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**INFLUENCE OF LOGISTICS MANAGEMENT ON SUPPLY CHAIN PERFORMANCE IN RETAIL CHAIN STORES IN  
KENYA: A CASE OF NAKUMATT HOLDINGS LIMITED**

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**INFLUENCE OF LOGISTICS MANAGEMENT ON SUPPLY CHAIN PERFORMANCE IN RETAIL CHAIN STORES IN KENYA: A CASE OF NAKUMATT HOLDINGS LIMITED**

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**ABSTRACT**

Statistics has shown that investment in logistics management improve supply chain performance and can reduce transaction cost; increasing the speed and reliability of transactions in retail chain stores. This study examined the influence of logistics management on supply chain performance in retail chain stores in Kenya with a case of Nakumatt Holdings Ltd. The study objectives was based on two study variables namely order management and warehousing management in supply chain performance in retail chain stores in Kenya. The study adopted descriptive survey design and target population was 180 operational management level personnel in supply chain departments of Nakumatt Holdings Ltd branches in Nairobi County. A census design technique method was used and data collected through the use of questionnaires. Secondary data was used to supplement primary data. A pilot study was conducted to pretest the validity and reliability of instruments for data collection. The data was analyzed by SPSS version 22 and Excel. Findings showed that the independent variables in the study were able to explain 76.40% variation in the supply chain performance while the remaining 23.60% was explained by the variables or other aspects outside the model. This implied that these variables were very significant and they therefore needed to be considered in any effort to boost supply chain performance in retail stores. Based on the study findings, the study concluded that supply chain performance in retail stores was affected by order management and warehousing management as the major factors that mostly affected supply chain performance in the retail chain stores in Kenya. The study concluded that order management was the first important factor that affected supply chain performance in retail stores. The study contributed the body of knowledge by determining that influence of logistics management on supply chain performance in retail chain stores in Kenya was greatly affected by order management and warehousing management.

**Key Words:** Order Management, Warehousing Management, SMEs

## INTRODUCTION

A great deal of attention is paid to the issue of supply chain performance. Supply chain management is seen as the field in which physical distribution providers, by virtue of their particular expertise, are able to offer the most added values to transactions in the freight trade. Freight forwarders, as “logistics service facilitators,” play an important influence in supply chain management, as an increasing number of firms outsource their logistics function (United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, 2002). The benefits one firm could gain if it is properly employed could range from cost reductions and operational efficiencies to increased market share and increased revenues (Froehlich & Westbrook, 2002; Sanders, 2007).

Chin et al (2004) notes that back in the 1960s, the cornerstone to every successful company is to make customers, keep customers, and maximize customer profitability. Later, the focus moved away from low costs and low quality product markets to high quality products markets at lower costs with greater responsiveness. Numerous quality initiatives have been initiated by many companies, including total quality management (TQM), ISO certification and just-in-time (JIT) for quality assurance and measurement (Chandra & Kumar, 2000). By the early 1990s, intense competition and global markets forced organizations to get a product and service to the right customer, at the most opportune time and at the lowest cost (Altekar, 2005; Li et al., 2003).

Kalathur, (2002) observes that in order to help

their customers, logistics providers need to behave more like partners of their clients. Not only do logistics providers have to arrange for the transport of cargo and facilitate its clearance through customs, they also need to manage their clients' order processing (Orukoh, 2007). This means that logistics providers are involved not only in lowering their clients' costs by reducing waste in ordering operations, but also in integrating their clients' supply chains. The logistics provider's main influence is to manage the physical distribution such that goods arrive on time; however, because of limited resources and various operational constraints, logistics providers are not always able to deliver, rendering their clients less competitive (Wong, 2011).

The goal of SCP is to integrate both information and material flows seamlessly across the supply chain as an effective competitive weapon. The concept of SCP has received increasing attention from academicians, consultants, and business managers alike. Many organizations have begun to recognize that SCM is the key to building sustainable competitive edge for their products and/or services in an increasingly crowded marketplace (Johnson, 2008). The concept of SCP has been considered from different points of view in different bodies of literature, such as purchasing and supply management, logistics and transportation, operations management, marketing, organizational theory, and management information systems. The retail chain business in the world has a variety of successful examples such as; Wal-Mart, IKEA, Tesco, Target and so on. Wal-Mart retail chain was founded by Sam Walton of the USA. It has over 8,000 stores in 15 countries, Wal-Mart stores are stocked with thousands of low-cost products imported from developing countries with low-wage workers and often poor environmental regulations (Stevenson,

2007). The company has responded by increasing the energy efficiency of its U.S. trucking fleet and many of its buildings in the United States, Canada, and China.

Retail chain business in the African region has undergone rapid transformation. This growth has not come without any challenges. While most retail outlets tend to cherish competition and encourage growth, it is surprising that two third of these firms drop out of the growth curve of the product lifecycle. A significant fraction of these progress to maturity and stagnate shortly before crashing down. Most of these firms face this trend because retail business is volatile and there is also increasing competition in major markets due to inadequate contingency planning and incompatible growth retail models (Agarwal, & Audretsch, 2001).

Moreover frequent changes in consumer trends and short business cycles are also some of the challenges in the retail supply chain requiring agile models. Global research by Siggelkow (2001) show that most business that has employed agility in their operations have succeeded. Advanced design and logistic links with suppliers are related to better-performing plants (De Toni, 2000). Insufficient attention to SCM practices concentration on core competencies, use of inter-organizational systems such as EDI and elimination of excess inventory levels by postponing customization toward the end of the supply chain has led to firms performing poorly. There is low level of supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity and JIT capability (Froehlich & Westbrook, 2013) which have contributed to poor performance of retail chain stores. The Practice of supplier base reduction, long-term relationship, communication, cross-functional teams and

supplier involvement to measure buyer–supplier relationships has been poorly utilized (Tan, 2002). There is need to provide effective ways of managing retail chain stores using logistics management practices that will see them gain competitive advantage.

Retail chain business in Kenya and the East African region has undergone rapid transformation. This growth has not come without any challenges. Some retail supermarkets such as Uchumi supermarket have undergone collapse, receivership and eventual revamping after government intervention. Nakumatt has acquired Woolworth supermarket and increased its presence in East African region. Nakumatt and Naivas have also expanded their network in the region. The high growth of this single stop shopping has placed Kenya as a supermarket hub in comparison to the rest of Eastern Africa in supermarkets presence. Kenya has approximately 206 supermarkets beside the existing hypermarkets (Business Report 2000). The McKinsey Global Institute (MGI 2010) projects that the number of African households with discretionary income over \$5,000 will rise from 85 million to 128 million by 2020 .The increase in income will further increase the retail branches, till rate and rise in competition. Nakumatt Holdings Ltd Supermarket is the largest retail market player in East Africa, Uganda and Rwanda, and still expanding to the wider East African region, Nakumatt has 50. stores dealing in general retail merchandise (MGI, 2015). Established in 1987, Nakumatt Holdings Limited stays ahead of competition by providing quality, value, service, variety lifestyle. Nakumatt store formats range from convenience stores, supermarkets to hypermarkets which showcase distinct world-class shopping floor layouts and amenities. All Nakumatt branches hold a range of over 50,000 quality Products, thanks to its rich heritage and passion for retail excellence,

Nakumatt stores countrywide have carved out a niche for themselves as the ideal shopping and entertainment centers for the whole family ( Jeverson, 2008)

### **Statement of the Problem**

In many emerging economies especially in Africa, retail sector had been the economic growth engine and was the major tradable sector in those economies (World Bank 2014). However Kenya's retail sector enjoyed modest growth rates averaging 6 percent over the two decades (KAM 2014). In the year 2010 retail sector was the fifth largest sub sector of the economy after agriculture in terms of employment (RoK, 2015) but in 2014, it was in the sixth place behind agriculture, transport and communication (World Bank 2016). As a result, the sector had seen a reduction in its contribution to GDP from 7.6 percent in the early 90's to 9.2percent in 2014, (RoK, 2015). Kenya Vision 2030 emphasizes the need for appropriate logistics management strategy for efficient and sustainable practices as a way of making the retail sector globally competitive and a prosperous nation (RoK, 2013). Nevertheless, most retail chain stores in Kenya operate at a technical efficiency of about 42 percent compared to their counterparts in Europe that average about 69 percent (WB, 2014)) raising doubts about the sector's capacity to meet the goals of Vision 2030 (RoK, 2012).

While all the previous studies had tended to focus more on the developed world (McKinnon, Edwards, Piecyk & Palmer, 2009; Sanchez-Rodrigues, Cowburn, Potter, Naim & Whiteing, 2009). Evidence showed that there is link between logistics management and supply chain performance in retail chain stores (Miguel & Brito, 2011; Kaufmann & Carter, 2006). Keebler & Plank, (2009) agreed that

the findings of US firm could not represent the universe of companies nor could findings be generalized to other countries. Achieng (2011) noted that, poor supply chain performance is a common problem in the retail sector with an immeasurable cost spiraling to over USD 10 million (Ksh, 85 billion) annually. Understanding these impacts is crucial in the adoption of efficient and effective logistical systems (Cullen, Bernon and Grost 2010). The Financial Year ending 2014 saw a drop of 5.3% of Nakumatt Holding Limited profits down to Kshs. 200m with the rise in logistics operational costs affecting its profitability and this heavily resulted from amortization of ERP/Computerization which led to a higher depreciation charge and a number of one-off costs that included derecognizing of the deferred tax assets. This elaborates the dire need for better management of its logistics network to enhance supply chain performance in the retail chain store (Keebler & Plank, 2015).

The effort to achieve generalization of the causal relationship between logistics management and supply chain performance of retail sector call for empirical confirmation in diverse environments, especially developing economies such as Kenya. This study therefore intended to empirically examine how warehouse management and ordered process management influenced supply chain performance of in retail chain stores in the Kenyan setting, with specific reference Nakumatt Holdings Limited.

### **Objectives of the Study**

The general objective was to examine the influence of logistics management on supply chain performance in retail chain stores in Kenya. The specific objectives of the study were:

- To establish how order management influence supply chain performance in retail chain stores in Kenya
- To explore how warehousing management influence supply chain performance in retail chain stores in Kenya

## LITERATURE REVIEW

### Theoretical Review

#### Fugate Logistic Performance & Aramyan Models

These models will guide the study in investigating the relationship between order management and supply chain performance in retail chain stores in Kenya. The Model Created By Fugate Et Al. (2010), puts emphasis on the dimensions of order management in terms of efficiency, effectiveness and differentiation of logistics activities as determinants of logistics performance. Fugate Et Al. (2010) Analyzed the Relationship between Logistics Performance and Organizational Performance, stating that order management in logistics performance is multidimensional and is a function of the resources used in order management and logistics, according to outlined objectives and outcomes against competitors. Conversely, Fugate et al. (2010) find firms that choose to combine efficiency and effectiveness achieve better performance than their competitors who choose only one of these dimensions, which is in line with what is stated by Seldin and Olhanger (2007).

Aramyan Model; This model, created by Aramyan et al. (2007), analyzes the supply chain of food products, using efficiency, flexibility, responsiveness and food quality as determinants of order management and logistic performance. The Aramyan model is based on a literature review of the main methodologies for analyzing performance and contains the specific features of retail chain

stores supply chain. The model structure is based on four categories of variables which, in the authors' opinion, collect specific information about that industry. Based on these dimensions, Aramyan et al. (2007) theorized a conceptual framework for evaluation of supply chain performance, which suggests dividing the analysis of logistics chain performance in four categories or clusters of indicators. The first category is, efficiency which seeks to measure how resources are used. This category consists of a set of logistical process indicators, such as distribution costs, transaction or possession of stock. The second category, flexibility, indicates the ability of the Performance Measurement System to respond to changes in the environment and exceptional customer orders. The third category, called responsiveness helps to promote what the customer wants in the shortest amount of time while quality, the fourth category represents the particular characteristics of the supply chain, such as shelf life and product safety, among others. These models facilitate the understanding of the first research question: How does order management influence supply chain performance in retail chain stores in Kenya?

#### Scientific Management Theory

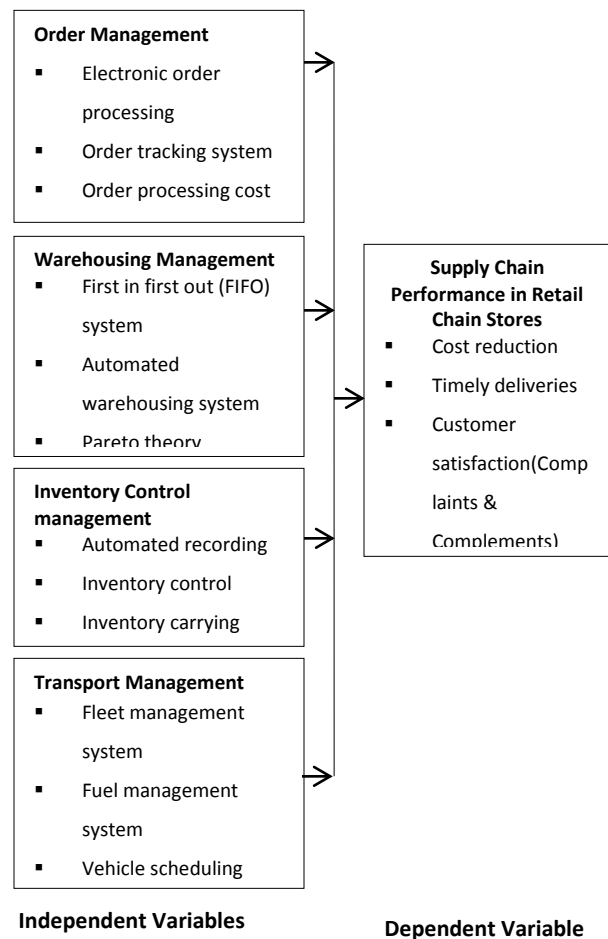
To investigate the influence of warehousing management on supply chain performance in retail chain stores in Kenya, the study was based on scientific management theory. The theory basically consists of the works of Fredrick Taylor. Fredrick Taylor started the era of modern management in the late nineteenth and early twentieth centuries; Taylor consistently sought to overthrow management by rule of thumb and replace it with actual timed observations leading to the one best practice, Watson (2002). He advocated for the systematic training of workers in the one best

practice rather than allowing them personal discretion in their tasks. He further believed that the workload would be evenly distributed between the workers and management with management performing the science and the workers performing the labour with each group doing the work for which it was best suited. Taylor's strongest positive legacy was the concept of breaking a complex task down into a number of sub tasks and optimizing the performance of the subtasks hence, his stop watch measured time trials (Bowersox, 2012). As a result he proposed four underlying principles of management.

Firstly, there is a need to develop a science of work to replace old rule of thumb methods, pay and other rewards linked to achievement of optimum goals, measures of work performance and output. Failure to achieve these would in contrast result in loss of earnings. Second is that workers should be scientifically selected and trained people to achieve the best results. Finally work and responsibility is to be divided equally between workers and management cooperating together in close interdependence. According to Watson (2002) scientific management is essential in effective stores management as it aims to improve methods of storage and distribution and removal of wastage and inefficiency in undertaking storage activities. This is especially relevant in the public sector where there is constant demand for uniformity of treatment, regularity of procedures and public accountability for operations. Scientific management in this case would ensure adherence to specific rules and procedures and to keeping of detailed records of operations at Tata Chemicals Magadi. One of the principles of scientific management as forwarded by Fredrick Taylor is performance standards. F.W Taylor found out that

there were no scientific performance standards. No one knew exactly how much a worker should do in one hour or in one day. The work was fixed assuming the rule of thumb or the amount of work done by the average worker. Taylor introduced time and motion studies to fix performance standards. He fixed performance standards for time, cost, and quality of work, which leads to uniformity of work. As a result, the efficiency of the workers could be compared with each other. Watson (2012). This theory facilitates the understanding of the second research question: How does warehousing management influence supply chain performance in retail chain stores in Kenya?

### Conceptual Framework



## Figure 1: Conceptual Framework

### Order Management

Order management system is set up to reach this goal at the lowest possible cost. In today's fast-paced, technologically advanced business environment, such systems often involve the use of specialized software that allows the owner to track inventory while simultaneously analyzing all the routes and transportation modes available to determine the fastest, most cost-effective way to deliver goods on time (Graeml, Balbinot & Csillag 2009). For many customers the level of customer service as determined by the orders made and provided by the retail store owner is as important as any other attribute which it may possess, including the excellence of its products. There are aspects of customer service which have little to do with physical distribution, such as the after-sales service, warranties and the handling of customer complaints, but a large part of customer service is affected through the physical distribution function. A wide range of criteria may be used in evaluating the service level offered by retail store owner but these are likely to include: timeliness of delivery, order size and assortment constraints, order cycle time, i.e. time interval between order placement and delivery, percentage of items out of stock, percentage of times an item cannot be supplied from stock (or within a prescribed number of days from order placement), percentage of orders filled accurately, percentage of orders arriving in good condition, ease and flexibility of order placement, and competitors' service levels. (Birkinshaw, Comm & Mathaisel, 2012).

Information flow and integration in order management is mainly through Information technology (IT) is seen as the key ingredient to

business survival and information quality. A seamless supply chain network demonstrates high productivity and high customer satisfaction, also allow firms to communicate with other partners, with online and timing information to improve visibility to orders. ICT is an enabling strategic vehicle for supply chain performance that facilitates inter intra-organizational communications (Bhatt, 2011).

Many organizations failed to take off due to the organization structure in order management in logistic management and its impact to the organization, researchers and practitioners are asked to specifically look at the history of how the project is carried out to find an effective approach and comprehensive to overcome this issue. Despite of having a lot of standard on supply chain performance in ICT, however up to most ICT projects on physical distribution management have yet to show a good track record of success (Graeml, Balbinot & Csillag 2009). Being able to adopt new up-to date information systems in SCM is a strategic imperative for all successful businesses. The right SCM information system can enhance firms „operational efficiency and operational flexibility. The developments of ICT projects in logistics management have increased in many organizations to ensure that overall needs of customers in business requirements are fulfilled (Feldmann & Müller, 2013).

### Warehousing Management

The warehouse is the most common type of storage though other forms do exist (e.g., storage tanks, computer server farms).Some warehouses are massive structures that simultaneously support the unloading of numerous inbound trucks and railroad cars containing suppliers products while at the



same time loading multiple trucks for shipment to customers. Private Warehouse: This type of warehouse is owned and operated by a company that is also involved in other aspects of the distribution channel. For instance, a major retail chain may have several regional warehouses supplying their stores or a wholesaler will operate a warehouse at which it receives and distributes products. The public warehouse on the other hand is essentially space that can be leased to solve short-term distribution needs. Retailers that operate their own private warehouses may occasionally seek additional storage space if their facilities have reached capacity or if they are making a special, large purchase of products. For example, retailers may order extra merchandise to prepare for in store sales or order a large volume of a product that is offered at a low promotional price by a supplier.

Automated Warehouse: with advances in computer and robotics technology many warehouses now have automated capabilities. The level of automation ranges from a small conveyor belt transporting products in a small area all the way up to a fully automated facility where only a few people are needed to handle storage activity for thousands of pounds/kilograms of product. In fact, many warehouses use machines to handle nearly all physical distribution activities such as moving product filled pallets around buildings that may be several stories tall and the length of two or more football fields (Ranchold, 2012). Climate Controlled Warehouse handle storage of many types of products including those that need special handling conditions such as freezers for storing frozen products, humidity controlled environments for delicate products, such as produce or flowers, and dirt free facilities for handling highly sensitive

computer products. Distribution Centre: There are some warehouses where product storage is considered a very temporary activity. These warehouses serve as points in the distribution system at which products are received from many suppliers and quickly shipped out to many customers. In some cases, such as with distribution centers handling perishable food (e.g., produce), most of the product enters in the early morning and is distributed by the end of the day (Bhatti, 2011)

### **Supply Chain Performance**

For decades supply chain performance has been attracting great attention from practitioners due to poor performance resulting from non-adherence to power processes and procedures especially in physical distribution management of enterprises. This could be deliberate or sheer ignorance on the value the supply chain function could contribute to any organization (Thomas & Neeson, 2014). According to Zaheed, Abdullahil & Choudhury (2010), supply chain performance is defined as “the degree to which a manufacturer strategically collaborates with its supply chain partners and collaboratively manages intra- and inter-organizational processes in order to achieve effective and efficient flows of product and services, information, money and decisions to provide maximum value to the customer”. A business process can be defined as structured and measured set of activities with specified business outcomes for customers. Building on the process concept we can understand the connection between supply chain management and supply chain performance. Korosec (2009), suitable supply chain performance metrics are important for a successful company. He reviewed numerous literatures of supply chain performance measurement techniques and suggested several

issues that further of supply chain performance measurement metrics, the forces shaping their evolution over time studies should address. The issues include success factors that influence the actual implementation and problems related to their continuous improvement.

According to Hasapidis (2011), stressed the importance of supply chain performance measurement for a successful SCM. Using customer satisfaction measurement has enabled a business to compete more effectively in its targeted mission. Customer feedback provides a platform for the strategic alignment of organizational resources to meet customer expectations. The four (4) indicators used in the supply chain performance such as parts quality, responsiveness, efficiency & flexibility. Flexibility means the agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage (Sum et al., 2015).

Otieno, (2011) established that companies which are able to manage their long term business relationship by crafting mutually beneficial supply chains normally have high global volume, regular and standardized (predictable) demand, supply requirements and low switching costs. This reinforces long term business relationship and brand building. The primary objective of supply chain management is to fulfill order demands through the most efficient use of resources, including distribution capacity, inventory, labour and by companies carefully selecting among all the options (rapid response, capacity adjustments, least cost approach and a combination of all these), a supply chain can be tailored to 'fit' the physical and market needs of the specific products it moves and prevent supply disruptions. Companies can easily choose the location of their facilities but they

cannot choose the location of their customers (Otieno, 2011).

## **Empirical Review**

### **Order Management**

Muthia and Rotich (2014) did a study on the Effects of Supply Chain management Practices on Competitive advantage in retail stores in Kenya; A case study of Nakumatt Holding Ltd.. Data for the study was collected from Nakumatt holding and the findings were used to determine whether higher levels of SCM practice can lead to enhanced competitive advantage in Nakumatt supermarket. The purpose of this research was to determine the impact of supply chain management practices on competitive advantage. The study focused on the causal relationships between SCM practice and competitive advantage and ignored the possible recursive relationships. This study adopted a case study design. The target population consisted of 968 employees. The study utilized 10% of the target population which was selected using a stratified random sampling technique giving a sample size of 100 respondents. Questionnaires were used as the main data collection instrument and a pilot study was subsequently carried out to pretest questionnaires for validity and reliability. The gathered data was analyzed using descriptive studies aided by Statistical Package for Social Sciences (SPSS) version 20 and findings presented on frequency tables, figures and graphs, inferences drawn from the data obtained. Correlational analysis and multiple linear regressions were carried out to establish the relationship between the research variables. It was established that order management influence supply chain management in the organization.

## Warehousing Management

Green Jr., et al.,(2008) in their research on the US firms on the impact of logistics performance on organization performance in supply chain context revealed that a success of logistics performance brought about manufacturing performance, future growth and new product introduction. Therefore, the competition in manufacturing industry was within the radius of supply chain competence which consisted of logistics strategy. Rosenzweig (2009) examined the operational and warehousing performance in measuring manufacturing performance in US firms which included the aspect of quality, cost of production, finish goods delivery and in addition considered the inventory level of work in production goods. In his study, he related supplier selection and involvement tactics impact and manufacturing performance. As a result, he confirmed that warehousing performance had provided a significant influence in achieving manufacturing and business goals .Toyli, *at al.*,(2008) did a research of logistics performance on financial performance of Finish SMEs. The results were that logistics performance had positive link to financial performance of firms.

Tompkins *et al.*, (2003) cites the typical warehouse functional areas and flows as; receiving, staging for cross docking , reserve, forward and shipping. Receiving, transfer and put away, order picking, cross-docking, and shipping. Order picking is the most labor-intensive and costly activity of most warehouses. Approximately 55% of the total warehouses operating expenses are related to order -picking operations (Bartholdi & Hackman, 2011). According to De Koster (2004), the most common order picking system is picker –to -parts systems, in which the order pickers walks or drives along the aisle to pick items. Warehouse layout is

also important in achieve greater efficiencies. Minimizing travel time between picking locations can greatly improve productivity. However, to achieve this increase in efficiency, companies must develop processes to regularly monitor picking travel times and storage locations. Warehouse layout is one important factor affecting the order picking process.

Caron *et al*, 2000 find that the warehouse layout has a considerable effect on order picking travel distance. They point out the layout design has an effect of more than 60% on the total travel distance, and also find the relationship between warehouse layout and order picking travel distance(Bartholdi & Hackman, 2011). Warehouse operations that still use hard copy pick tickets find that it is not very efficient and prone to human errors. To combat this and to maximize efficiency, world class warehouse operations have adopted hand-held RF readers and printers. Companies are also introducing pick-to-light and voice recognition technology (Tsige, 2013).

## Supply Chain Performance In Retail Chain Stores

Various studies have been carried out in relation to inventory management and performance of companies. For instance, Aragon (2003) indicated that timely and informative customer demand data can result in improved firm performance through reduced inventories. (Ballou 1999) proved that the improvement of inventory turnover (following JIT adoption) by a sample of 55 firms led to an increase in earnings per share. According to Monden (2002) the early models of inventory management traded off the benefits of decreased holding costs from lower inventory with the increased set-up and stock-out costs. Nowadays, it is commonly accepted that the cost of holding

stock to a business is between 4% and 10% on top of the stock's value (PPOA, 2005). Retail chain stores in Kenya are characterized by elongated or over extended chain retailers (buyers/agents) which, in turn, mean long chains of transactions between chain members and consumers (Amoro, 2011).

In majority of industries, inventory constitutes the most significant part of current assets. Indeed, for many service firms inventory costs account for over 50 percent of total production costs (Chen, 2005). According to the annual financial statements of Tata chemicals Magadi for the years 2010/2011 & 2012, the trend has showed that, there has been a rise in inventory held in stock over the period under analysis. Further analysis indicates that, the higher the inventory held in stock, the higher the supply chain staff costs and security cost (TCM, 2012), a rate of 44% increase in stock over the 2010/2011 financial year lead to an equivalent 34 % increase in security costs and 24% in increase in supply chain costs and insurance cost (TCM, (2010/2011/2012).

Some studies have examined the optimality of specific inventory models. Erdem and Ozekici (2002) introduce randomness in the yield as well as the environment and examine the periodic review of inventory model. Ozekici and Parlar (1999) examine a periodic review inventory management model when suppliers are unreliable. John hold (2000) in his study of east African organizations argued that substituting inventory with information and maintaining a stable production environment will improve the ability of managers to solve context-specific problems and builds expertise in the firm. A study carried out by Holweg & Pil (2014), states that through the integration of communication tools, such as the

web sites, industrial organizations can build value in their supply chain relationships. According to Davis (2008), another key for supply chain performance success is the use of information and communication tools. He also mentions that without the use of information systems, companies cannot handle costs, offer superior customer service and lead in physical distribution and supply chain performance.

## **RESEARCH METHODOLOGY**

The study adopted a descriptive survey design. A descriptive survey design as described by Mugenda and Mugenda (2012) is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. The population for this study was 180 of supply chain management staff (senior and lower level management) dealing with transport and logistics in the retail chain stores of Nakummat Holding Ltd branches spread across Nairobi county. The study adopted a census technique and therefore this ruled out application of specific sampling technique. The researcher used questionnaire as the research instrument for data collection during the study. The use of closed-end and open-end questionnaires contributed towards gathering of both quantitative and qualitative data. The content analysis was used to analyze qualitative data.

## **RESEARCH FINDINGS AND PRESENTATION**

A census of 180 was carried out using census survey design method. A total of 180 questionnaires were distributed to the targeted respondents. Out of the population covered, 110 were responsive representing a response rate of 61.10%. The study also determined the gender of the respondents. 60% were male and 30% female.

The study determined the number of years the respondents had worked at retail store. From the findings, majority of the respondents had worked at the institution for less than 5 years representing 30% and only 40 % had worked at the organization between 6-10 years. This means that they were in a position to analyze and respond to supply chain performance issues at as experienced in the organization as queried in the study. The respondents were asked to state their highest level of education and the results. The results indicated that a majority (40%) of the respondents had secondary, 30% of the respondents had diploma, 15% had bachelor's degrees and the rest 5% of the respondents had master's degree. Further, analysis shows that the majority of the respondents were of good educational and professional background.

### **Supply Chain Performance**

On the extent to which supply chain performance in the organization, respondents were asked to indicate the extent to which the factors determined the supply chain performance. The data was collected from the different indicators of the variable supply chain performance which was ordinal categorical. The data was therefore presented in frequency tables with the mode being used as the appropriate measure of central tendency. The results were presented in 1. The first indicator for the dependent variable required to know what the organizations level procurement performance was level of cost reduction in supply chain in the organization was, 0% of the respondents had 0-10%, 3% had 11-20%, 11% had 21-30%, 17% had 31-40%, 69% had had over 50%. The modal class was of the respondents who had

over 50% level of cost reduction in supply chain in the organization. The median was found to be 5 which imply that on average the organization level of cost reduction in supply chain is over 50%.

When the respondents were asked what the level of increase in timely deliveries of procured goods and services in the organization was, 3% of the respondents 0-10%, 3% had 11-20%, 14% had 21-30%, 26% had 31-50%, 49% had over 50%. The modal class is of the respondents who had over 50% level of increase in timely deliveries of procured goods and services in the organization. The mode was found to be 5 which imply that on average the level of increase in timely deliveries of procured goods and services in the organization is over 50%.

Finally, the respondents were asked what the level of increase in customer satisfaction in the organization offered was, 0% of the respondents 0-10%, 3% had 11-20%, 3% had 21-30%, 34% had 31-50%, 60% had over 50%. The modal class is of the respondents who had over 50% customer satisfaction level. The mode was found to be 5 which imply that on average the level of increase in customer satisfaction in the organization is over 50%.

Finally, the respondents were asked what the level of reduction of stock out in the organization was, 0% of the respondents 0-10%, 3% had 11-20%, 20% had 21-30%, 43% had 31-50%, 34% had over 50%. The modal class is of the respondents who had between 31-50% reductions of stock out levels in the organization. The mode was found to be 4 which imply that on average level of reduction of stock out in the organization is between 31-50%.

**Table 1: Supply Chain Performance**

Statement	0%- 10%	11%- 20%	20%- 30%	31%- 50%	Over 50%	Mode
What is the level of cost reduction in supply chain in the organization?	0	3	11	17	69	5
What is the level of increase in timely deliveries of procured goods and services in the organization?	3	3	14	26	49	5
What is the level of increase in customer satisfaction in the organization?	0	3	3	34	60	5
What is the level of reduction of stock out levels in the organization?	0	3	20	43	34	4

**Order Management**

The study sought to assess the influence of order management on supply chain performance in the organization. This section presents findings to statements posed in this regard with responses given on a five-point likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= Strongly Agree). Table 2 presents the findings. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0.

Table 2 presents the findings. As tabulated, a majority of respondents were found to highly agree that the the firm has adopted the use electronic order processing system to increase timely

deliveries (4.224); the firm has ensured that tracks all its orders all the time to enhance timely deliveries (3.891); The organization has ensured that our orders have zero mistakes to enhance customer satisfaction (4.109); The firm has ensured that order processing has reduced lead time to enhance timely deliveries (4.052); The firm ensure that there is internal employee satisfaction first to enhance customer satisfaction (3.643). The firm ensured that orders processing was in time to enhance customer satisfaction (3.815); The firm ensured that there was zero double payments to improve cost reduction and increase profits (3.713). This implied that on average the organization had implemented order management effectively to enhance supply chain performance. This finding supported Shore and Venkatachalam (2013) who argues that effective supply chain management system uses software's which can estimate the levels of inventory and ensures that there is efficient flow of resources into the supply chain through effective order management in an organization. Order Management System also uses

internet technology to communicate with the suppliers in regard to the purchase orders and other order requirements. This is much faster than the traditional methods which took long to reach the supplier. Order management system also helped

organizations to make decisions on whether to consolidate their purchasing, how to manage and distribute materials, warehousing, quality assurance, the optimum costs of materials among other issues.

**Table 2: Order Management on Supply Chain Performance**

<b>Order management</b>	<b>Mean</b>	<b>Std. Dev</b>
Our firm has adopted the use electronic order processing system to increase timely deliveries	4.224	.5682
Our firm has ensured that tracks all its orders all the time to enhance timely deliveries	3.891	.6134
The organization has ensured that our orders have zero mistakes to enhance customer satisfaction	4.109	1.0067
The firm has ensured that order processing has reduced lead time to enhance timely deliveries	4.052	.5225
The firm ensure that there is internal employee satisfaction first to enhance customer satisfaction	3.643	.5360
The firm ensures that orders processing is in time to enhance customer satisfaction	3.815	.5137
The firm ensures that there is zero double payments to improve cost reduction and increase profits	3.713	.4976

**Warehousing Management**

This section presents findings to survey questions asked with a view to establish the influence of warehousing management on supply chain performance in the organization. It also presents findings to statements posed in this regard with responses given on a five-point likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= Strongly Agree). Table 4.8 presents the findings. The scores of ‘strongly disagree’ and ‘disagree’ have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of ‘Neutral’ has been taken to represent a statement agreed upon

moderately, equivalent to a mean score of 2.6 to 3.4. The score of ‘agree’ and ‘strongly agree’ have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0.

As indicated by high levels of agreement in Table 3, a majority of respondents affirm that the firm has ensured that there is the use warehouse management system to improve cost reduction (4.013); The firm has adopted the practices FIFO system to enhance timely deliveries and improve customer satisfaction (3.713); There is the use of automated tools and techniques for order processing to enhance timely deliveries in the organization (3.357); The firm has ensured that there is use of bar codes so that there can be timely

deliveries to enhance customer satisfaction (3.701); The organization ensure that there is use of stock cycle counts of the items being delivered to the customers to enhance customer satisfaction (3.701). Further, a majority moderately agrees that the organization ensure that there is use of stock cycle counts of the items being delivered to the customers to enhance customer satisfaction (3.452); The supply chain department had ensured that there was Integrated warehouse management to enhance cost reduction, timely deliveries, improve customer satisfaction and increase profits for the firm (3.276). As such, it can be concluded that overall, firm had ensured that there was the use warehouse management system. Most notably, the firm has adopted the practices FIFO system,

there was the use of automated tools and techniques and ensured that there is use of bar codes to use of stock cycle counts and the department has ensured that there is Integrated warehouse management This was of the implication that considering these warehousing management practices were not allocated in sufficient levels; efforts to address the same could prove beneficial in assuring supply chain performance thereof. The study findings were in tandem with De Koster (2014), the warehouse management is important in achieve greater efficiency; companies must develop processes to regularly monitor picking travel times and storage locations. Warehouse layout is one important factor affecting the order picking process to enhance supply chain performance (Tsigie, 2013).

**Table 3: Warehousing Management on Supply Chain Performance**

Statement	Mean	Standard Deviation
The firm has ensured that there is the use warehouse management system to improve cost reduction	4.013	0.5423
The firm has adopted the practices FIFO system to enhance timely deliveries and improve customer satisfaction	3.713	1.0617
There is the use of automated tools and techniques for order processing to enhance timely deliveries in the organization	3.357	0.6834
The firm has ensured that there is use of bar codes so that there can be timely deliveries to enhance customer satisfaction.	3.701	0.9431
The organization ensure that there is use of stock cycle counts of the items being delivered to the customers to enhance customer satisfaction	3.452	1.2317
The supply chain department has ensured that there is Integrated warehouse management to enhance cost reduction, timely deliveries, improve customer satisfaction and increase profits for the firm	3.276	0.8612



## **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

The study sought to assess the influence of order management on supply chain performance in the organization. The study established that the organization had adopted the use electronic order processing system; the organization had ensured that tracks all its orders all the time; the organization had ensured that our orders had zero mistakes; The firm had ensured that order processing has reduced lead time; the firm ensured that there was internal satisfaction. The firm ensured that there was internal satisfaction; organization has ensured that there was zero double payments. This implied that on average the organization had implemented order management effectively to enhance supply chain performance.

### **Warehousing Management**

On the influence of warehousing management on supply chain performance in the organization, the majority of respondents affirmed that the firm had ensured that there was the use warehouse management system; the firm had adopted the practices FIFO system, there was the use of automated tools and techniques, the firm had ensured that there was use of bar codes, the organization ensured that there was use of stock cycle counts. Further, a majority moderately agreed that the organization ensured that there was use of stock cycle counts. The supply chain department had ensured that there was integrated warehouse management. As such, it could be concluded that overall, firm had ensured that there was the use warehouse management system. This was of the implication that considering these warehousing management practices were not allocated in sufficient levels; efforts to address the same could

prove beneficial in assuring supply chain performance thereof.

The study sought to determine supply chain performance, attributed to the influence of order management and warehousing management. Reduction of costs recorded positive growth Timely Purchases-stock out reduction further recorded positive growth. From inferential statistics, a positive correlation was seen between each determinant variable and supply chain performance. The strongest correlation was established between order management and supply chain performance. Both independent variables were found to have a statistically significant association with the dependent variable at ninety-five level of confidence. Analysis of variance was further done and it was established that there was a significant mean. This was since the p values of their coefficients were all less than 0.05.

### **Conclusions of the Study**

Based on the study findings, the study concludes that supply chain performance in retail stores was affected by order management and warehousing management as the major factors that mostly affect supply chain performance in the retail stores in Kenya.

The study concluded that order management was the most important factor that affected supply chain performance in retail stores. The regression coefficients of the study showed that order management had a significant influence on supply chain performance in retail chain stores. This implied that increasing levels of order management by a unit would increased the levels of supply chain performance in retail stores. This showed that government laws and regulations had a strong

positive influence on supply chain performance in retail stores.

The study concludes that warehousing management was important factor that affected supply chain performance in retail stores. The regression coefficients of the study showed that warehousing management had a significant influence on supply chain performance in retail stores. This implied that increasing levels of warehousing management by a unit would increase the levels of supply chain performance in retail chain stores. This showed that warehousing management had a positive influence on supply chain performance in retail chain stores

### **Recommendations of the Study**

To ensure that order management supports supply chain performance in many retail stores in Kenya, the management of retail stores should improve on the level of electronic processing, order tracking systems and order processing costs, support and encourage other staff to execute procurement functions in accordance with the order management, use effective procurement procedures, improve on relationship between order management and stakeholders and employ better methods of managing order management. There is need for the retail chain stores to adopt the application of Vendor Managed Inventory technique in the procurement process.

The management of retail stores to invest extensively in warehousing management and employees training by emphasizing and promoting the culture of learning organizations that is different from the current trends where many retail stores use seminars and workshops as the only method of training. The management of tertiary

retail stores should also employ professional trained procurement staff and continuously train the staff on emerging issues on public procurement practices such as use of FIFO systems, automated warehousing.

### **Areas for Further Research**

The study is a milestone for further research in the field of supply chain performance in retail stores in Africa and particularly in Kenya. The findings demonstrated the important factors to supply chain performance in retail stores to include; order management and warehousing management. The current study should therefore be expanded further in future in order to determine the effect of procurement legal framework on supply chain performance in retail stores. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other government institutions and public sector organizations in Kenya and other countries in order to establish whether the explored factors can be generalized to affect supply chain performance in procurement departments.

The study contributes the body of knowledge by determining that influence of logistics management on supply chain performance in retail stores in Kenya is greatly affected by order management and warehousing management. The study contributes to the existing literature in the field of procurement by elaborating exiting theories, models and empirical studies on factors affecting order management and warehousing management in Kenya. The study thus contributes to the existing knowledge in procurement by reviewing theories and models that can be applied to improve procurement practices in retail stores.

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