EFFECT OF SUPPLY CHAIN LOGISTICS FUNCTIONS ON CUSTOMER SATISFACTION IN KENYA GOVERNMENT PARASTATAL: A CASE STUDY OF NATIONAL DROUGHT MANAGEMENT AUTHORITY

Jonah Zealot Majiba[1], Dr. Samson Nyang`au Paul[2]

12 Jomo Kenyatta University of Agriculture and Technology P. O Box 62000-00200 Nairobi, Kenya

Abstract: **Even as companies have learnt to squeeze efficiencies out of their manufacturing plants through concepts like just in time replenishment, statistical process control, and lean manufacturing practices, they still find that moving goods and services through several layers of their global supply chains is time consuming and costly. Supply chain management and its logistics has become one of the last borderlines that remain for conquering by most organizations in the present century. This cannot be done unless all managers and supervisors, irrespective of their functional orientation and current job responsibilities, fundamentally understand their supply chains and how their effective functioning flows right down to the bottom line. To succeed in an uncertain environment, firms must also respond to changing customer needs, and logistics flexibility is an important part of the response. The study aimed at establishing the effect of supply chain logistics functions on Customer Satisfaction in National Drought Management Authority – Kilifi. The study was guided by four specific objectives, to establish the effect of transportation on customer satisfaction, to assess the effect of warehousing on customer satisfaction, to determine the effect of inventory management on customer satisfaction and to analyze the effect of order processing on customer satisfaction. The researcher targeted 180 employees. A sample size of 54 employees was drawn for the study. The study used descriptive research design. Data was collected using questionnaires, analyzed and presented as a report. SPSS v 24 software was used for data analysis. Demographic, descriptive and inferential statistics was given in forms of tables, pie chart and graphs. The findings of the study revealed how supply chain logistics functions affect customer satisfaction since transportation reduces costs and drives efficiency across the whole supply chain.**

Keywords: **transportation, warehousing, order processing, inventory management and customers' satisfaction.**

1. INTRODUCTION

1.1 Background of the Study

Logistics functions entail different types of activities carried out by an organization and the scale of these activities along the supply chain aim at customer satisfaction. According to Yang (2011) capability of logistics which include; transportation, warehousing, inventory management and order processing is measured by availability of stock. Hence special attention should be paid to availability of the product in the warehouse, distribution centers and retail stores. Most companies, the responsibility for various logistics activities are assigned to different functional units within the organization. These include functions such as marketing, sales, finance, manufacturing as well as purchasing(Laari, Töyli, & Ojala, 2017).

Too often, each function optimizes its own logistics performance without regard for the activities of the other functions. However, transportation, inventory management, warehousing, and order-processing activities interact, often in an inverse way. For example, lower inventory levels reduce inventory-carrying costs. But they may also reduce customer service and increase costs from stock outs, back orders, and special production runs. According Bowersox (2010) use of internet to source for order form customers, combined less costly transportation can achieve a more faster and consistent delivery service at a lower cost. However, proper coordination will achieve superior overall logistics performance because distribution activities involve strong trade-offs and decisions by different functions. Some companies state their logistics objectives as providing maximum customer service at the least cost. Unfortunately, no logistics systems can both maximize customer service and minimize distribution costs, Hodgon, (2004). Maximum customer service implies rapid delivery, large inventories, flexible assortments, liberal returns policies, all of which raise distribution costs. In minimum distribution, costs imply slower delivery, smaller inventories, and larger shipping lot which on the other hand, represent a lower level of overall customer service.

The term customer service in logistics management is described in many ways such as; the quality of performance of a distribution system, dimension of order cycle and fulfillment, matching the pace of supply with that of demand and delivery reliabilities in terms of the product bought and the way it is enhanced by the time, place and manner of distribution. According to (Cachon & Swinney, 2009) there are many elements of customer service, and these will vary in their relevance according to the product and market concerned. Some of the elements include: stock availability, order status information, delivery reliability, and condition of the order.

Orders can be submitted in many ways, by mail or telephone, through sales people, or via computer and EDI. In some cases, the suppliers might actually generate orders for their customers. Once an order is received it must be processed quickly and accurately. Both the company and its customers benefit when order processing is carried out efficiently. Most companies now use computerized order-processing systems that speed up the order shipping and billing cycle. Some warehouses are large and highly automated, and are designed to receive goods from various plants and suppliers, receive and fill orders efficiently, manage delivery of goods to customers effectively and timely (Wang, McIntosh, & Brain, 2010). In recent years warehousing facilities and equipment technology have greatly improved. The technological advancement has brought competition to older, multistoried warehouses with outdated materials-handling methods in computerized warehouses where only few employees are required. Computerized systems process orders, re-direct lift trucks, hoists electric robots to gather goods as they are moved to loading docks and then invoices are issued. Subramanya, and Rangaswamy (2012) observed that automated warehouses have reduced worker injuries, labor costs, theft, and breakage and have improved inventory control.

The major problem in maintaining the delicate balance between carrying too much inventory and carrying too little affect customer satisfaction. Carrying of too much inventory leads to higher inventory carrying costs and having obsolete stock. On the other hand, carrying little inventory may lead to stock outs, high cost shipments or production, and customer dissatisfaction. During decision making in inventories, the management must balance the costs of carrying larger inventories against sales and profits results.

Initially, many companies reduced their inventories and related costs with very high margins through just-in-time logistics systems. With such logistics systems, producers and retailers only carry small inventories or parts of merchandise enough for a few days of operations. New stock is brought in only when needed rather than it being stored in inventory. Just-in-time systems require accurate forecasting along with fast, frequent, and flexible delivery so that new supplies will be available when needed. However, these systems result in substantial savings in inventory-carrying and handling costs, Leenders et al, (2002).

According to Lai and Cheng, (2009), customer satisfaction can be affected by the choice of transportation logistics. Customer satisfaction means having the right product, at the right price and in the right place. Customer satisfaction will be affected by the pricing of the products, performance delivery and condition of the goods after they arrive. The company can choose among five transportation modes: pipeline, rail, road, water and air. Railway mode is the most used, is cost-effective and is the largest courier for delivery of many goods. After shipping large amounts of bulk products as such coal, sand, minerals overseas and over long distances, they now come and use the railway mode for distribution of the goods.

In choosing a transportation mode for a product, shippers must balance many considerations such as speed, dependability, availability, cost and others. Thus, if a shipper needs speed, air and truck are the prime choices. If the goal is low cost, then water or pipeline might be the best. Shipping costs are often a significant portion of the marketing costs of a product. It is often difficult for businesses to pass on these higher costs to customers when there are active competitors. One option is to reduce dependence on the unreliable transportation. However, a company′s physical distribution and transportation flexibility is an important part of its marketing decisions, a factor that could make or break its ability to serve its customers, Weele, (2006).

National Drought Management Authority (NDMA)

National Drought Management Authority (NDMA) begun as: Arid Lands Resource Management Project. It is a community-based drought management project of the Kenya Government (GoK) that utilizes a credit facility from the World Bank. It is mandated to establish mechanisms which ensure that drought does not result in emergencies and that the impacts of climate change are sufficiently mitigated. The first phase of the Project was initiated in 1996 after the World Bank Funded Emergency Drought Recovery Program (EDRP), which operated from 1992 to 1995. While the EDRP was a quick fix project to mitigate the effects of severe drought, NDMA is a longer-term development-oriented project focusing on institutionalization and mainstreaming of drought management activities in the Kenya Government system. NDMA mission is to enhance food security and reduce livelihood vulnerability in drought-prone and marginalized communities in Arid and Semi-Arid Lands counties through sustainable and resilient society. The Arid Lands Resource Management Project has a development objective that aims to enhance food security, social service delivery and reduce livelihood vulnerability in drought-prone and marginalized communities in 28 ASAL Counties.

NDMA supports two complementary channels of intervention, which together address the complex problem of vulnerability, and enable communities in the project areas to move beyond survival and subsistence to sustainable development by Strengthening and Institutionalization Natural Resource and Drought Management, which will improve the management of natural capital, reduce the impact of natural shocks and diminish acute vulnerability by reinforcing preparedness and mitigation activities, and also, improving the effectiveness of response interventions. It also empowers communities so that they can successfully identify, implement and sustain their development priorities through Community-Driven Development.

1.2 Statement of the Problem

Great effort has been exerted on whether organizations consider Supply Chain Logistics Functions as an enabler towards achieving customer satisfaction in their management practices. This is partly due to less attention on Supply Chain Logistical Functions being provided by many organizations. This trend is slowly changing as strategy to enable the company " serve markets around the world with a supply chain that is resilient enough to withstand shocks, agile enough to respond quickly and flexible enough to customize products and efficient enough to protect margins" Harrington and Smith, (2013). Hence organizations are refocusing their efforts towards satisfying their customers by ensuring proper controls of their supply chain logistical functions. However, despite frantic effort made by other scholars to highlight the effect of supply chain logistical functions, negative issues have always been raised by customers and stakeholders.

It is the desire of NDMA to satisfy its customers by bridging the tie and space gap between suppliers of goods and materials and those who demand them. However the researcher heard stakeholders' complaints regarding delays of some projects taking too long to be accomplished, and in contact with the staff of NDMA, also observed some negligence on servicing the vehicles. The general staff also complained of long periods of time in fulfilling orders. The stakeholders also had complaints that farm inputs intended to be distributed to them every end of three months was yet to be received. He also heard some staff attached to technical department were unable to go to the field due to absence of staff vehicles. According to Weele, (2006), company′s supply chain logistical functions flexibility is an important part of its marketing decisions, a factor that could make or break its ability to serve its customers to satisfaction. Therefore, the study seeks to establish how supply chain logistics functions affect customer service in these aspects. In order words, what is the relationship between supply chain logistics functions and Customer Satisfaction in National Drought Management Authority – Kilifi.

1.3. General objective of the Study

The general objective of the study was to determine the effect of supply chain logistics functions on customer satisfaction in Kenya government parastatal: a case study of National Drought Management Authority

1.3.1 Specific Objective of the Study

1. To determine effect of transportation on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority .

2. To examine the effect of warehousing on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority.

3. To determine the effect of order processing on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority.

4. To establish the effect of inventory management on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority.

1.4 Research Questions

The study was guided by the following research questions;

1. What is the effect of transportation on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority?

2. What is the effect of warehousing on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority?

3. What is the effect of order processing on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority?

4. What is the effect of inventory management on customers' satisfaction in Kenya government parastatal: a case study of National Drought Management Authority?

2. LITERATURE REVIEW

2.1 INTRODUCTION

This chapter is concerned with the review of relevant literature with specific regard to supply chain logistics functions and its overall effect on customer satisfaction. It is divided into review of past studies, critical review, summary and research gaps.

2.2 Theoretical Review

This section will discuss theories that relates to the study with the purpose of adopting one or more of these theories. The theories to be reviewed are Inventory management theory, Transport theory and Just-in-Time (JIT) theory. delivery reliability, and order fulfilment being the indicators of customer satisfaction.
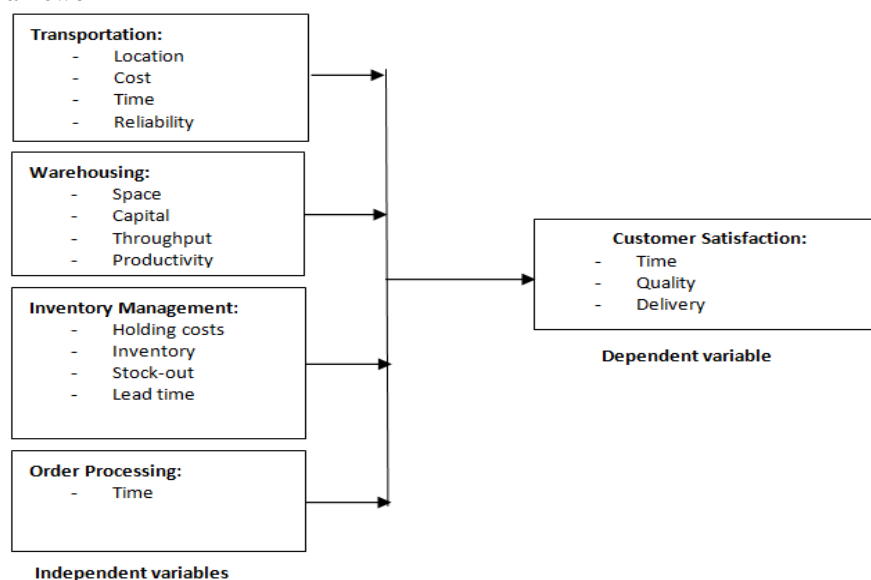
2.3 Conceptual Framework

FIGURE 2.1 Conceptual Framework

2.4 Empirical Review

Supply Chain Logistics functions, is one of the business areas where significant business improvement is still possible in terms of customer satisfaction and cost. A significant portion of customer dissatisfaction is caused through negligence of proper controls of the logistic functions. It is prudent to note that, control of logistics functions, reduces cost significantly, and also helps in maintaining or improving customer satisfaction levels. But, one has also to be aware that high customer service levels do come at a cost and, usually, increased service levels translate into increased logistics costs in terms of transportation, warehousing, inventory management, and order processing. Before initiating improvements in any organizational functions, there should be a thorough examination on how the logistics system is designed and how the different modules can work together. (Del Baldo, 2011), states that integration between carriers, information technology firms and manufacturing companies is the most critical aspect of the logistics system is the integration of all individual logistics functions and information flow. In the past we have seen different functions operating independently from one another which led to sub-optimization of the different functions and, as a result, high overall logistics costs, combined with low customer satisfaction levels and high levels of slow moving inventory were evidence. Unlike recent decades where a focus on the manufacturing and procurement segments of the logistics operation in most companies, have implemented manufacturing-oriented logistics systems based on JIT principles using KanBan or similar approaches. His creates big opportunities in distribution function and the integration of logistics functions into an overall business strategy in its fullest. According to (Leenders, 2002), all logistics functions should be driven by the business forecast which is based on the strategic objectives of the company. By doing this, logistics can be turned into a competitive advantage because it will enhance service levels to customers, be predetermined at the lowest possible cost. The predetermination shall determine what to produce, and at which time to meet the market demand. However, this is easier said than done. In most companies, predetermination or forecasting is the weakest function in the supply chain yet a manufacturing organization expects to attain, high availability of the right product, low inventory levels, high inventory turns etc.

Transportation is really much more than the movement of people. The truly vital function that it plays is the movement of goods. (Branch, 2000). Goods movement is often overlooked by transportation planners but it includes the shipment of raw materials, finished products and even wastes. Raw materials such as mineral, energy, food and other resources are obvious candidates for transportation as most occur in limited concentrations away from their eventual points of consumers. Movement of finished goods from manufacturers to their eventual end users also requires a well-established transport network.

Likewise, most visualizations of the transportation network commonly are focused on road, rail, marine and air-based systems. While this is accurate, it neglects two other important forms of transport such as electrical and pipeline. Both topics are commonly discussed as ☐infrastructure☐ in planning documents, but according to (Weele, 2001); they really need to be seen as another form of transportation. The electrical transmission system makes it possible to instantaneously move large amounts of energy from one location where it is in overabundance to another where it is in demand. Pipelines play the equally important role of transporting liquids and gases from one point to another point in great, uninterruptible volumes.

According to (Leenders, 2002), what the movement of goods allows us to do, is balance the surpluses and shortage of a number of areas, so that all can progress to a higher level of development than would have been possible without it. Transport is often viewed as a matter of convenience or necessarily but in reality, its role in civilized existence is far more basic and vital. With it comes a worldwide dependence on the continued free flow of resources, goods and wastes to the point for use. At this point many consumers on the planet are dependent on something from somewhere else. In the early stage of providing the logistics service network, outsourcing transportation, rent warehouse can be applied first, because it is the most cost effective way and it is positive for sales performance (Li and Ding 2014).

According to (Ghiani, Laporte and Musmanno, 2013) warehouse or storage area is a commercial building constructed and equipped with standard tools according to special standards depending on the purpose of their use for the protection of the quality and quantity of the stored produce. The need for a warehouse arises due to the time gap between production and consumption of products. (Ala-Harja & Helo, 2015)Warehousing or storage refers to the holding and preservation of goods until they are dispatched to the consumers. By bridging this gap, storage creates time utility. It is equally to note that there is a need for storing goods so as to make them available to customers as and when required. Storage enables a firm to carry on production in anticipation of demand in future. This means, Warehouses enable organizations to carry on

production throughout the year and sell their products, whenever there is adequate demand. Need for warehouses arise because some goods are produced only in a particular season but are demanded throughout the year. Similarly, certain products are produced throughout the year but only during a particular season.

Warehouses enable storage of goods when their supply exceeds demand and by releasing them when the demand is more than immediate productions hence an assurance of stock availability. This on one hand ensures a regular supply of goods in the market and on the other hand it helps to stabilize prizes by matching supply with demand. Organization can thus minimize the risks to goods from loss, damage, fire, theft etc. A warehouse provides facilities for processing, packing, blending, grading etc, of goods for the purpose of sale. The large exporters/manufacturers use warehouses as distribution points for developing retail outlets in a particular region or country. They do so to reduce end cost to the consumer and enhancing the production sale ratio. But cross docking is a specialized type of distribution centre (DC) that can be used by manufacturers/transporters in that little or no inventory is stored and product is received, processed and if needed, shipped within a short time frame.

In order to balancing the various tasks of inventory management, means paying attention to two key aspects of any inventory. The first aspect has to do with time. In terms of materials acquired for inclusion in the total inventory, this means understanding how long it takes for a supplier to process an order and execute a delivery. Inventory management also demands that a solid understanding of how long it will take for those materials to transfer out of the inventory be established. Knowing these two important lead times makes it possible to know when to place an order and how many units must be ordered to enhance performance of an organization by keeping production running smoothly all the times.

Inventory management is not limited to documenting the delivery of raw materials and the movement of those materials into operational process. The movement of those materials as they go through the various stages of the operation is also important. Typically known as goods or work in progress inventory, tracking materials as they are used to create finished goods also helps to identify the need to adjust ordering amounts before the raw materials inventory gets dangerously low or is inflated to an unfavourable level. Inventory management has also to do with keeping accurate records of finished goods that ready for shipment. This often means posting the production of newly completed goods to the inventory totals as well as subtracting the most recent shipments of finished goods to buyers. When the company has a return policy in place, there is usually a sub-category contained in the finished goods inventory to account for any returned goods that are reclassified as refurbished or second grade quality. Accurately maintaining figures on the finished goods inventory makes it possible to quickly convey information to sales personnel. Wardaya et al., (2013) further states that sharing of information to show the level and of inventory, sales data and forecasting about the status of orders, scheduling of production and ability to deliver measures firm's performance.

Flores & Primo (2014) adds that, with the crescent requirement of the market in logistic process inventory management makes it possible to prepare accurate records that are used for accessing any taxes due on each inventory type. Without precise data regarding unit volumes within each phase of the overall operation, the company cannot accurately calculate the tax amounts. This could lead to underpaying the taxes due and possibly incurring stiff penalties in the event of an independent audit hence affect overall performance of an organization. Vona (2011) affirmed that to satisfy customers better, inventory management needs to be integrated in supply chain network to guard the manufacturing program towards any type of disturbance. Moreover, it also prevents the system from working out of stock, components and products.

Donald (1996) defines order processing as a term used to identify the collective tasks associated with fulfilling an order for goods or services placed by a customer. The processing procedure begins with the acceptance of the requisition of the order from the customer, and is not considered complete until the customer has received the products and determined that order has been delivered accurately and completely. Companies often invest a great deal of time and effort in designing and efficient order processing strategy, thus increasing the possibility of establishing a long-term working relationship with its customers. The actual approach to order processing will vary, depending on the complexity of the order, and the type of products that are being ordered. In some cases, order processing can be almost instantaneous. For example, if a buyer places an order for a software, the order processing usually involves nothing more than the buyer rendering payment for the product, the seller registering the sale and accepting the payment, and the immediate delivery of the software by means of download.

Donald (1996) continues to say that when physical goods are involved in order processing, a more complex approach has to be employed. Customers may place orders by submitting a written request, by phone, or by using online order forms

Page | 1160

that are routed directly to the seller. Each order is then routed to the distribution centre, where the type and quantity of items requested by the customer are collected and prepared for shipping. In order to facilitate this process, larger companies often operate multiple distribution centres that are strategically located, allowing for the shipment to be delivered to the customer as soon as possible. Once the order is received, the customer completes the order processing by inspecting the items that are delivered. If the items are in fact what the customer ordered, and are not damaged in any way, then the order processing cycle is considered complete. Should the received items be incorrect, or damaged in any way, than the processing is no considered complete until the issues are resolved.

2.5 Critique of relevant literature

According to Weele (2001) Customer service has become one of the most important non price competitive factors which can easily be achieved by proper consideration of the components of business logistics that is; physical distribution and materials management. Logistics decisions play a vital role in regards to having control over storing and distribution of goods and services in order to satisfy the customer. Both theoretically and practically the area of logistics has been so far neglected specially in third world Countries. It will therefore be appreciated to highlight the importance of logistics functions in NDMA in relation to its customer service delivery. In logistics is a challenging and important activity because it serves as an integrating or boundary spanning function. It links suppliers with customer and integrates functional entities across a company. With the ever-growing competition in today□s market place, it becomes necessary for a firm to use its resources to focus on logistical functions to maximize strategic opportunities. This includes management of various functions such as transportation, warehousing, inventory management and order processing.

2.6 Research Gaps

There is scarcity in comprehensive studies investigating the effects of SC logistics functions on customer satisfaction. The existing studies have mostly endeavoured to explain only factors affecting customer satisfaction and the roles of logistics in terms of availing finished good at the right time and the right place**.**

3.   RESEARCH METHODOLOGY

3.1 Introduction

This section outlines the methodology and procedures that will be used in conducting the study. It begins by giving a general description of the research methodology followed by a description of the target population, sample selection, instruments of data collection and data analysis and presentation to produce the required information necessary for the study.

3.2 Research Design

The study used descriptive research design which includes questionnaires with various senior management, heads of department and general staff members of NDMA and stakeholders. Descriptive research is used to obtain information concerning the relationship between the independent and the dependent variables, it also describes the current status of the phenomena.

3.2 Target Population

According to Mugenda (2008) population is the entire group of individuals or items under consideration in any field of inquiry and have a common attribute.The target population in this research study was 180 NDMA staff.

Table 3.2 Target Population

CATEGORY	TARGET POPULATION
Top Managers	20
Heads	40
General Staff	40
Stakeholders	80
TOTALS	**180**

3.3 Sampling Frame

The study derived the sample frame from the top managers, heads of department, and general staff members and stakeholders.

3.4 Sample and Sampling Technique

3.4.1 Sampling Technique

Stratified sampling and simple random sampling techniques was used since it is a direct selection of level of management within the organization. For any meaningful and representative research, a sample of atleast above 10% is representative enough Mugenda (1999). For the purpose of being in line with Mugenda, the sample size represented 30% of the total target as indicated by table 3.2.Stratified sampling technique will be applied in selection of respondents. First, the staff at NDMA will be treated as different strata upon which the respondents were selected. Stratification will be used because the population was structured into various non-homogenous units, hence the need for sample diversity. Secondly, a sample of 85% will be drawn from each stratum through simple random sampling. The main advantage of simple random sampling is that it eliminates bias in selection of respondents (Kothari, 2010).

-       **Table 3.1 Sample Matrix**

CATEGORY	TARGET POPULATION	SAMPLE SIZE (30% of target population)
Top Managers	20	6
Heads	40	12
General Staff	40	12
Stakeholders	80	24
TOTALS	**180**	**54**

Therefore the study will have a sample size of 54 respondents.

3.5 Data Collection Instruments

The study used questionnaires, interviews and secondary methods to collect data. It was collected qualitative and quantitative data to achieve its objectives.

.3.6 Data collection procedure

The researcher developed a research proposal under the guidance of the supervisor and after it is approved, the researcher sought for permission from the National Drought Management Authority. Once the approval is granted, the researcher proceeded to collect data from the 54 respondents using questionnaires. The questionnaires was distributed by the researcher and delivered personally to the respondents who were required to fill and return the questionnaires' for analysis after five (3) days. The researcher also compiled a literature of related work from various information materials ranging from journals, books as well as other documented information materials on corporate governance.

3.7 Pilot Testing

The pilot test was conducted to allow for pre-testing of the research instrument. The clarity of the instrument items to the respondents was established so as to enhance the instrument's validity and reliability. The result would helped the researcher to correct inconsistencies arising from the instruments, which ensured that they measure what is intended.Pilot testing in this research was conducted in Kilifi County. The reason for choosing this county is because it has short rainfalls and is easily affected by drought. A target population of 180 respondents was drawn. The sample size of 54 was reached after getting 30% of the target population. A total of 20 top managers, 40 heads of departments, general staff 40 and 80 stakeholders participated in the research. The purpose of the research was to establish the effect of supply chain logistics functions on Customer Satisfaction in National Drought Management Authority – Kilifi. through descriptive research design on a sample of 54 employees with a view of revealing how supply chain logistics functions affect customer satisfaction. The objectives were to establish the effect of transportation on customer satisfaction, to assess the effect of warehousing on customer satisfaction, to determine the effect of inventory management on customer satisfaction, to establish the effect of order processing on customer satisfaction.

3.8 Data Analysis

In order to analyze collected data, a researcher needs to have the following information about the statistical data analysis tools namely: descriptive, inferential and test statistics. The completed questionnaires was checked for completeness to ensure consistency. The data was then be coded to enable the responses to be grouped into various categories. Both quantitative and qualitative techniques was used in the analysis of data. The data obtained from the research instruments was analyzed by use of descriptive statistics (frequencies and percentages) as well as inferential statistics. The Statistical Package for Social Sciences (SPSS) computer software version 24 was used specifically for the purpose of analyzing the quantitative data and presenting it inform of tables and charts. Qualitative data analysis method was employed to analyze qualitative data gathered using open-ended questionnaires. The multiple regression model will be the most ideal model for me to use since it predict relationship between the dependent and the multiple independent variables in my research. The outcome of the results enabled me give accurate predictions on the results. The regression equation assumed the following form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mathcal{E}.$$

Where

Y = customer satisfaction (dependent variable)

β_0 = Constant of Regression

β = The Beta coefficients for the corresponding X (independent) terms, representing the net

 Effect the variable has on the dependent variable, as X's in the equation remain constant.

X_1 = transportation

X_2 = warehousing

X_3 = inventory management

X_4 = order processing

$\mathcal{E}$ = Error of Regression

4.   RESEARCH FINDING AND DISCUSSION

4.1 Introduction

The research project was aided by SPSS to analyze data alongside with various statistical techniques. The chapter elaborates on data analysis, presentation and interpretation of the finding of the study. The finding is related to the objectives that guided the study. This chapter began with the background characteristics, results of the research, reliability technique adopted, and correlation and regression analysis.

4.1.2 Response Rate

According to Hamilton (2009) response rate refers to the percentage of respondents who participated in the survey from a predetermined sample size of the project. It is considered critical for a research because it guarantees the validity of questionnaires collected for data analysis (Hair, 2010). Out of a total of 54 questionnaires administered, 50 questionnaires were appropriately submitted in time for data the analysis; this represents a response rate of 93%. According to Mugenda and Mugenda (2003) 50% and above of the response rate is considered satisfactory in conducting a research findings and based on that the response rate for the research was sufficient for further analysis.

4.2 Reliability Test

For testing the reliability of the research instrument the study employed the use of Cronbach alpha technique as a measure of internal consistency. Table 4.2.1 below presents the Cronbach alpha values range from 0.747 to 0.945. Mohsen and Dennick (2011) noted that a reliability coefficient of 0.7 or higher indicates consistency. The level of reliability in the research was deemed sufficient consequently the degree of internal consistency was acceptable. Therefore, all items were included in the survey instrument.

- **Table 4.2.1: Reliability Analysis**

		Cronbach's Alpha	No. of test Items
Customer satisfaction		0.841	**5**
Transportation		0.923	**5**
Warehousing		0.734	**5**
Inventory management		0.921	**5**
Order processing		0.787	**5**

4.3 General characteristics of the respondents

The general characteristics' information of the target population is of almost important as it may provide the researcher with critical insight on the relationship between the dependent and independent variables under investigation. Therefore, the research sought to determine the demographic characteristics which included level of education to work experience of the respondents.

4.3.1 Experience of the respondents

This study sought to find out the work experience of the respondents.

Table 4.3.2 Experience of the respondents

Respondents Experience	Frequency	Percent
Less than 5 years	13	24.1
Between 5 and 10 years	24	44.4
Between 10 and 15 years	10	18.5
Above 15 years	7	13
Total	54	100.0

The results on the work experience of the respondents indicated that 24 respondents which translates to (44.4%) of the total respondents had more than 5 years experience. And therefore, the researcher perceived them as to be sufficiently experienced to provide the necessary information and insight with regard to the objective of the study.

4.3.2 Level of Education

The study sought to establish level of education of the respondents

Table 4.3.2: Education level

Education level	Frequency	Percentage
Diploma	21	**38.9**
Degree	22	**40.7**
Masters	7	**13.0**
PhD	4	**7.41**
Total	43	**100.0**

The results on the level of education show that 43 of the respondents had acquired a college or university degree while only 3 respondents had a master or PhD degrees. However, that notwithstanding the finding indicates that they were sufficiently competent to thoroughly comprehend all the questionnaires in the research instrument in the study objective.

4.4 Descriptive statistics and Discussions

In this section the descriptive statistics for each research variables as well as the dependent variable are analyzed and finding discussed. Respondents were requested to indicate by a tick in the designated area their agreement with the

following statements regarding transportation. Each item had a 5 point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

4.4.1 Transportation

Transportation is critical not only for the movement of finished goods to the consumers (creating place and time utility in the process) but also ensures raw materials are processes to create form utility. Therefore, the research sought to determine the influence of transportation on customer satisfaction. Table 4.4.1 below highlights the results and findings of the variable.

Table 4.4.1: Transportation

		1 SD	2 D	3 N	4 A	5 SA	MEAN
NDMA has an efficient transportation mode needed for their operations.	Freq	2	2	5	8	37	4.58
	%	3.7	3.7	9.3	14.8	68.5	
NDMA have the needed financial resources for proper service of their freight vehicles	Freq	0	0	8	18	28	4.46
	%	0	0	14.8	33.3	58.9	
NDMA is able to deliver goods on time to its clients.	Freq	2	4	5	25	18	1.81
	%	3.7	7.4	9.3	46.3	33.3	
It uses the latest technology to ensure certain goods remain under controlled temperature.	Freq	23	15	8	4	4	2.10
	%	42.6	27.8	14.8	7.4	7.4	
NDMA has a contingency plan to counter any unanticipated events that may delay delivery.	Freq	2	8	10	16	18	3.18
	%	3.7	14.8	18.5	29.6	33.3	

The results from the study revealed that majority of the total respondents 37 (68.5%) of the respondents strongly agreed that the NDMA had an efficient transportation mode needed for their operations, a clear indication that the authority is well equipped to adequately handle its operations. The results are in line with a mean of 4.58. In determining whether the authority has the needed financial resources for proper service of their freight vehicles, the study revealed that the majority of the respondents either strongly agreed with 58.9% (28) and 33.3% (18) of the respondents agreed. However, 14.8% (8) of the respondents were undecided the results also showed a mean of 4.46. Regarding whether the authority is able to deliver goods on time to its clients, the study revealed that majority of the respondents strongly agreed 33.3% (18) while 46.3% (25) of the respondents agreed. However, 9.3% (5) of the respondents were neutral, 7.4% (4) disagreed and 3.7% (2) strongly disagreed. The results also showed a mean of 1.81.

In relation to the question of whether the authority has the latest technology to ensure that certain goods remain under controlled temperature, the study revealed that the majority of the respondents strongly disagreed with 42.5% (23) and 27.8% (15) disagreed while 14.8% (8) of the respondents were undecided, however, 14.8% (8) of the respondents agreed and strongly agreed with equal measure. The study also revealed a mean of 3.18.

In determining whether the authority has a contingency plan to counter any unanticipated events that may delay delivery county, the study revealed that the majority of the respondents strongly agreed with 33.3% (18) and 29.6% (16) agreed while 18.5% (10) of the respondents were undecided, however, 14.8% (8) of the respondents disagreed while 3.7% (2) strongly disagreed. The study also revealed a mean of 3.18 thus suggesting that most of the respondents agreed on the importance of an efficient transportation system on customers satisfaction in Kilifi county.

4.4.2 Warehousing

Warehouses ensure that there is constant production and supply of goods throughout the year as and when demand is adequate. Warehousing is especially important for those raw materials that are only produced in a particular season Therefore, it is with this in mind that the study sought to determine the influence of warehousing on customers satisfaction in Kilifi County.

Table 4.4.2: Warehousing

		1 SD	2 D	3 N	4 A	5 SA	MEAN
NDMA has a sufficient storage facility to operate smoothly	Freq %	2 3.7	3 5.6	0 0	13 24.1	36 66.7	4.42
NDMA has taken the necessary safety and security measures	Freq %	16 29.6	23 42.6	9 16.7	3 5.6	3 5.6	2.33
The warehouse has the required number of employees to operate smoothly	Freq %	5 9.3	5 9.3	0 0	12 22.2	32 59.3	4.05
The authority conducts periodic reviews to check on obsolete goods	Freq %	16 29.6	26 48.1	0 0	6 11.1	6 11.1	2.44
The warehouse is easily accessible for the movement of goods	Freq %	5 11.6	8 18.6	2 4.7	12 27.9	16 37.2	3.60

In an effort to establish whether NDMA has sufficient storage to operate smoothly, 66.7% 36 respondents strongly agreed, 24.1% (13) agreed, while 5.6% (3) disagreed and 3.7% (2) strongly agreed. The items realized a mean of 4.42 implying that the authority had the necessary warehousing infrastructure to operate efficiently. With regards to whether the authority has taken the necessary safety and security measures 29.6% (16) of the respondents strongly disagreed while the majority 42.6% (23) of the respondents disagreed, 16.7%% (9) were undecided and finally 5.3% (3) agreed and 5.6% (3) strongly agreed. The results were supported by a mean of 2.33. The respondents were also asked if in their opinion the fixed term tenure of politicians did not influenced the long-term strategy planning of the county, the results indicated that 62.8% (27) of the respondents strongly disagreed while 14.0% (6) of the respondents agreed, 23.2% (10) both strongly disagreed and disagreed. The results are supported by a mean of 4.05.

The respondents were also asked if they thought in their opinions the warehouse has the required number of employees to operate smoothly. 59.3% (32) of the respondents strongly agreed with the statement while 12 (22.2) of the respondents agreed, , however, 9.3% (5) disagreed and 9.3% (5) strongly agreed both had an equal response rate. The results are supported by a mean of 2.44. The respondents were asked if they thought the authority conducted periodic review to check on obsolete goods. 29.6% (16) of the respondents strongly disagreed while the majority of the respondents representing 48.1% (26) disagreed while 11.1% (6) and 11.1% (6) both agreed and strongly agreed respectively. The results were supported by a mean of 3.60.

4.4.3 Inventory Management

Inventory management is important since it ensures the constant flow of units into and out of an existing inventory. Therefore, it is with this in mind the study sought to determine the influence of inventory management on customer satisfaction in Kilifi County.

Table 4.4.3: Inventory Management

		1 SD	2 D	3 N	4 A	5 SA	MEAN
The authority has the needed inventory system	Freq %	26 48.1	16 29.6	5 9.3	3 5.6	4 7.4	3.95
The authority has an effective procedure of identifying and eliminating obsolete goods	Freq %	3 5.6	2 3.7	6 11.1	14 25.9	29 53.7	4.12
The authority employs the use of external auditors	Freq %	5 9.3	5 9.3	4 7.4	16 29.6	24 44.4	3.72
The authority has employed trained and competent staff	Freq %	3 5.6	5 9.3	8 14.8	18 33.3	20 37.0	3.74
The authority was prepared for the influx of goods in peak season.	Freq %	3 5.6	2 3.7	6 11.1	15 27.8	28 51.9	4.09

In this section of descriptive analysis the study highlighted the results of inventory management. The study sought to find out whether the authority has the needed inventory system. Majority of the respondents 48.1% (26) strongly disagreed

while 29.6% (16) disagreed; the items realized a mean of 3.95 implying that there was a general consensus that the authority has the needed inventory system. In the determination of whether the authority have an effective procedure of identifying and eliminating obsolete goods, 53.7% (29) of the respondents strongly agreed representing majority of the respondents while 25.9% (14) agreed with that statement, the result summed up to a mean of 4.12.

To ascertain if the authority employs the use of external auditors, 44.4% (24) strongly agreed while 29.6 (16) agreed that the authority uses e-procurement; the results were supported by a mean of 3.72. The respondents were also asked if the authority had employed trained and competent staff 37.0% representing (20) respondents strongly agreed while 33.3% (18) of the respondents agreed with the statement, the results had an overall mean of 3.74. Finally the respondents were asked if they think the authority was prepared for the influx of goods in peak season., 51.9% (28) which represented majority of the respondents strongly agreed while 27.8% (15) of the respondents agreed, the overall results were summed up by a mean of 4.09.

4.4.4 Order processing

Order processing is critical since it's considered as the backbone of customer satisfaction, it involves collective tasks associated with fulfilling an order for goods or services placed by a customer and it ends when the customer accepts the goods as originally ordered. The respondents were asked if they thought that the order processing period was sufficiently minimal .Based on the results it was evident that majority of the respondents that were represented by 41.9% (18) of the respondents strongly disagreed while 21% (9) of the respondents disagreed on that statement. Nevertheless, 4.7% (2) of the respondents were neutral while 23.3% (10) of the respondents agreed and a minority of the respondents representing 9.3% (4) strongly disagreed, this section was supported by an overall mean of 2.37.

The respondents were also asked their opinion on whether they thought the authority had a adapted to a given order pattern to allow projection., 53.5% (23) of the respondents which represents majority of the respondents strongly agreed while 21% (9) agreed, 7% (3) disagreed and 18.6% (8) strongly disagreed; the results involved a mean of 3.84. In an effort to determine whether the authority uses technology to improve order placing and processing majority of the respondents representing 72.1% (31) of the respondents strongly agreed while 18.6% (8) of the respondents agreed 9.3% (4) of the respondents were undecided, the question was supported by a mean of 4.63.

The respondents were finally asked whether the authority were collecting customers feedback to improve performance, 65.1% (28) of the respondents strongly agrees while 14% (6) of the respondents agreed, nevertheless, 9.3% (4) of the respondents disagreed and 11.6% (5) of the respondents strongly disagreed. The results yielded a mean of 4.12. Finally, the respondents were asked their opinion on whether the authority fulfills order placing as per the customers requirement respondents 48.8% (21) strongly agree while 16.3 (7) of the respondents agreed 9.3% (4) of the respondents were neutral, however, 9.3% (4) of the respondents disagreed and 16.3% (7) of the respondents strongly disagreed, this section resulted to a mean of 3.72.

Table 4.4.4: Order processing

		1 SD	2 D	3 N	4 A	5 SA	MEAN
The order processing period is sufficiently minimal	Freq	18	9	2	10	4	2.37
	%	41.9	21.0	4.7	23.3	9.3	
The authority have adopted to a given order pattern to allow projection.	Freq	8	3	0	9	23	3.84
	%	18.6	7.0	0	21.0	53.5	
The authority does not uses technology to improve order placing and processing	Freq	0	0	4	8	31	4.63
	%	0	0	9.3	18.6	72.1	
The authority fulfills order processing as per the client requirement	Freq	5	4	0	6	28	4.12
	%	11.6	9.3	0	14.0	65.1	
The authority collects customers feedback to improve performance	Freq	7	4	4	7	21	3.72
	%	16.3	9.3	9.3	16.3	48.8	

4.5 Customer satisfaction

This section of the analysis elaborates the finding of the study on customer satisfaction in Kilifi county government, below highlights the findings of the research. In this section the study sought to determine whether the prolonged order processing inconveniences clients, majority of the respondents 44.2% (19) strongly agreed, 28% (12) agreed while 4.7% (2) of the respondents were undecided however, 14.0% (6) disagreed and 9.3% (4) of the respondents strongly disagreed, the results were supported by a mean of 3.84. The respondents were also asked their clients are more willing to embrace technology, 51.2% (22) of the respondents strongly agrees while 16.3% (7) of the respondents agreed however, 11.6% (5) of the respondents disagreed and 21% (9) of the respondents strongly disagreed, this was supported by a mean of 3.65.

The respondents were also asked if they thought electronic procurement improved transparency, overwhelming majority 81.4% (35) of the respondents strongly agreed while 16.3% (7) of the respondents agreed only 2.3% (1) of the respondent was neutral; this was supported by a mean of 4.80. The respondents were also asked whether they thought that delivering orders as per customer requirement improved customer loyalty, 48.8% (21) of the respondents strongly agreed and 23.3% (10) of the respondents agreed However 14% (6) of the respondents were neutral, 9.3% (4) disagreed while 4.75% (2) strongly disagreed, this section involved a mean of 4.02. Finally, the respondent were asked whether improved quality lead to the retention of clients, 34.9% (15) of the respondents strongly agreed while 23.3% (10) of the respondents agreed. However, 21% (9) of the respondents were undecided, 11.6 (5) agreed and 9.3 (4) strongly agreed. The results were supported by a mean of 3.63.

Table 4.5.1 Customer satisfaction

		1 SD	2 D	3 N	4 A	5 SA	MEAN
The prolonged order processing time inconveniences clients	Freq	4	6	2	12	19	3.84
	%	9.3	14.0	4.7	28.0	44.2	
Customers are more willing to embrace technology	Freq	9	5	0	7	22	3.65
	%	21.0	11.6	0	16.3	51.2	
Electronic procurement enhances transparency of the organization to clients	Freq	0	0	1	7	35	4.80
	%	0	0	2.3	16.3	81.4	
Delivering orders as per the requirement improves customer loyalty	Freq	2	4	6	10	21	4.02
	%	4.7	9.3	14.0	23.3	48.8	
Improved quality increase customers retention and brand reputation	Freq	4	5	9	10	15	3.63
	%	9.3	11.6	21.0	23.3	34.9	

4.6 Correlation analysis

In this subsection a summary of the correlation analyses is presented. Correlation between variables is a measure of how well the variables are related. It seeks to first determine the degree of interdependence of the variables under study. These results are summarized in Table 4.6.1

Table 4.6.1 Correlation analysis

Correlations						
		Transportation	Warehousing	Order processing	Inventory management	Customers satisfaction
Transportation	Pearson Correlation	1	.221	.083	-.032	**-.016**
	Sig. (2-tailed)		.155	.608	.834	**.925**
	N	43	43	43	43	**43**
Warehousing	Pearson Correlation	.220	1	.322[*]	-.053	**.029**
	Sig. (2-tailed)	.157		.035	.737	**.861**
	N	43	43	43	43	**43**
Order processing	Pearson Correlation	.082	.322[*]	1	.380[*]	**.256**
	Sig. (2-tailed)	.602	.035		.012	**.098**
	N	43	43	43	43	**43**

Inventory management	Pearson Correlation	-.033	-.053	.380[*]	1	**.412**
	Sig. (2-tailed)	.834	.737	.012		**.006**
	N	43	43	43	43	**43**
Customers satisfaction	Pearson Correlation	-.014	.028	.256	.412[**]	**1**
	Sig. (2-tailed)	.927	.861	.098	.006	
	N	43	43	43	43	**43**
. Correlation is significant at the 0.05 level (2- tailed).						
. Correlation is significant at the 0.01 level (2- tailed).						

The correlation analysis revealed that there was a no relationship between transportation and customer satisfaction where (r = -0.014, p-value < .01). Likewise, the analysis demonstrated a weak relationship between warehousing and customer satisfaction where (r =0.028, p-value < .01). Similarly, a firm relationship was identified between order processing and customer satisfaction where (r = 0.256, p-value < .01). Finally, a strong relationship was revealed between inventory management and customer satisfaction where (r = 0. 412, p-value < .01).

4.7 Test of Research Hypotheses

A multiple regression analysis was conducted to determine the joint causal relationship between the independent variables and the dependent variable. The formulated research hypotheses were tested using multiple regression analysis results

4.7.1 Model Summary

Table 4.7.1 below demonstrate the model summary of multiple regression model, the results showed that all the four independent variables (transportation, warehousing, inventory management and order processing). The results show a positive relationship between the independent variables and the dependent variable (R=0.426). R2 of 0.182 indicates that 42.6 % of variation in dependent variable is explained by independent variables that are included in the model.

Table 4.7.1: Regression Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	**Std. Error of the Estimate**
1	.426[a]	.182	.096	**1.02401**

a.) Predictors: (Constant) Situation analysis, Strategy planning, Strategy operationalization and Strategy evaluation and control

b.) Dependent: strategy implementation

4.7.2: ANOVA ANALYSIS

In Table 4.7.2 Below the ANOVA was used to show the overall model significance. Since the p-value is less than the 0.05, then transportation, warehousing, inventory management and order processing had a significant explanatory power on customers satisfaction (F = 2.109 and p value <0.05).

TABLE 4.7.2: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	8.848	4	2.212	2.109	.03
Residual	39.847	38	1.049		
Total	48.695	42			

a.) Predictors: Transportation, warehousing, inventory management and order processing. (Constant)

b.) Dependent: Customer satisfaction

TABLE 4.8.2: multi regression analysis coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	**(Constant)**	.872	.906		.963	**.342**
	Transportation	-.021	.217	-.014	-.096	**.924**
	Warehousing	.017	.198	.014	.087	**.931**
	Order processing	.149	.227	.112	.656	**.516**
	Inventory management	.541	.237	.370	2.283	**.028**

a.) Dependent variable: Strategy Implementation.

From the results on table 4.8.3 the following regression equation was obtained using the unstandardized beta coefficients. Unstandardized beta coefficients are used in determining how a unit change in independent variable will affect change in the dependent variables.

$Y=0.872+-0.025x_1+0.019x_2+0..141x_3+0..540x_4$

The initial objective of the study was to determine the effect of supply chain logistic fuctions on customer satisfaction in Kilifi County. The research findings revealed that transportation had no significant effect on customer satisfaction as $\beta_1 = -0.025$ (p-value=0.001 which is less than a=0.005 proving that transportation had no significant effect on customer satisfaction. Moreover, the effect of transportation was impacted by the t-test value=-0.096 which implies that the effect of the transportation do not surpasses that of the error. The second objective was aimed at determining the effect of warehousing on customer satisfaction in the national drought management authority. The results also indicated a statistically low relationship between warehousing and customer satisfaction (β_1 =0.017 (p-value=0.001 which is less than a=0.005 numerically, this implies that for each unit increase in warehousing there is up to 0.017 unit increase in customer satisfaction. warehousing is shown by the t-test value of 0.087 which implies that the effect of warehousing doesn't surpass that of the error.

The third objective sought to determine the effect of order processing on customer satisfaction in the national drought management authority. The study finding showed that order processing had a positive significant ($\beta_3 = 0.149$ (p-value = 0.034 which is less than $\alpha = 0.05$). This implies that for each unit increase in order processing there is up to 0.149 units increase to customer satisfaction. The effect of order processing is stated by t-test value=0.112 which indicates the effect of order processing surpasses that of the error. Finally, the study sought to determine the effect of inventory management on customer satisfaction in the national drought management authority, the finding showed that inventory management to be $\beta_4 = 0.541$ (p-value = 0.000 which is less than $\alpha = 0.05$). The study finding showed that there is a strong relationship between inventory management and customer satisfaction. In the same vein, this suggests that for each unit increase in inventory management there is up to 0.541 unit increase in customer satisfaction. The effect of inventory management t-test value = 2.283 surpasses that of the error.

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, conclusions and recommendations of the study based on the research objectives. This will help to improve customer satisfaction in NDMA as well as Kilifi County as a whole.

5.2 Summary of the finding

The main objective of the study was to examine the effect of transportation on customers satisfaction in NDMA Kilifi County, Kenya. The study sought to establish the effect of transportation, warehousing, order processing and inventory management on customer satisfaction. Data was collected using questionnaires and analyzed using descriptive and inferential statistics. Findings were presented using frequency tables, percentages and inferential statistics tables while respondents' response rate was 93%. The demographic information of the respondents indicated that all the respondents were trained and competent in their respective fields.

5.2.1 Transportation

The first objective of the study was to examine the effect of transportation on customer satisfaction in National drought management authority. The findings indicated that the authority has an efficient transportation mode needed for their operations. Most respondents agreed that the authority have within their disposal the necessary financial resources for proper service of their freight vehicles. It was also noted that the authority was well capable of delivering goods to their clients on time and they had a contingency plan in place to counter any unanticipated event that may delay delivery. However, the study noted that the authority is yet to use the latest technology equipment to ensure certain goods remain under a controlled temperature when in transit. Therefore, the study revealed that the national drought management authority under Kilifi County had a sufficient transport infrastructure as to have no significant effect on customer satisfaction.

5.2.2 Warehousing

The second objective of the study was to determine the effect of warehousing on customer satisfaction in the National drought management authority under Kilifi County; the research finding indicates that authority clearly has a sufficient storage facility to operate smoothly implying that inadequate physical infrastructure was not a hindrance to their operations. The study also revealed that the warehouse was allocated the required number of employees to operate effectively implying that they had adequate human capacity to operate. However, the study established that the authority had not taken the necessary safety and security measures needed to mitigate any loss that may occur in the warehouse as a result of an accident; this also exposes the employees to unsafe working conditions. Moreover, it was alarming to not that there is rarely any periodic reviews conducted to check on obsolete goods as the damaged goods may end up affecting those that are not damaged if left unchecked.

5.2.3 Order processing

With respect to determining the effects of order processing on customer satisfaction in the National drought management authority under Kilifi County the study revealed that the majority of the respondent agreed that the order processing period took unnecessary long. However, the authority had gradually established an order processing pattern from clients enabling them to project and make prior preparation. The finding revealed that the authority is yet to use electronic procurement technology to improve order placing and processing as well as enhance transparency and accountability. It was encouraging to find out that the national drought management authority collects customers feedback to use it for improving performance.

5.2.4 Inventory management

The final objective of the study was to determine the effect of inventory management on customer satisfaction in the national drought management authority under Kilifi County. The study revealed that the authority has yet to incorporate an inventory system implying that most of their operations are still performed manually. The study also revealed that majority of the respondents agreed that the authority is yet to establish an effective and consistent procedure of identifying and eliminating obsolete goods. The study also reveals that the authority employs the use of external auditors as an internal management policy. The study revealed that the authority have employed trained and competent staff hence the quality of human capital is adequate. Additionally, the study noted that the national drought management authority was prepared for the predicted influx supply of goods in peak season.

5.3 Conclusion

It can be concluded that transportation is a vital part of supply chain management not only does it ensure that goods reach to their intended target thus improving order processing but also transportation brings in raw materials to the organization. The national drought management authority has the necessary transportation needed for efficient operation of their activities. With regards to warehousing it can be concluded that the NDMA had an adequate physical infrastructure that is most of the time not full to capacity however, safety and security measures have been underrated by management. In conclusion transportation and warehousing do not affect supply chain logistics function on customer satisfaction in NDMA under Kilifi County.

In regards to order processing it can be concluded that the order processing period tend to take long for the detriment of the client. However, it was noted that the order processing was delivered as per the requirement of the client. There is a slow tendency to adapt technology to improve the order processing process and eventually reduce the processing time. With respect to inventory management NDMA faces the challenge of finding a mechanism of periodically checking for obsolete goods and isolating. Additionally there is need to use inventory systems to improve performance. In the same vein, order processing and inventory management was found to affect customer satisfaction.

5.4 Recommendations

Recommendations are critical in both organizations, researchers and scholars these recommendation will be crucial in ensuring that Kilifi County Government as well as other counties are more aware of the effects of supply chain logistics functions they emphasis on as well as what areas they need to improve to ensure that customer satisfaction is improved. Researchers and scholars will find the recommendations useful as they embark on further research on related studies.

5.4.1 Transportation

It was recommended that organizations establish a backup plan to ensure that delivery is not disrupted in the event of any unanticipated incident. It is also important for organizations to invest in customized freight vehicles that are able to control temperature while goods are in transit as this will reduce the likelihood of damaged goods as a result of heat. Moreover, organization should invest in efficient freight transportation depending on terrain in their locality

5.4.2 Warehousing

It was recommended that organizations should have sufficiently large storage capacity and thus enable them accommodate excess supply of goods in peak seasons. Safety and security measures should be taken into consideration in warehouses as this will not only mitigate losses that may occur through theft and accidents but also guarantee a better working condition of employees. Organizations should conduct a frequent and periodic check of obsolete goods and isolate them in a bid to reduce further damage. The installation of large and flexible entrances is crucial for the ease in entry and exit of goods and tracks.

5.4.3 Order processing

In regard to order processing organizations should employ the use of modern technology to reduce substantially the time taken to process orders from client. Likewise, organizations guided by customers ordering patterns should establish strategic plans that project future demand and supply and therefore enable them to take strategic measures of how to dispense their goods to the market. Organizations should adapt electronic procurement to enable them improve efficiency, enhance transparency and accountability in their operations.

5.4.4 Inventory management

Finally, with respect to inventory management it was recommended that organizations should invest in inventory system software to improve performance and reduce paperwork, additionally, organizations should employ the assistance of external auditor(s) to assist enhance operation efficiency. Organization should employ competent and trained employees in the field of procurement and they should be come up with a reliable mechanism of periodically checking obsolete goods and isolating them.

5.5 Further Research

The supply chain logistics is vital for any organization in terms of supply of quality materials, efficient processes, as well as tracking, transport and storage of the goods. Organizations implementing a well-designed supply chain practices are able to meet customer needs in a more expeditious, efficient and timely manner. Further research should be geared towards implementation of electronic procurement in the enhancement of order processing and to a larger extent the use of inventory systems to identify obsolete goods and eliminate theft in warehouses. Additionally, more research should be focused on the influence of green supply chain management practice on sustainable procurement in light of external pressure for organizations to operate in a sustainable manner.

REFERENCES

[1]   A, R., N. Subramanya, K., & M. Rangaswamy, T. (2012). Impact of Warehouse Management System in a Supply Chain. *International Journal of Computer Applications*. https://doi.org/10.5120/8530-2062

[2]   Ala-Harja, H., & Helo, P. (2015). Reprint of "Green supply chain decisions - Case-based performance analysis from the food industry." *Transportation Research Part E: Logistics and Transportation Review*. https://doi.org/10.1016/j.tre.2014.12.005

[3]   Cachon, G. P., & Swinney, R. (2009). Purchasing, Pricing, and Quick Response in the Presence of Strategic Consumers. *Management Science*. https://doi.org/10.1287/mnsc.1080.0948

[4]   Ghiani, G., Laporte, G., & Musmanno, R. (2013). Managing a warehouse. *Introduction to Logistics Systems Management*. https://doi.org/10.1002/9781118492185.ch5

[5]   Laari, S., Töyli, J., & Ojala, L. (2017). Supply chain perspective on competitive strategies and green supply chain management strategies. *Journal of Cleaner Production*. https://doi.org/10.1016/j.jclepro.2016.09.114

[6]   Wang, Q., McIntosh, R., & Brain, M. (2010). A new-generation automated warehousing capability. *International Journal of Computer Integrated Manufacturing*. https://doi.org/10.1080/09511921003706215

[7]   Gunasegaram, A., Angappa, &Kobu, B. (2015).Performance Measures and Metrics in Logistics and Supply Chain Management: A Review of Recent Literature (1995-2004) For Research and Applications. *International Journal of Production Research, 45*(12), 2819-2840.

[8]   Gunasekaran, A., Patel, C. & Tirtiroglu, E. (2014).Performance measures and metrics in a supply chain environment: *International Journal of Operations & Production Management*, 21 (1/2), 71

[9]   Harrington, L. and Smith, R.H. (2013), "Fashion unleashed: the agile fashion supply chain", White Paper, DHL Supply Chain.

[10]   Lai K.H., Cheng T.E. (2009), *Just-in-time logistics*, Gower Publishing, Ltd, Burlington

[11]   Lee JA, Chang YS, Shim H, Cho S. A study on the picking process time. Procedia Manufacturing. 2015;3:731738

[12]   Tayur, S., Ganeshan, R., & Magazine, M. (Eds.). (2012). *Quantitative models for supply chain management* (17). Springer Science and Business Media

[13]   Wisner, J. D., Tan, K. C., & Leong, G. K. (2014).Principles of supply chain management:

[14]   Yang, S. & Jiangou, Z., "The Panel Co-integration Analysis between the Logistics Industry and Economics Growth in China", International Business and Management, Vol. 2. No. 2, 2011, pp. 40-46.

[15]   Lee JA, Chang YS, Shim H, Cho S. A study on the picking process time. Procedia Manufacturing. 2015;3:731738

[16]   Jahre, M., Dumoulin, L., Greenhalgh, L., Hudspeth, C., Limlim, P., & Spindler, A. (2012).Improving Health in Developing Countries: Reducing Complexity of drug Supply Chains.Journal of Humanitarian Logistics and Supply Chain Management, 2(1): 54-84

[17]   John, B., Howard, A., John, E., Hanne, C., Krishna, K. & Astri, S. (1996). The International Response to Conflict and Genocide: Lessons from the Rwanda Experience. Synthesis Report. Copenhagen: Steering Committee for the Joint Evaluation of Emergency assistance to Rwanda.

[18]   Kameri-Mbote, P. (2000). The operational environment and constraints for NGOs in Kenya: strategies for good policy and practice. Advocates Coalition for Development and

[19]   Kombo, D. K., & Tromp, D. L. (2009). Introduction to proposal writting. Nairobi: Pauline publications.

[20]   Ministry of Special Programmes (2009). Draft National Policy for Disaster Managementin Kenya. Retrieved from, http://www.ifrc.org/docs/idrl/765EN.pdf

[21]   Moeiny, E., & Mokhlesi, J. (2011). Management of Relief Supply Chain & Humanitarian Aids through Supply Chain Resilience. Master Research Project.

[22] Mohamed, A.H. (2012). Supply Chain Management Practices and their Impact onPerformance among Humanitarian Organizations in Kenya, Unpublished MBAThesis, University of Nairobi

[23] Mungatia, L.K. (2010). Effectiveness of Supply Chain Strategy in Disaster Managementin World Vision Kenya, Unpublished MBA Thesis, University of Nairobi

[24] Mugenda, O. &Mugenda A.(2003). Research methods: quantitative and qualitative approaches.

[25] National Council for Law Reporting, (2011).Kenya Red Cross Society Act, CAP 256, Laws of Kenya

[26] Nyamu, T. K. (2012). Impact of Supply Chain Management Challenges on Humanitarian Organizations in Kenya. Unpublished Master of Business Administration Thesis, University of Nairobi.

[27] Omondi, M., Ombui, K., & Mungatu, J. (2013). Factors affecting effective strategy implementation for attainment of Millennium Development Goal 5 by international reproductive health non-governmental organizations in Kenya. The TQM Journal, 25(5), 507-519.

[28] Oloruntoba, R., & Gray, R. (2006). Humanitarian aid: an agile supply chain?. Supply Chain Management: an international journal, 11(2), 115-120.

[29] Pan Africa Health Organization (2001).Humanitarian Supply Management and Logisticsin Health care, Washington, DC.: PAHO, pp.1-189.

[30] Roh, S., Jang, & Han, C. (2013). Warehousing Location Decision Factors in Humanitarian Relief Logistics. The Asian Journal of Shipping and Logistics, 29(1): 103-120

[31] Ross, D. F. (1998). Meeting the challenge of supply chain management. In Competing Through Supply Chain Management (pp. 1-35). Springer US.

[32] Savage, K., Delesgues, L., Martin, E., & Ulfat, G. P. (2007). Corruption perceptions and risks in humanitarian assistance: an Afghanistan case study. Humanitarian Policy Group, Overseas Development Institute, 111.

[33] Sekaran, U., & Bougie, R. (2010). Research Methods for Business: A Skill. Building Approach.   UK: John Wiley.

[34] Selda, T. & Emmett, J.L. (2010). Inventory decisions for emergency supplies based on hurricane count predictions. International Journal of Production Economics, 126(1)66-75

[35] Tatham, P., & Houghton, L. (2011). The wicked problem of humanitarian logistics and disaster relief aid. Journal of Humanitarian Logistics and Supply Chain Management, 1(1), 15-31.

[36] Wafula, L. N. (2012, November). The Challenges and Opportunities for Integrated Disasters and Risk Management with Particular Reference to Policy, Legislation and Regulations in Kenya. In 8 th FIG Regional Conference, Surveying towards Sustainable Development. Montevideo, Uruguay (pp. 26-29).

[37] Zacharia, Z. G., Sanders, N. R., & Nix, N. W. (2011). The Emerging Role of the Third-Party Logistics Provider (3PL) as an Orchestrator. Journal of Business Logistics, 32(1), 40-54.