs can lead to effects of dissatisfaction multiplying resulting to

customer going to another store, enjoying another retail experience, and complain about

the earlier negative experience (Samli et al., 2005). Perreault and Russ (1974) maintained

that logistics activities create to consumer's time, place and form utility thus retailers

should enhance product value by making it available to the consumer with "the right

amount, of the right product, at the right place, at the right time, in the right condition, at

the right price, with the right information" – the so-called "Seven Rs" (Bienstock et al.,

2008).

In-store logistics is attracting the attention of researchers because of the dominance of store

based-retailing (Levy & Weitz, 2004) as well as need for retailers to rethink their

competitive strategies by seeking more innovative ways in distinctive service experience.

Customers may derive a substantial share of satisfaction from interactions with the in-store

logistics operations with customer-perceived performance of these operations – an

important element of retail servicescape - influencing the customer satisfaction directly, as

well store image (Olfa *et al.*, 2012). The ability to offer aggressive pricing, high-touch

customer service and above-average employee wages by retailer lies on in-store logistics

operations – the operations between stores' loading dock and customer hands. (Hanna,

2010).

Different managerial strategies and tactics have different performance impacts on the in-

store logistics operations and different efficiency levels exists for different store formats -

the hybrid store format of the small hypermarket exhibits a comparatively worse performance in the execution of the in-store logistics processes (Kotzab *et al.*, 2005). Strategic and tactical design of the in-store logistics processes (such as store locations/layouts, capacity management, reorder time, order period, and safety stock factors) lead to substantial service performance improvements (such as higher on-shelf availability combined with reduced inventory obsolescence costs) as well as in performance figures when delivery delays and damage to products are reduced (Kotzab *et al.,* 2005).

2.7 Summary of Literature Review

Although relatively few studies have focused on in-store logistics operations especially from a retailer perspective, there exists sufficient evidence that retailers can use in-store logistics operations to differentiate customer experience and create a competitive edge. However most of the retail managers insist on using transactional approaches such as price, promotions, place and product as sources of their competitive advantage. This emphasis typically ignores the potential of in-store logistics operations in the creation of the customer value.

In-store logistics operations largely determine how and to what extent the customers can navigate the retail servicescape in an efficient, convenient, enjoyable and effective manner. In-store logistics operations practices have been identified but there has never been a study to determine the effect of each of these practices on customer satisfaction. This study sought to determine the effect of in-store logistics operations practices on customer satisfaction. The study was guided by the following Conceptual Framework

Figure 2.1 Conceptual Framework

Independent Variables	Dependent Variable
In-store Logistics Operations Practices - Forward and reverse logistics - In-store activities - Inventory Management - Multi-channel retail activities	**Customer Satisfaction** - Increase in customer patronage time - Increase in store sales volume - Increase in individual customer purchases - Uptake of multi-channel services - Increase in customer

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was applied in conducting the study. It covers the research design, target population, data collection methods and finally data analysis techniques.

3.2 Research Design

This study involved a descriptive cross-sectional census survey design. A survey is a research technique in which information is gathered from a sample of people using a questionnaire (Zikmund, Ward, Lowe, Winzar, & Babin, 2011). A cross-sectional survey collects data to make inferences about a population of interest at a particular point in time. The purpose of descriptive survey research is to determine and report the way things are and it helps in establishing the current status of the population under study (Mugenda, 2003). This design was the most appropriate since it ensures that the data obtained gives appropriate answers to the research questions.

3.3 Population of the Study

The population of the study comprised all supermarkets in Mombasa County. There are 12 supermarkets in Mombasa County. A list of these supermarkets is available in *Appendix II* of this document. Since this was a small population, a survey of all the 12 supermarkets was undertaken making this a census study. Therefore there was no sampling of the population.

3.4 Data Collection

This study used primary data. The primary data was collected using structured questionnaire. A structured questionnaire consists of well formulated questions and fixed response alternatives that are directly related to the research objectives (Wegner, 2000). The questionnaire was administered using drop and pick later method. The questionnaire had three sections: general information of the respondents, in-store logistics operations practices and finally customer satisfaction variables. Data collected helped to assess the customer satisfaction as a result of forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities, data management and store planning. The study respondents were supermarket managers because they were deemed to understand in-store logistics operations and how they affect customer satisfaction in their respective supermarkets. One respondent per supermarket was considered.

3.5 Data Analysis

The data collected was cleaned, validated and edited for accuracy, uniformity, consistency and completeness. Descriptive statistics was used to determine the extent to which in-store logistics operations practices contributed to customer satisfaction. Regression analysis was then used to test the relationship between in-store logistics operations practices and customer satisfaction.

The following regression model will be used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

In the above equation, Y represents customer satisfaction, β_0 represents the level of customer satisfaction without the influence of the in-store logistics operations practices.

X_1, X_2, X_3, X_4, X_5 represents forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning respectively. β_1, β_2, β_3, β_4 and β_5 are the coefficients of forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning respectively and they represent the estimate effect of each of these categories of in-store logistics operations practices on customer satisfaction. ε is the error term which represents other factors that affect customer satisfaction which are not considered in this study or are outside the scope the this study.

The multiple correlation coefficient R was used to test the strength of the relationship between the independent variables and dependent variable. The strength of the model in explaining the effects of in-store logistics operations practices on customer satisfaction was then tested using R^2.

3.6 Operationalization of the Study Variables

Independent variables consisted of specific in-store logistics operations which were derived from four general categories namely forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning. The dependent variable was customer satisfaction. Dependent variable was measured in terms of increase in sale volumes of the store, sustained loyalty of customers, increase in patronage time of individual customers as well as the increase in purchases per customer visit.

Table 3.1: Operationalization of Independent Variables

Independent Variables	Indicators
1. Forward and reverse logistics	- Existence of a dedicated backroom for the store - Existence of advanced shipping notices (ASNs) - Existence of returns processing center and sorting facility - Availability of forecasts made to predict what is needed
2. In-store activities	- Proper in-store promotions and product placement - Proper manipulation of all elements of retail atmospherics - Existence of proper documentation of in-store activities - Integration of operational management with store atmospherics
3. Inventory management	- Low cost of holding inventory - Adequate and uninterrupted supplies - Existence of good inventory system - Minimal number of stock-outs
4. Multichannel retail activities	- Existence of multiple interchangeable service channels - Existence of pick section for online buyers - Existence of door-to-door delivery service
5. Data management and store planning	- Existence of Customer Relations Management System (CRM) - Analytical evidence of customer data - Availability of customized offerings - Timely and accurate processing of customer orders - Good store master floor plan - Managed customer relationships across all stages

Table 3.2: Operationalization of Dependent Variable

Dependent Variable	Indicators
Customer Satisfaction	- Increase in patronage time of customers - Increase in store sales volume - Increase in individual customer purchases - Uptake of multichannel retail activities by customers - Increase in customer loyalty of the store - Increase in store image

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter contains data analysis and findings from the study. The analysis is focused on study objectives. The study sought to determine the effect of in-store logistics operations practices on customer satisfaction in supermarkets in Mombasa County, to establish the in-store logistics operations practices that have been adopted by the supermarkets in Mombasa County as well as challenges encountered by these supermarkets when adopting in-store logistics. The findings are presented as a report of the questions answered by the respondents. Out of the 12 supermarkets targeted, 10 responded. This formed a response rate of 83.3% thus being adequate since it is above 50% as recommended by Mugenda (2003).

4.2 General Information

The respondents were characterized by the years they have been in operation and the number of in-store logistics staff.

4.2.1 Years in Operation of the Supermarket

Table 4.1: Supermarket Operational Duration

	Frequency	Percent	Valid Percent	Cumulative Percent
1-9 Years	4	40.0	40.0	40.0
10-19 Years	5	50.0	50.0	90.0
20-29 Years	0	0.0	0.0	90.0
30-39 Years	0	0.0	0.0	90.0
40-49 Years	1	10.0	10.0	100.0
Total	10	100.0	100.0	

Source: Research Data (2015)

The respondents were asked to indicate the number of years they have been in business. Majority of the respondents representing 50% respondent that they have been in business for 10-19 years. Another 40% responded that they have been in business for 1-9 years. Only 10% responded that they have been in business for 40-49 years. None of the respondents have been in business between 20-39 years. From the results it can be inferred that majority of the respondents have the necessary experience hence they could give responses.

4.2.2 Number of In-store Logistics Staff

Table 4.2: Number of In-Store Logistics Staff

	Frequency	Percent	Valid Percent	Cumulative Percent
1-20	1	10.0	10.0	10.0
21-30	1	10.0	10.0	20.0
31-40	0	0.0	0.0	20.0
41-50	0	0.0	0.0	20.0
Above 51	8	80.0	80.0	100.0
Total	10	100.0	100.0	

Source: Research Data (2015)

The respondents were asked to indicate the number of in-store logistics operations in their supermarkets. The results are shown in Table 4.2. Majority of the respondents representing 80% said the number of in-store logistics staff in their supermarket is above 51. Also 10% of the respondents responded that they have 1-20 in-store logistics staff with the remaining 10% having responded that they have 21-30 in-store logistics staff.

4.3 In-store Logistics Operations Practices Adopted by the Supermarkets

The research sought to investigate the in-store logistics operations practices that have been adopted by supermarkets. The respondents were asked to indicate the extent to which in-store logistics operations are important to their respective supermarkets. The in-store logistics operations practices were adopted in activities relating to forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and master store planning. The following subsections discuss the results; a likert scale was used where 1=unimportant, 2= less important, 3=moderately important, 4= very important and 5=extremely important.

4.3.1 Forward and Reverse Logistics

The research sought to find out the extent to which forward and reverse logistics activities are important to the supermarket.

Table 4.3: Descriptive Statistics of Forward and Reverse Logistics

	N	Mean	Std. Deviation	Rank
A dedicated backroom for the store	10	4.1	0.9944	2
Returns processing center and sorting facility	10	3.7	1.0594	3
Use of advanced shopping notices	10	3.4	0.6992	4
Forecasts to predict what is needed in the store	10	4.8	0.6325	1
Valid N (listwise)	10	4		

Source: Research Data (2015)

From the table 4.3, the most commonly practiced forward and reverse logistics operation practice is forecasts to predict what is needed in the store with a mean of 4.8 followed by a dedicated backroom for the store with a mean of 4.1. The least practiced forward and

reverse logistics practices are returns processing center and sorting facility and use of advanced shopping notices with a mean of 3.7 and 3.4 respectively.

4.3.2 In-store Activities

The research sought to find out the extent to which in-store activities are important to the supermarkets.

Table 4.4: Descriptive Statistics for In-store Activities

	N	Mean	Std. Deviation	Rank
In-store promotions and product placement	10	4.1	1.1972	2
All elements of retail atmospherics	10	3.6	0.6992	3
Proper documentation of in-store activities	10	4.6	0.6992	1
Integration of operational management with store atmospherics	10	3.1	0.9944	4
Valid N (listwise)	10	3.85		

Source: Research Data (2015)

From table 4.4, the most commonly practiced in-store logistics operation in in-store activities is proper documentation of in-store activities with a mean of 4.6. This is followed by in-store promotions and product placement with a mean of 4.1. Operations concerning all retail activities has a mean of 3.6. The least practiced logistics operation in in-store activities is integration of operational management with store atmospherics with a mean of 3.

4.3.3 Inventory Management

The research sought to find out the extent to which inventory management is important to the supermarkets

Table 4.5: Descriptive Statistics for Inventory Management

	N	Mean	Std. Deviation	Rank
Low cost of holding inventory	10	4.1	0.7379	2
Adequate and uninterrupted supplies	10	3.9	1.5951	3
Good inventory system	10	4.3	0.6750	1
Minimal number of stock outs (if any)	10	3.8	1.2292	4
Valid N (listwise)	10	4.025		

Source: Research Data (2015)

In the table 4.5, good inventory system is the most important in-store logistics operation in inventory management is good inventory with a mean of 4.3. The next important in-store logistics operation in inventory management involve activities that result to low cost of holding inventory with a mean of 4.1. Adequate and uninterrupted supplies and minimal number of stock outs (if any) are less important to the supermarkets with a mean of 3.9 and 3.8 respectively.

4.3.4 Multichannel Retail Activities

The research sought to find out the extent to which multichannel retail activities are important to the supermarkets. The results are shown in Table 4.6. From Table 4.6, door-to-door service operations for multichannel retail activities are most important with a mean of 2.6 followed by availability of pick section for online buyers with a mean of 2.5. The least important of multichannel retail activities is multiple interchangeable service channels with a mean of 2.4. From the results, it can inferred that multichannel retail activities are not practiced by many respondents.

Table 4.6: Descriptive Statistics for Multichannel Retail Activities

	N	Mean	Std. Deviation	Rank
Multiple interchangeable service channels	10	2.4	1.3499	3
Pick section for online buyers	10	2.5	1.2693	2
Door-to-door delivery services	10	2.6	1.5056	1
Valid N (listwise)	10	2.5		

Source: Research Data (2015)

4.3.5 Data Management and Store Planning

The research sought to find out the extent to which data management and store planning is important to the supermarkets.

Table 4.7: Descriptive Statistics for Data Management and Store Planning

	N	Mean	Std. Deviation	Rank
Customer relations management system	10	4.0	1.0541	5
Critical analysis of customer data	10	4.2	1.2293	4
Customized customer offerings	10	3.8	0.9189	6
Accurate processing of customer orders	10	4.4	0.9661	1
Good store master floor plan	10	4.3	0.6750	2
Managed customer relationships in all stages	10	4.3	1.0594	2
Valid N (listwise)	10	4.167		

Source: Research Data (2015)

From Table 4.7, accurate processing of customer orders is the most important in-store logistics operation activity for data management and store planning with a mean of 4.4 followed closely by good store master floor plan and managing customer relationships in all stages with each having a mean of 4.3. Critical analysis if customer data and having a customer relations management system are also important with a mean of 4.2 and 4.0

respectively. The least data management and store planning in-store logistics operation is customized customer offerings with a mean of 3.8.

4.3.6 Overall Adoption of In-Store Logistics Operations Practices

The researcher summarized various in-store logistics operations practices and ranked them to find out which was most important to the supermarkets.

Table 4.8: Overall Adoption of In-Store Logistics Operations Practices

	N	Mean	Std. Deviation	Rank
Forward and reverse logistics	10	4.0	0.6770	3
In-store activities	10	3.85	0.7565	4
Inventory management	10	4.025	0.6286	2
Multi-channel retail activities	10	2.5	1.1785	5
Data management and store planning	10	4.167	0.8784	1
Valid N (listwise)	10	3.7084		

Source: Research Data (2015)

In-store logistics operations practices were analyzed to find out which is the most adopted practice to the supermarkets. From the results, data management and store planning with a mean of 4.167 was viewed by the respondents as the most important in-store logistics operations practice in their supermarkets thus the most adopted. This was closely followed by inventory management and forward and reverse logistics with a mean of 4.025 and 4.0 respectively. With a mean of 3.85, in-store activities were viewed as moderately important to the supermarkets by the respondents and thus moderately adopted. Multi-channel retail activities with a mean of 2.5 are less important to the supermarkets and the least adopted in-store logistics operations practice.

4.4 Relationship Between In-store Logistics Operations Practices and Customer Satisfaction

In this section, regression analysis was done to determine if there is a relationship between in-store logistics operations practices and customer satisfaction. Table 4.9 shows the average responses for each aspect of in-store logistics operations practices and the corresponding customer satisfaction.

Table 4.9: In-Store Logistics Operations Practices and Customer Satisfaction

Respondent	X_1	X_2	X_3	X_4	X_5	Y
1	4.50	3.50	4.75	3.33	4.67	4.00
2	3.75	4.00	3.25	2.33	3.83	2.83
3	4.50	4.25	4.25	2.00	3.67	3.67
4	4.00	4.00	4.25	1.00	4.00	3.67
5	4.50	4.33	4.50	3.00	4.67	4.00
6	2.25	2.00	4.50	1.00	2.00	3.67
7	4.00	4.50	3.00	3.67	4.83	4.50
8	4.00	4.25	3.25	3.67	4.83	4.50
9	4.00	4.50	4.00	3.67	4.83	4.50
10	4.50	3.50	4.50	3.33	4.33	4.00

Source: Research Data (2015)

From Table 4.9, Y represents customer satisfaction, **X_1, X_2, X_3, X_4, X_5** represents forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning respectively. Table 4.9 shows the mean of dependent and independent variables. The data in Table 4.9 was used to perform regression analysis as shown below.

Table 4.10: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.785[a]	.617	.137	.47979	.617	1.287	5	4	.415

a. Predictors: (constant), forward and reverse logistics, in-store activities, inventory
management, multi-retail activities, data management and store planning

Source: Research Data (2015)

From table 4.10, Adjusted R^2 is 0.137 which means that there was 13.7% positive variation
in customer satisfaction index due to changes in independent variables, and 86.3%
variation of the dependent variable due to other factors not in the model. The correlation
coefficient R represents the strength of the relationship between the variables. The study
found that the correlation coefficient was 0.785 thus there was a strong positive correlation
between in-store logistics operations practices and customer satisfaction, that is, there is a
positive relationship between independent and dependent variables. This was subjected to
a test of significance as follows:

H_0: R=0 (the coefficient of correlation is not significant)

H_0: R≠0 (the coefficient of correlation is significant)

It is a one tail test at 5% level of significance, therefore df=n-2=10-2=8 thus the decision
rule would be to reject H_0 if computed t is greater than 1.686

Computed $\mathbf{t=r\sqrt{n-2}/1-r^2}$ = $0.785\sqrt{9}/1-0.785^2$ =5.785

Decision: since computed t (5.785) is greater than critical t, the null hypothesis is rejected
implying that the coefficient of correlation is significant.

Table 4.11: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.481	5	.296	1.287	.415[b]
	Residual	.921	4	.230		
	Total	2.402	9			

a. Dependent Variable: customer satisfaction index

b. Predictors: (Constant), forward and reverse logistics, in-store activities, inventory management, multi-retail activities, data management and store planning

Source: Research Data (2015)

From the ANOVA table the significance value for the model was 0.415 which means that the model was statistically insignificant since it is higher than 0.05.

Table 4.12: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	1.538	2.111		.729	.507	-4.323	7.399
Forward and reverse logistics (X_1)	-.725	.553	-.950	-1.310	.261	-2.261	.812
In-store Activities (X_2)	.284	.582	.413	.488	.651	-1.331	1.899
Inventory Management (X_3)	.451	.445	.549	1.014	.368	-.784	1.686
Multi-retail activities (X_4)	.281	.327	.576	.859	.439	-.626	1.188
Data management and store planning (X_5)	.389	.612	.661	.636	.560	-1.310	2.088

a. Dependent Variable: customer satisfaction

Source: Research Data (2015)

From Table 4.12, the following regression equivalent was established:

$Y=1.538-0.725X_1+0.284X_2+0.451X_3+0.281X_4+0.389X_5$

From the equation, the study found out that holding forward and reverse logistics, in-store activities, inventory management, multi-retail activities and data management and store planning, customer satisfaction (dependent) would be 1.538. A factor increase in in-store activities would lead to an increase in customer satisfaction by a factor of 0.284, a unit increase in inventory management would lead to an increase in customer satisfaction by 0.451, an increase in a unit of multi-retail activities would lead to an increase of 0.281 in firm's customer satisfaction, a unit increase in data management and store planning would lead to an increase in customer satisfaction by 0.389. However, from the equation, a unit increase in in-store forward and reverse logistics would lead to decrease in customer satisfaction by 0.725. This information shows that there is a positive relationship between in-store activities, inventory management, multi-retail activities and data management and store planning and customer satisfaction. It also shows that there is a negative relationship between forward and reverse logistics and customer satisfaction.

From Table 4.13 below, it can be observed that there is a positive significant relationships between customer satisfaction and forward and reverse logistics, in-store activities, multi-retail activities and data management and store planning. The study found out that customer satisfaction is positively correlated to forward and reverse logistics with a positive correlation value of 0.224. The correlation analysis also revealed that customer satisfaction was positively correlated to in-store activities having a correlation value of 0.322. Inventory management has a negative correlation value of -0.106 implying that it is negatively correlated to customer satisfaction. The study also revealed that customer

satisfaction has a strong positive correlation with multi-channel retail activities with a correlation value of 0.658. Customer satisfaction has a positive correlation with data management and store planning having a positive correlation value of 0.569.

Table 4.13: Significance of Correlation between Individual Variables

		Customer Satisfaction Index	Forward and Reverse Logistics	In-store Activities	Inventory Management	Multi-Retail Activities	Data Management and Store Planning
Customer satisfaction index	Pearson Correlation	1	.224	.322	-.106	.658*	.569
	Sig. (2-tailed)		.534	.365	.770	.039	.086
Forward and reverse logistics	Pearson Correlation	.224	1	.718*	.082	.541	.788**
	Sig. (2-tailed)	.534		.019	.823	.106	.007
In-store activities	Pearson Correlation	.322	.718*	1	-.483	.544	.819**
	Sig. (2-tailed)	.365	.019		.157	.104	.004
Inventory management	Pearson Correlation	-.106	.082	-.483	1	-.322	-.291
	Sig. (2-tailed)	.770	.823	.157		.364	.414
Multi-retail activities	Pearson Correlation	.658*	.541	.544	-.322	1	.829**
	Sig. (2-tailed)	.039	.106	.104	.364		.003
Data management and store planning	Pearson Correlation	.569	.788**	.819**	-.291	.829**	1
	Sig. (2-tailed)	.086	.007	.004	.414	.003	

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

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

Source: Research Data (2015)

4.5 Challenges of Adopting In-Store Logistics Operations Practices

From table 4.14, unreliable vendors to the Distribution Center (DC) delivery is the most faced challenge with a mean of 2.70 followed by stock holding cost with a mean of 2.40.

Inventory management system challenges and ever changing store information comes third and fourth most faced challenge with a mean of 2.20 and 2.0 respectively. Table 4.14 shows the descriptive statistics for challenges for adopting in-store logistics operations practices.

Table 4.14: Challenges for Adopting In-Store Logistics Operations Practices

	N	Mean	Std. Deviation	Rank
Unreliable vendors for DC delivery	10	2.70	0.483	1
Store capacity for Distribution Center (DC)	10	1.90	0.994	5
Store-to-store transfers	10	1.70	0.949	11
Ever changing store information	10	2.00	0.943	4
Cross training of store logistics staff	10	1.80	1.032	9
Stock holding costs	10	2.40	0.966	2
Lack of big data analysis tools	10	1.80	0.789	9
Lack of capacity for multi-channel operations	10	1.70	1.059	11
Online and store pickup synchronization	10	1.90	1.197	5
Innovation challenges	10	1.90	0.876	5
Unreliable inventory supplies	10	1.90	0.738	5
Inventory management system challenges	10	2.20	1.135	3
Valid N (listwise)	**10**	**1.992**		

Source: Research Data (2015)

The next challenges faced challenges are store capacity for distribution center, online and store pickup synchronization, innovation challenges and unreliable inventory supplies all with a mean of 1.90. These are followed by cross training of in-store logistics staff and lack of big data analysis tools with a mean of 1.80. The least experienced challenges are store-to-store transfers and lack of capacity for multi-channel operations with a mean of 1.70.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the research findings and also presents conclusion and recommendations of the study. The conclusions are drawn from the findings of the study which sought to find out the in-store logistics operations practices adopted by the supermarkets, the effect of in-store logistics operations practices on customer satisfaction and the challenges of adopting these practices

5.2 Summary of Findings

The objectives of the study were to determine the in-store logistics operations practices that have been adopted by the supermarkets, establish the effect of in-store logistics operations practices on customer satisfaction and determine the challenges of adopting in-store logistics operations practices. The target respondents were managers of the respective supermarkets. Most of the supermarkets have been in business for over 10 years.

The research outcome provided an insight on the extent to which in-store logistics operations practices are important to supermarkets. Forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning were the in-store logistics operations practices under research and the respondents agreed that the practices are indeed important to the supermarkets.

Data management and store planning was viewed by the respondents as the most important practice. This was followed by inventory management then forward and reverse logistics

and in-store activities. The least adopted in-store logistics operations practices was multi-channel retail activities.

The results agreed with Reinartz, Manfred and Wayne (2004) that data management practices help firms to manage customer relationships more effectively across the stages of relationship initiation, maintenance and termination which is key to managing customer satisfaction. The results also agreed with Bhausaheb and Routroy (2010) that firms are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately ensure customer satisfaction. The results indeed agreed with Turley and Chebat (2001) that integration of operational management with store's atmospherics contribute to sales performance and building of customer satisfaction

The study found out that the coefficient of correlation was 0.785 thus there was a strong positive correlation between in-store logistics operations practices and customer satisfaction. The following equation was established:

$$Y=1.538-0.725X_1+0.284X_2+0.451X_3+0.281X_4+0.389X_5$$

From the equation, the study found out that holding forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning, customer satisfaction index (dependent) would be 1.538. The study also found out that forward and reverse logistics may result to customer dissatisfaction if not well managed because it has a negative estimate effect of -0.725.

The research outcome also provided an insight on the challenges which supermarkets have to overcome when practicing in-store logistics operations. The research found out that

unreliable vendors to the distribution center was the most faced challenge followed by stock holding costs. Inventory management challenges and ever changing store information also experienced in a great extent. The respondents also said that they experience challenges such as store capacity for distribution center, online and store pickup synchronization, innovation challenges and unreliable inventory supplies in a moderate extent. The respondents also said that they have cross training of in-store logistics staff challenges as well as lack of big data analysis tools to a small extent. The least experienced challenges were store-to-store transfers and lack of capacity for multi-channel operations.

5.3 Conclusions

From the findings of the study, supermarkets in Mombasa County have adopted forward and reverse logistics, in-store activities, inventory management and data management and store planning practices to a great extent. The study also found out that multi-channel retail activities have only been adopted to a moderate extent.

The study found out that there was a strong positive correlation between in-store logistics operations practices and customer satisfaction. Supermarkets view in-store logistics operations practices as very important hence adoption of in-store logistics operations practices by supermarkets have a positive effect on customer satisfaction. The study also found out that there are several challenges which hinder optimal adoption of in-store logistics operations practices.

5.4 Recommendations

From the findings of the study, the researcher recommends that supermarkets should adopt in-store logistics operations practices: forward and reverse logistics, in-store activities,

inventory management, multi-channel retail activities and data management and master store planning, because they positively contribute to customer satisfaction. Policies and guided frameworks on how to fully adopt in-store logistics operations practices are also recommended to the supermarkets. There is no adequately documented framework thus respective supermarkets can, at their organizational level, formulate their own in-store logistics operations practices and policies. A framework will give in-store logistics operations practices' guidelines to employees and how they can be integrated to their routine operations at a minimal cost.

Supermarkets should adopt forward and reverse logistics in their supermarkets to ensure that right product quantities and qualities are available in the shelves at the right time. Promotional materials, expired products as well as end of season products should be removed from the shelves in time. Also, the supermarkets should ensure that there is a dedicated linkage from the shelves to the store's backroom to facilitate for faster replenishment of products anytime they are needed. It would be recommended that this practice be managed properly because it may result to customer dissatisfaction if mismanaged.

Supermarkets should also incorporate in-store activities practices in their in-store logistics operations to promote ambient shopping environment within the store. This would ensure an increase in customer patronage time as well as an increase in individual purchases from the store. It would also be recommended that supermarkets facilitate proper documentation of the retail store activities as well as proper placement of products within the store because it would lead to customer satisfaction.

It would be recommended that supermarkets should ensure that they hold inventories at the lowest costs possible while ensuring stock adequacy, quality service and uninterrupted supplies to foster customer satisfaction. The supermarkets should adopt a system that would ensure products are available within the store when they are needed without necessarily having them stored in the store. This would ultimately reduce stock holding costs.

The results of this study found out that data management and store master planning in-store logistics operations practices ultimately lead to customer satisfaction. It would therefore be recommended that supermarkets adopt these practices with the sole purpose of acquiring, managing and modeling customer information to sustain customer advantage. This would foster supermarkets' ability to customize customer offerings to suit customer tastes and preferences which in turn would lead to enhancement of perceived quality of the products and services thus promoting customer satisfaction. The supermarkets should also dedicate adequate store space for customer circulation and patronage within the store.

It would also be recommended that supermarkets adopt interchangeable service channels so that they are where the customers want them, when they want them, anytime, anywhere and in multiple formats. This is necessitated by the fact that customers have different channel preferences and expectations for different service types depending on their needs and demands.

5.5 Limitations of the Study

First and foremost, this research was limited in scope by the fact that it covered supermarkets in Mombasa County. The research would give a complete picture if it

reflected the whole country. Secondly, the researched met some resistance from some of the respondents fearing that the information they were giving might be used by their competitors to their advantage. Although some agreed to fill the questionnaire after issuance of the introduction letter and further assurance that the information would be confidential, some refused to respond altogether. Thirdly, the researcher also faced financial challenges since the questionnaires had to be dropped to the supermarket managers' offices and then going back again to pick them up after they have responded. This involved a lot of time and financial cost.

5.6 Suggestions for Further Research

The study only covered supermarket in Mombasa County and there is a need to conduct a research on all supermarkets in Kenya. Further research would be appropriate to establish the relationship between each aspect of in-store logistics operations practices (forward and reverse logistics, in-store activities, inventory management, multi-channel retail activities and data management and store planning) and customer satisfaction. Clearly, research needs to be conducted on the effect of in-store logistics operations on customer satisfaction from a customer perspective because this research only focused on the supermarket managers' perspective. This would bring to light what in-store logistics operations practices make customers satisfied. Also a study looking at the other factors that affect customer satisfaction in a retail environment could be conducted.

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APPENDICES

Appendix I: Questionnaire

PART A: BIODATA OF SUPERMARKET

1. Name of the supermarket / shopping mall --- --------

2. Years of Operation

   ☐ 1-9   ☐ 10 -19   ☐ 20 -29   ☐ 30 -39   ☐ 40 -49

3. Number of In-store logistics staff

   ☐ 1 - 20   ☐ 21 - 30   ☐ 31 - 40   ☐ 41 - 50   ☐ Above 51

PART B: WHICH IN-STORE LOGISTICS OPERATIONS PRACTICES HAVE YOU ADOPTED INTO THE SUPERMARKET

☐ Forward and reverse   ☐ In-store activities   ☐ Inventory management

☐ Multi-channel retail   ☐ Data management and store

PART C: HOW IMPORTANT IS EACH IN-STORE LOGISTICS OPERATIONS PRACTICE TO THE SUPERMARKET

The following is a list of in-store logistics operations practices. Using a scale of 1–5 where 1=Unimportant; 2=Less Importance; 3= Moderately Important; 4=Very Important; and 5=Extremely Important, please indicate your level of agreement to each of the following items regarding their importance to your store	How important is it?				
	Unimportant	Less Important	Moderately Important	Very Important	Extremely Important
	1	**2**	**3**	**4**	**5**
1. Forward and Reverse Logistics					

A dedicated backroom for the store					
Returns processing center and sorting facility					
Use of advanced shopping notices (ASNs)					
Forecasts to predict what is needed in store					
2. In-store Activities					
In-store promotions and product placement					
All elements of retail atmospherics					
Proper documentation of in-store activities					
Integration of operational management with store atmospherics					
3. Inventory Management					
Low cost of holding inventory					
Adequate and uninterrupted supplies					
Good inventory system					
Minimal number of stock outs (if any)					
4. Multichannel Retail Activities					
Multiple interchangeable service channels					
Pick section for online buyers					
Door-to-door delivery services					

5. Data Management & Store Planning					
Customer Relations Management System					
Critical analysis of customer data					
Customized customer offerings					
Accurate processing of customer orders					
Good store master floor plan					
Managed customer relationships in all stages					

PART D: CUSTOMER SATISFACTION

Using a scale of 1-5 where 1=Not at all; 2=Small extent; 3=Moderate extent; 4=Great extent; 5=Very great extent, indicate the extent to which the following customer satisfaction outcomes have been enhanced as a result of implementing in-store logistics operations practices.	What is the extent?				
	Not at all	Small extent	Moderate extent	Great extent	Very great extent
	1	2	3	4	5
Increase in patronage time of customers					
Increase in store sales volume					
Increase in individual customer purchases					
Uptake of multichannel retail activities					
Increase in customer loyalty to the store					
Increase in store image					

PART E: WHICH CHALLENGES HAVE YOU FACED WHEN ADOPTING IN-STORE LOGISTICS OPERATIONS PRATICES

Using a scale of 1-5 where 1=Not at all; 2=Small extent; 3=Moderate extent; 4=Great extent; 5=Very great extent, indicate the extent to which you face the following challenges	What is the extent?				
	Not at all	Small extent	Moderate extent	Great extent	Very great extent
	1	**2**	**3**	**4**	**5**
Unreliable vendors for DC delivery					
Store capacity for Distribution Center (DC)					
Store-to-store transfers					
Ever changing store information					
Cross training of store logistics staff					
Stock holding costs					
Lack of big data analysis tools					
Lack of capacity for multi-channel operations					
Online and store pickup synchronization					
Innovation challenges					
Unreliable inventory supplies					
Inventory management system challenges					

THANK YOU VERY MUCH

Appendix II: Supermarkets in Mombasa County

1. Nakumatt Likoni
2. Nakumatt Cinemax
3. Nakumatt Nyali
4. Nakumatt Bamburi
5. Tuskys Digo
6. Tuskys Bandari
7. Naivas Nyali Center
8. Naivas Utange
9. Uchumi Moi Avenue
10. Budget Supermarket Digo Road
11. Budget Supermarket Kwa Shibu Road
12. A-One Supermarket

Source: Mombasa County Business Registry, 2015

Appendix III: Research Budget

Description	Amount (Kshs)
Printing Services	8,000
Photocopying Services	10,000
Report Writing & Editing	15,000
Stationery and Binding	5,000
Transport Costs	15,000
TOTAL	**53,000**

Appendix IV: Time Schedule

ACTIVITY	TIMING	DURATION
Study Preparation	February 2015 – March 2015	1 Month
Proposal Writing	April 2015 – July 2015	3 Months
Data Collection	August 2015	1 Month
Data Analysis	September 2015	1 Month
Draft Report Writing	September 2015	1 Month
Corrections and Final Report	October 2015	1 Month