

Influence of Logistics Management Practices on the Logistic Performance of Humanitarian Organizations in Kakamega County, Kenya

Esther Rachel Wasike¹ and Dr. Dennis Juma²

¹ Jomo Kenyatta University of Agriculture and Technology, School of Entrepreneurship, Procurement and Management.

² Jomo Kenyatta University of Agriculture and Technology, School of Entrepreneurship, Procurement and Management.

DOI: 10.29322/IJSRP.10.09.2020.p10513

<http://dx.doi.org/10.29322/IJSRP.10.09.2020.p10513>

Abstract- The study examined the influence of logistic management practices on Logistics performance of humanitarian organizations in Kakamega County. The specific objectives of the study were to establish the influence of inventory management practices, Transport management practices, information flow practices and Warehouse Management practices on performance of Humanitarian organizations in Kakamega County, Kenya. The study used both descriptive and explanatory research designs. The target population for the study was the humanitarian organizations in Kakamega North Sub County. The study population composed of 64 the members of recognized NGOs in the county and the humanitarian officers working for international NGS in Kakamega North Sub-county. A semi- structured questionnaire was administered through drop and pick technique. The questionnaire was tested for validity and reliability. Both quantitative and qualitative techniques were used to analyse the data with the assistance of SPSS software. The study found that humanitarian organisations, engaged transport management practices that allow for timely deliveries of goods and services to consumers, employ logistic management practices, which help the organization to avoid inventory disruption in the production cycle. The research also found that warehouse management methods promote the delivery of goods to the customers in the appropriate quantity. Based on the regression analysis the study established positive beta coefficients with all study variables, inventory management practices, transportation practices, information flow practices and warehousing practices. In that vein the study concludes that any change made is expected to positively impact logistical effectiveness and efficiencies.

I. BACKGROUND TO THE STUDY

Logistics is part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverses flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements. Humanitarian logistics refer basically to the concept of procuring, mobilizing, storing and even distribution among other aspects that are aimed at delivering material assistance to the people that have been hit by disaster (van der Vorst, 2004). It refers therefore to the set of a system which helps to deliver humanitarian assistance effectively and promptly based on the optimal use of resources.

The basic aim of logistics in humanitarian assistance is to create an art of strategy with which material assistance can be delivered to those that have been hit by disasters. It is important to highlight two important concerns in this regard as provided by the Pan Africa Health Organization (2001). One, that it is difficult to improvise the logistic structures during an emergency, and thus, there is need to ensure well planned and prepared framework for such kind of emergencies long before they occur. Either, there is need to use the resources at hand in an appropriate manner which can optimize the benefits that the beneficiaries get. Two, that the different stages that designate the flow of material supplies basically from the source to the beneficiaries constitutes of very closely interrelated linkages (Pan Africa Health Organization, 2001).

The logistics management practices include needs assessment practices (Selda Emmett, 2010), material and service ordering practices (Mungatia, 2010), optimal donations management practices (Cozzolino, 2012), best warehousing practices (Americas Relief Team, 2012), documentation, cataloging, consolidation and recording practices (Oloruntoba, 2006), and, transportation and delivery practices (Moeiny & Mokhlesi, 2011). Adebayo (2012) described logistics management practices as an organization's collection of activities to promote efficient logistics management. Logistics managers are responsible for designing and implementing plans that can contribute to sustainable competitive advantage if implemented. In order to satisfy customers or company's needs, logistics refers to the resource flows between the source and the selling point (Vikapia, 2005). Logistics resources can include physical things such as food, material, animals, equipment and liquids, and abstract objects, such as time and

knowledge. Logistics management is a supply chain management component that schedules, executes and tracks the movement of products, services and related information between point and place of use, effectively forward and reverses the distribution and storage of the goods and services, so that they can meet our client's requirements. Management of the logistics industry plays a significant role in the performance of any company and has a direct impact on its outcome.

More significantly, organizational processes are more critical than low cost of goods in order to achieve customer satisfaction. Logistics experts should consider themselves to be a company client and aim to add value for their customers every day. Logistics management activities include operations handling the movement of product from the receiving dock of the store to the point of sale through the warehouse. Logistics involves storage, purchasing, organization and storage within the store of goods (Samli 2005). It includes both consumer returns and seasonal returns to the Distribution Center (DC). The results are included.

International humanitarian organizations are key source of humanitarian assistance in Kenya (Omondi, Ombui & Mungatu, 2013). Currently, there is approximately 30 international NGOs, operating and providing humanitarian aid in Kenya (Mungiti, 2013). The main role of international NGOs in Kenya is to mobilize resources for humanitarian assistance to the community. They also act as a watch to the inhuman acts as well the shortcomings by the governments in its service delivery to the people. The growing demand for humanitarian aid in Kenya has called for more support from the international community, much of which is supported by humanitarian organizations. More importantly, these organizations have played a key role in checking on the checks and balances on the state of governance by the government to its citizens (Omondi, Ombui & Mungatu, 2013). In their process of giving assistance however, these organizations have been faced with various challenges (Mungiti, 2013). According to Omondi, Ombui and Mungatu (2013) these include; insecurity in conflicts and harsh zones, low funding from their mother organizations and other donors, poor strategic planning, conflicting interests between them and that of the Kenya government, hostility from the from the community especially in the North Eastern Part of Kenya, poor governance, harsh climatic conditions which derail their operations at times, corruption, political upheavals, limited capacity and, religious and cultural conflicts from the areas they are required to deliver humanitarian assistance.

The Global Humanitarian Assistance (2013) has classified Kenya as a fragile nation in terms of humanitarian aid. The country's demand for humanitarian aid has been on a sharp rise, which has been attributed to the increasing state of disasters such as droughts, foreign refugees, floods, terrorist attacks, accidents, and disease outbreaks among other disasters. International humanitarian organizations have been very proactive in providing aid to the people affected by disasters (Ergun, et al., 2009). Both logistic and supply chain practices and the management issues that arise from them have become central in these organizations, from the realization of the role they play in the overall performance of the organizations (Tysseland, 2009). The overall problem in disaster relief is poor support for logistics. Logistics plays key role in supporting organizations as they strive for more efficient management systems (Cozzolino, 2012) as in the business practices, the inefficient logistics system together with the inefficient internal management would disable the organization to respond to the needs of customers with the lowest price at the shortest feasible time frame including the quality level which does not meet customer expectation and would lead the organizations to the competitive disadvantage situation against their rivals.

In Kenya, (Gitonga, 2017) carried out a study on the link between logistics management practices and operational performance of fast moving consumer goods manufacturers in Nairobi. The study established that Fast moving manufacturing companies Kenya employed logistics management practices including transportation management practices which enabled timely delivery of products and services to customers, inventory management practices which enable the firm to avoid inventory bottleneck in production. In addition, the study found that warehouse management practices facilitated products delivery at the right quantity to the customers and packaging practices. (Mwangangi, 2016) studied the influence of logistics management practices on the performance of manufacturing firms in Kenya. The study concluded that logistics management was collectively significant in influencing the performance of the manufacturing firms.

Thus, the purpose of this research was to investigate the influence of logistics management practices of performance of humanitarian organizations in Kakamega North sub county, Kakamega County, Kenya. The specific objectives for the study were; to establish the influence of inventory management practices on performance of Humanitarian organizations, to assess the influence of Transport management practices on performance of Humanitarian organizations, to determine the effect on information flow practices on performance of Humanitarian organizations and to establish the influence of Warehouse Management practices on performance of Humanitarian organizations in in Kakamega North Sub-County, Kakamega County, Kenya

II. THEORETICAL FRAMEWORK

1. Resource Based View

Resource-based view has been developed in work by Barney (1986), for analyzing firm behavior and competitive strategy (Mowery, Oxley & Silverman, 1998). The RBV contends that the idiosyncratic resources and capabilities of firms are the key sources of sustained competitive advantage. This premise appears to be supported by logistics and Supply Chain Management research (Lynch et al., 2000). According to Barney (1991) resources can be classified into organizational capital resources, physical capital resources and human capital resources. Capabilities can be defined as the skills a firm needs to take full advantage of its assets. Capabilities are complex bundles of individual skills, assets and accumulated knowledge exercised through organizational processes that enable firms to co-ordinate activities and make use of their resources (Olavarrieta & Ellinger, 1997).

An organization may choose to focus on implementing logistics management practices to expose the negative environmental performance of its competitors. In this way, the organization can cut a niche for its products. Developing and implementing logistics management practices can only be achieved through creating environmentally responsible policies and investing in the necessary equipment and training. Creating a competitive advantage through implementing reverse logistics practices would lead to improved market share and consequently higher profit margins (Fortes, 2009).

2. Relief Coordination Theory

This theory posits that it is possible to orchestrate the efforts of diverse organizations and the orderly and organized direction of activities (Seybolt, 1997; McEntire, 1997). The Humanitarianism and War Project offers a more specific and often cited definition of the concept as: managing information; mobilizing resources and assuring accountability; orchestrating a functional division of labour in the field; negotiating and maintaining a serviceable framework with host political authorities; and providing leadership (Minear, 2002).

Analysts and scholars also often suggest that coordination is important to improve service delivery effectiveness. Indeed, while effectiveness is rarely defined, it is most often given as the reason why achieving coordination among service providing agencies is important (Minear, 2002). An effort to reduce duplication, often framed as securing or improving organizational efficiency, is also frequently offered as a rationale for why humanitarian organizations should seek to coordinate their assistance operations (McEntire, 1997).

3. Social Network Theory

Social Network Theory which is also called the Network theory, network analysis (Scott, 2001) has nodes and links as independent construct and node size, density, link strength as dependent constructs. Its proponents include Stanley Milgram (small worlds problem, six degrees of separation), Mark Granovetter (the strength of weak ties) and Barnes who was the first to study social networks. It is a theory social network theory that focuses on the many ways that people interrelate and communicate via the various social networking platforms (Scott, 2000).

According to Haythornthwaite (1996), social network theory understands social relationships in terms of nodes and ties. Nodes are the individual actors within the networks, and ties are the relationships between the actors. There can be many kinds of ties between the nodes. The fact that these kinds of ties can vary in intensity and importance is just one of the many variables that can factor into social network theory. Often the analysis of a network will involve dots of varying sizes and colours connected by lines of differing lengths and thicknesses. A social network analyst will try changing variables and looking at the connections in various ways to discover hidden correlations and trends in the network.

Layton (2006) argues that basically there are two elements in any social network, online or offline; nodes and ties. Nodes are the elements of the network that act - whether they are organizations, small groups, or individuals - and ties are the ways these nodes relate to each other. This could be as minor as an email correspondence or as intimate as a marriage. In its most simple form, a social network is a map of all of the relevant ties between the nodes being studied. The network can also be used to determine the social capital of individual actors. These concepts are often displayed in a social network diagram, where nodes are the points and ties are the lines.

The power of social network theory stems from its difference from traditional sociological studies, which assume that it is the attributes of individual actors whether they are friendly or unfriendly, smart or dumb among others that matter. One of the defining elements of social network theory that differentiates it from other sociological sciences is the weight it gives to the relationships between the nodes, as opposed to the attributes of the nodes themselves. Social networks have also been used to examine how Humanitarian Organizations interact with each other, characterizing the many informal connections that link executives together as well as associations and connections between individual employees at different Humanitarian Organizations (Layton, 2006).

These networks provide ways for Humanitarian Organizations to gather information, deter competition, and even coordinate in setting operational policies (Layton, 2006)..

Conceptual frame work

It is a plan showing the relationship between Logistics Management practices and disaster response among international humanitarian organizations in Kenya. Rapid disaster response and management (dependent variable) in international humanitarian supply chain is as a result of a set of two independent variable; logistics management practices. However, the success of each of these two independent variables is as a result of a subset some practices, which relate to each of them. Below is a conceptual representation of the variables:

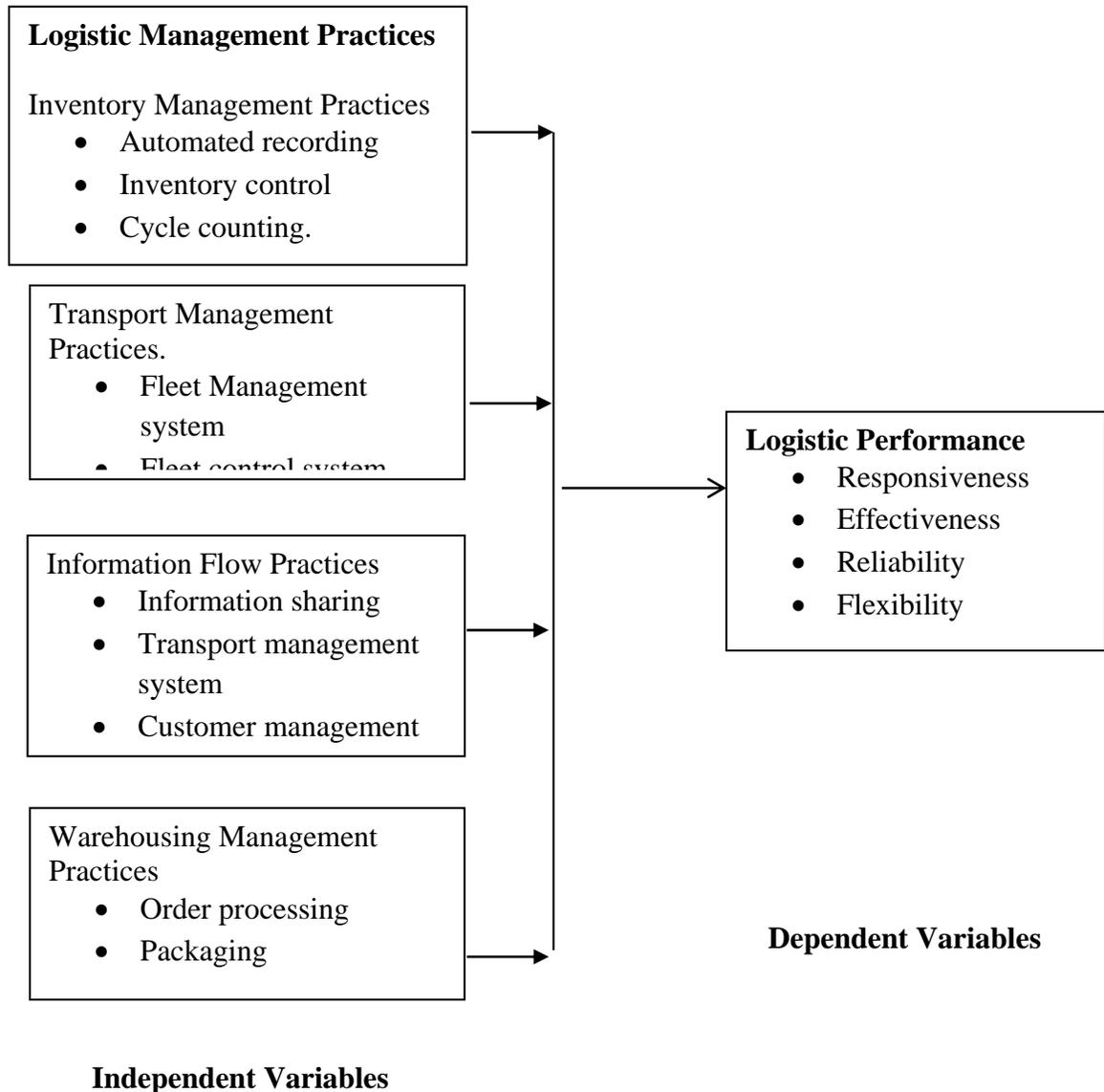


Figure 1: Conceptual Model

III. REVIEW OF VARIABLES

2.3.1 Inventory Management Practices

Inventory Management is defined in Stevenson (2010) as a framework used by firms to monitor their inventory objectives. It requires the registration and tracking of stock rates, prediction of potential demands and arrangement of when and how. Deveshwar and Dhawal (2013) on the other hand proposed that inventory management as a method used by companies to organize, store and substitute inventory so as to minimize the cost of ensuring that goods are properly supplied simultaneously.

Inventory management practices provide visibility in the supply chain system and the upstream and downstream inventory. The purpose of the inventory is to provide the appropriate levels of service for internal and external customers, determine current and potential requirements for all forms of inventory, reduce costs and pay for the inventory (Lysons & Farrington, 2012). All stock policies in the business must be profitable by operating expenditures and working capital needs over the driving period. According to Lysons and Farrington (2012), the calculation of inventory's effective and productive efficiency depends on the degree to which the firm has the correct inventory quantity in the right place and at the right time. The measuring indicators for this inventory include lead time, service time (Security inventory), stock turnover rate, inventory results over a certain period and inventory cover.

Naliaka and Namusonge (2015) conducted a study in Kenya that inventory management affects production companies' competitive advantages. The same study shows further that the company can compete on a long-term basis on the basis of the quality and delivery. Competitive value includes capabilities which make it possible and a crucial management decision to distinguish an organisation (Li, Ragu-Nathan, Ragu-Nathan, & Subba Rao, 2006). (Subba Rao, 2006).

One of the key success factors of any institution, including humanitarian organisations, is efficient and efficient inventory management flow across the value chain. The problem in inventory management is to balance the interaction between inventory supplies and demand. To order to meet the expectations of those without loss due to product inventory losses, preferably a company needs to have enough stock. On the other hand, due to the expense of carrying inventories, the company doesn't want to have too much inventory available. Inventory decisions are high risk and have a significant effect on the management of the supply chain of an enterprise. Inventory management practices, according to Dimitrios (2008), are recognized as a critical area of concern that requires the highest priority.

2.3.2 Transportation Practices

Transport practices are the most efficient and realistic method of meeting transport targets, including low cost, timely delivery of transportation-related information to the remaining business and to consumers, improved efficiency and optimal utilization of company resources. Transport practices are the most effective and practical approach. As stated in Liviu & Emil, (n.d.), Younkin, 2006, has advanced best practices in transport management: carriers' practices and load planning and optimization practices, shipment preparation and execution practices, freight payment and audit practices, and performance monitoring.

The primary goal of transport is to move the consignments from A to B. Transport is a crucial strategic link between supply chain companies, and must be efficiently managed for fair prices in meeting customer due dates and other shipping requirements (Wisner et al. 2011). Transportation between manufacturing plants, warehouses, distribution centers, terminals and consumers provide the movement of goods, products and persons in logistics. Transportation is the only operation that delivers services via the logistics outbound and inbound. An inefficient transportation system may cause the company to incur high costs to deliver the product to the consumer, and this will result in a loss to the company; and the transportation system must be able to resolve the major issues of mode selection, route selection and fleet size because it is the critical force for the company's competitiveness (Goldsby et. al., 2014).

Transport is an important business activity that both internally and interorganizationally plays a connective role. Internally, transport links different activities leading to resourced goods being converted according to consumers' preferences and expectations (Tseng et al., 2005). Transporting is required in the whole logistics chain since it facilitates the entire process of materials and products moving into, through, out of and back to a firm consisting of four main activities: inbound logistics, covering the movement of material received from suppliers, materials management describing the movement of materials and components within a firm, physical distribution referring to the movement of goods outward from the end of the assembly line to the customer and returns back from customers. Transportation is one of the six key logistics activities that drive total logistics costs along with customer service (including parts, service support and returns goods handling), inventory management (including packaging and reverse logistics), warehousing and storage, materials handling and procurement and order processing (including information management and demand forecasting) (Lambert et al. 1998).

Externally, transport plays an intermediary role in the supply chain which facilitates the physical flow of goods into or out of where they are manufactured. It therefore covers organizational boundaries linking the entire supply chain's channels and encompassing input and output sides of suppliers (Lai et al., 2004).

2.3.3 Information Flow Practices

With the development of ICT, the flow of information offers a special benefit to connect one activity to the others and make available in the company as well as with external providers, channels and customers in real time data created by business. For the efficient and successful flow of information, the logistics processes of the organization need to be strengthened through planning, tracking, collaboration and tracking logistics processes. The successful operation of the logistics information technology system involves the use of hardware and technology transfer, according to Nowakowska and Grunt (2007), and the information system should be configured to best support a logistics system to improve the contact line (Wisner et al. 2007).

Long and Wood (2005) indicated that knowledge management during a crisis is the single biggest success factor. IT helps integrate activities and provide proof of information to improve the functioning of the supply chain. The monitoring and management of relief operations includes complex decision support structures, communications and information structures. These programs enable the planning, response and management of crisis, disasters and emergency situations. Thomas and Kopczak (2005) argued that humanitarian supply chain practitioners need to find ways in which donors and the public can connect about how the effectiveness of the supply chain improves.

Maspero & Ittmann, 2008, asserted that it was an opportunity for the humanitarian supply chain to increase its contribution to and for disaster relief by introducing information management, technology, measuring and positioning initiatives. While delivery of disaster relief items is an important role in the supply chain for humanitarian aid, it should be strategic to provide timely information and analyze information for improved information on how operations can be improved.

2.3.4 Warehousing Practices

Warehousing includes space determination, stock layout, configuration, and stock placement (Ballou, 2003). In logistics, it depends on warehousing picking and delivery accurately to deliver the right amount of product. Warehousing ensures that supplies are delivered in the right place and on time to the right customer. The production of a commodity at the right price and in good order and quality guarantees cost-effective operation too. Pienaar and Voght (2006) have suggested the effective service of customers depends on the operations of the warehouse. Warehouse has three business functions: the function receiving and passing on customer orders; the IT function ensuring that technology for the efficiency of storage is used and the storage function which temporarily or constantly stores the product.

In a supply chain, the warehouse function of the material flows between the supplier and the customer is very critical because it serves as a node. Companies are increasingly pushed to develop their warehouse operations in today's dynamic business climate. Several businesses have also adjusted their value proposal to increase their customer service rates, leading to improvements in warehouse position (Grant, 2006).

In order to coordinate operations in the stores correctly, a well implemented storage management system. It is important to ensure that our company performs efficiently and profits from economies of scale and an enhanced customer experience. Well-developed storage systems are designed to assist in the definition, operation and control of inventory procedures (Forger 2004). In the past, warehouses were often labeled cost centers and never added value. A radical change in warehouse operations was observed by the migration of production to the Far East, growth in e-commerce and the market requirements (Richards, 2014). (Frazelle, 2002) states that warehouses are important for a supply chain because they provide storage for raw materials, components, work-in-process, and finished goods; operate as distribution and order fulfillment centers; and perform localized and value-added warehousing.

(Crişan, 2009) states that Companies could gain cost advantage using their logistics area of the business because warehouse management is a possible source of cost improvements from logistics that companies could use during this economic crisis. Best practices for warehouse performance measurement that lead to improved performance and their solution lead to the optimal use of storage space, activity for customer relations, quality level, use of assets and costs. Performance assessment makes the biggest contribution to figuring out the causes of poor production. Solutions to improve performance and improve performance, to prevent discomfort before it is too late, to monitor customer relationships, to monitor processes and costs and to maintain quality have to be found after that step (Ackerman, 2003).

A number of studies have been done in the area of logistic management practices and their influence on performance. Globally, Green, Whitten, and Inman (2008), established a positive relationship between logistics performance and organizational performance within the manufacturing sector. An interesting observation by Solakivi, Töyli, Engblom and Ojala, (2011); Logistics was being handled equally efficiently in the surveyed companies regardless of whether it had remained in-house or been outsourced. This finding suggests that the fit between the company context and its outsourcing decision might be more important an operational performance driver than outsourcing per se.

In Kenya, (Gitonga, 2017) carried out a study on the link between logistics management practices and operational performance of fast moving consumer goods manufacturers in Nairobi. The study established that Fast moving manufacturing companies Kenya employed logistics management practices including transportation management practices which enabled timely delivery of products and services to customers, inventory management practices which enable the firm to avoid inventory bottleneck in production. In addition, the study found that warehouse management practices facilitated products delivery at the right quantity to the customers and packaging practices. (Mwangangi, 2016) studied the influence of logistics management practices on the performance of manufacturing firms in

Kenya. The study concluded that logistics management was collectively significant in influencing the performance of the manufacturing firms.

Thus, the purpose of this research is to investigate the influence of logistics management practices of performance of humanitarian organizations in Kakamega North sub county, Kakamega County, Kenya.

A number of studies have been done both globally and locally in the area of logistic management practices and their influence on performance. However, very few studies have come out to establish the any relationship between logistic management practices and performance particularly in the humanitarian organizations in Kenya. This study therefore seeks to address this knowledge gap by establishing whether logistics management practices affects performance by conducting a study of the effect of logistics management practices on the performance of humanitarian organizations.

IV. METHODOLOGY

The research design for this study was descriptive survey research design. Descriptive survey design is recommended for studying large and small populations by selecting and studying samples from the target population. The population of this study consisted of all humanitarian organizations in Kakamega County operating within Kakamega North Sub-county. The target population included Red Cross, Afya Plus/ Ampath, Caritas International, Care International and St. John’s Ambulance all identified from the inter-related humanitarian actors with similar mandates. The 5 humanitarian organizations constitute 30 percent of the population of 17 Humanitarian organizations in Kakamega for representativeness. The researcher randomly selected a large sample that gives a study external validity. Questionnaires and interviews were used to collect data for the study. Once the data was coded the researcher conducted preliminary analysis to test for reliability using Cronbach’s alpha. Cronbach’s alpha is known as a good measure of reliability (Monette, *at el.*, 2002). Its values ranges from 0 to 1 with Cronbach’s alpha values between 0.8 and 1.00 indicating a considerable reliability, values between 0.70 and 0.80 indicate an acceptable reliability while values below 0.70 are considered less reliable and unacceptable. The results from reliability analysis aided to suggest whether questionnaire should be reformulated or not.

V. PRESENTATION AND DISCUSSION OF FINDINGS

Logistic Management Practices

A descriptive study of variable in the model is provided in this section. The section consists of three sections; concise study of independent variables and dependent variable. Logistics management is the main independent variable in this study. The management of logistics includes various constructs: inventory management, transport, information flow management and warehouse management. These are listed below.

Inventory Management Practices

The results of the study on the extent to which Inventory Management is practiced by humanitarian organizations in Kakamega North sub county are as shown in Table 1.

Table 1: Inventory Management Practices

Inventory Management Practices	Mean	Std. Deviation
The firm uses Enterprise Resource Planning system(Barcode) to track its inventory	4.60	0.70
The inventory management practices enable the firm to avoid inventory bottleneck in production	4.40	0.97
The firm provide external customer with the required inventory level with its inventory management practices	4.30	0.48
The inventory management practices keep cost at a minimum cost	4.30	0.67
The firm uses the right inventory management technique (JIT, Kaizen, ABC analysis etc.) to manage it inventory.	4.20	0.92

Overall **4.36** **0.75**

The study sought to determine the level at which the above inventory management services were exercised in the firm. The study established that inventory management in the humanitarian organizations in Kakamega North sub county is done to a large extent as evidenced by the overall mean of ($M=4.36, SD= 0.75$). The most rated statement was that the firm uses enterprise resource planning system (Barcode) to track its inventory with a mean of ($M= 4.60, SD=0.70$), followed by the statement the inventory management practices enable the firm to avoid inventory bottleneck in production a mean of ($M= 4.40, SD= 0.97$) indicating that it was practiced to a large extent.

The firm provide external customers with the required inventory level with its inventory management practices and the inventory management practices keep cost at a minimum cost were practiced to a large extent with the mean of ($M=4.30, SD= 0.48$) and ($M=4.30, SD= 0.67$) respectfully. The least rated statement was that the firm uses the right inventory management technique (JIT, Kaizen, ABC analysis etc.) to manage it inventory with a mean of ($M=4.20, SD= 0.97$). The respondents had varying opinions as evidenced in by the registered standard deviations. The statement the firm uses the right inventory management technique (JIT, Kaizen, ABC analysis etc.) to manage it inventory had the largest standard deviation (0.97) while the statement the firm provides external customer with the required inventory level with its inventory management practices registered the lowest standard deviation of (0.92).The findings above concur with the study findings of Lysons and Farrington (2012) who found out that the main aim of the firm inventory management is to keep costs at minimum.

Transport management

The study aimed to establish the patterns of transport management adopted by Kenya humanitarian organisations. A number of questions were addressed to the respondents who gave their answers on the Likert scale of 1 to 5, where 1 represented "not at all" and 5 represented "very large." The results are shown below;

Table 2: Transport Management Practices

Transportation Practices	Mean	Std Deviation
The transportation management practices enables timely delivery of products and services to customers	4.20	0.63
Through transportation management products are made available to the customer desire location	4.20	0.79
Products and services are delivered using the right mode of transportation	4.20	0.79
The organization spend at a minimum cost to transport product to customer	4.10	0.88
The organization uses electronic system to track all product that are transported to customer	4.00	0.94
Overall	41.4	0.81

From the table above the study established that transportation management is practiced by the firms to a large extent as evidenced by an overall mean of ($M=4.14, SD= 0.81$). The statements the transportation management practices enable timely delivery

of products and services to customers was practiced to a large extent with the mean of the ($M=4.20, SD=0.63$). The statements through transportation management products are made available to the customer desire location and the firm spend at a minimum cost to transport product to customer registered a mean of ($M= 4.20SD= 0.79$), indicating it was also done at a large extent in each case. The firms using electronic system to track all products that are transported to customer was practiced to a large extent with a mean of ($M= 4.10, SD= 0.88$), and the firm products and services are delivered using the right mode of transportation was practiced to a large extent with a mean of ($M=4.00, SD=0.94$).

The respondents differed the least on the statement that the firm products are delivered using the right mode of transportation as shown by the least standard deviation of (0.63) while they differed more on the statement that the firms use electronic system to track all product that are transported to customer with a standard deviation of (0.94). The practice of transportation by humanitarian organizations in Kakamega North sub county to a large extent concur with the arguments of Wisner *et al* (2011) that transportation is a vital link between firms in a supply chain and that it must be managed effectively to meet customer due dates.

Information Flow Practices

The study further sought to know the extent to which information flow is practiced by the humanitarian organizations in Kakamega North sub county. The findings of the study are as shown in Table 3.

Table 3: Information Flow Practices

Information Flow Practices	Mean	Std. Deviation
Information flow through ICT practice is used to plan logistical processes.	4.40	0.70
Logistics management process is monitored using information flow through ICT	4.30	0.90
The firm information flow through ICT is used to control the logistics process	4.30	0.90
The information flow through ICT is used to coordinate	4.20	0.80
The firm information flow through ICT is used to communicate	4.10	0.70
Overall	4.26	0.80

The study found that information flow was practiced in the humanitarian organizations in Kakamega North sub county to a large extent as evidenced by the overall mean of ($M= 4.26, SD= 0.80$). Majority of the respondents agreed to a large extent that the information flow through ICT is used to communicate as shown by a mean of ($M=4.40, SD=0.70$). The information flow through ICT is used to coordinate the logistics process, and logistics management process is monitored using information flow through ICT was practiced to a large extent as shown by a mean of 4.30 in each case, followed by the information flow through ICT practice is used to plan logistics processes as shown by a mean of ($M=4.20, SD=0.80$), and that the firm information flow through ICT is used to control the logistics process as shown by a mean of ($M=4.10, SD=0.70$).

The finding of the study is in line with the findings of Azevedo *et al* (2007) that for information flow to be effective and efficient; it must enhance the firm's logistics processes by planning, controlling, coordinating and monitoring the logistics process.

Warehousing Practices

The findings of the study on the extent to which warehousing is practiced by the humanitarian organizations in Kakamega North sub county in Kenya are as shown in Table 4.

Table 4: Warehousing Practices

Warehousing Practices	Mean	Std. Deviation
-----------------------	------	----------------

Products are delivered in the right quantity to the customer	4.70	0.48
The firm label and load the right product to the right vehicle	4.50	0.53
Products leaves the warehouse clean and damage free for customer	4.50	0.53
The firm warehouse is close to the proximity of the customer	4.40	0.52
The firm stores it products using its facility	4.40	0.52
Overall	4.50	0.52

The study established that warehousing practices is employed by the humanitarian organizations in Kakamega North sub county to a large extent as evidenced by the overall mean of (M= 4.50, SD= 0.52). The most rated statement was the firm warehouse is close to the proximity of the customer with a mean of (M= 4.70, SD= 0.48). The products are delivered in the right quantity to the customer, the firm label and load the right product to the right vehicle are practiced to a large extent with a mean of (M= 4.50, SD= 0.53) in each case, followed by the products leaves the warehouse clean and damage free for customer and the firm stores it products using its facility were also practiced to a large extent with the mean of (M=4.40, SD= 0.52) in each case.

The findings concur with Richard (2011) that warehousing ensures the cost efficient operations by delivering the right product to the right customer at the right price, and in the perfect order and condition.

Relationship of Logistics Management practices to the Logistics performance

The study sought to link logistics management practices to logistics performance. The values of the variables to be collected were estimated by factor analysis and stored as dummy variables. The researcher then carried out a regression analysis to explain this relationship using SPSS version 21. The obtained findings are described below and discussed;

Table 5: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.919	0.844	0.796	.223

The research aimed at defining the effect of logistics management activities on logistical efficiency in Kakamega North Sub County of humanitarian organisations. Research findings suggest a clear relationship (R²= 0.844) exists between logistics management activities and humanitarian organizations' logistics efficiency. The result of the study also indicates that the value of adjusted R-squared is 0.796. This implies that 79.6% of the variance in humanitarian organizations' performance can be accounted for by logistics management practices. The remaining 20.4% can be explained by other variables which were not included in the model and the chance of variations.

Table 6: Analysis of Variance (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	119.682	6	19.947	21.896	0.001 ^b

1	Residual	57.393	63	.911
Total		177.075	69	

a. Dependent Variable: Operational performance

b. Predictors: (Constant), Information Flow Practices, Warehousing Practices, Inventory Management Practices, Transportation Practices

The study showed from the ANOVA statistics that the regression model had a significance value of 0,1%, suggesting that the results were ideal in concluding population parameters as the importance of significance (p-value) was less than 5%. This shows that all known logistical management activities have a dynamically substantial effect on logistics efficiency in the humanitarian organizations, the dependent variable was measured as having a greater value than its critical value (21.896>3.86). The value was less than 0.05, which suggested that the model was important and suitable for the collected data.

Table 7: Coefficients of Determination

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.543	.633		2.438	1.543
Inventory Management Practices	.479	.113	.334	4.239	.001
Transportation Practices	.428	.106	.314	4.038	.011
Information Flow Practices	.483	.113	.323	4.274	.003
Warehousing Practices	.471	.107	.327	4.402	.000

a. Dependent Variable: Operational performance

Table 4.13 above indicates that all predictors have positive and statistically relevant relationships with operating output at 95 % confidence point. The study's predictors were also high above the critical value of 3.182; that means the predictors are linked to their operations positively and statistically significantly. Positive effects were reported on all independent parts of the study of (high t-values p=0,05) for all of its independent variable, inventory management practices (t=4.239, p=0.001), transport (t=3.566, p=0.038), information flow practices (t = 4.274, p = 0.001) and warehouse practices (t = 4.402, p=0.000). Constant value (1,543) indicates that the operational efficiency of humanitarian organizations in Kakamega North Sub County would decrease by 1,543 if established Logistics Management activities were all graded to zero. This research presumed that the term stochastic error was 0 as the survey identified the key logistics management practices.

The study further revealed that: a unit increase in inventory management practices would lead to increase in operational performance by 0.479, a unit increase in transportation practices would lead to increase in the operational performance by 0.428, a unit increase in information flow practices would lead to a change in the logistical performance by 0.483 and a unit increase in warehousing practices of 0.471.

VI. RECOMMENDATIONS.

The main aim of this research was to evaluate the effect of logistics management activities on the success of humanitarian organizations in Kakamega North Sub-County, Kakamega; Kenya. On the question of whether the businesses had implemented various

types of logistics management practices, all respondents replied to the affirmative indicating that all of the firms examined had recognized the value of logistics management practices as a tool for enhancing the firms' operational efficiency.

The study found that Humanitarian Organizations use the Enterprise Resource Planning System (Barcode) to monitor their inventory and also allow the business to avoid bottlenecks in production inventory. The research also found that inventory management methods provide visibility of inventory in logistics or supply chain network upstream and downstream.

With regard to transport practices, the study showed that transport management practices enable customers to deliver their products and services in a timely manner through transport management products. The study showed that information flow through ICT is used by the humanitarian organizations in Kakamega North sub county to organize their activities in relation to the flow of information within the business. This has also been found that warehouses are located near the customer and goods are supplied to the consumer in the correct number. On operational performance parameters, the study found that effective and efficient logistics management practices have improved the utilization of the firm's storage capacity across its network.

The study aimed to establish the influence of logistics management practices on the logistics performance of humanitarian organizations in Kakamega North Sub County. The study established that all the four logistics management dimensions significantly influenced firm performance.

The study found that humanitarian organisations, including transport management practices that allow for timely deliveries of goods and services to consumers, employ logistic management practices, which help the organization to avoid inventory disruption in the production cycle. This implies that an increase in performance of manufacturing firm is likely through embracing transport management practices within logistics management.

On Inventory management, the study established a significant positive relationship between inventory management and logistics performance. A positive increase of transportation initiatives within the manufacturing processes increases the performance of firms. It is therefore concluded in the study that inventory management practices within the operations of the firm is positively significant on their performance.

Information flow management was found to have positive significant influence on the performance of manufacturing firms. As a result, the study concludes that there is a positive relationship between information flow management and logistics performance and it needs to be impressed at all level of operation to improve on performance

The research also found that warehouse management methods promote the delivery of goods to the customers and manufacturing activities in the appropriate quantity. In addition, the study found that warehouse management practices facilitated products delivery at the right quantity to the customers and packaging practices.

Based on the regression analysis the study established positive beta coefficients with all study variables, inventory management practices, transportation practices, information flow practices and warehousing practices. In that vein the study concludes that any change made is expected to positively impact logistical effectiveness and efficiencies.

REFERENCES

- [1] Adebayo, I. T. (2012). Analysis of reverse logistics in selected food and beverages companies of the manufacturing sector in Lagos State Nigeria. Unpublished M.Tech Thesis submitted to Department of Transport Management, LAUTECH, Ogbomosho.
- [2] Ballou, R. H., (2003). *Business Logistics / Supply Chain Management*, (5th Edition), USA, New Jersey, Prentice Hall
- [3] Cozzolino A (2012) Humanitarian Logistics and Supply Chain Management. In Humanitarian Logistics, Springer Berlin Heidelberg.
- [4] Cozzolino, A. (2012), Humanitarian logistics, Cross-Sector Cooperation in Disaster Relief Management, Springer Briefs in Business Series, Springer, London.
- [5] Deveshwar, A., & Dhawal, M. (2013). Inventory management delivering profits through stock management. World Trade Centre, Dubai: Ram University of Science and Technology.
- [6] Dimitrios, P. (2008). The effect of inventory management on firm performance. *International Journal of Productivity and Performance Management*, 57(5), 355–369.
- [7] Frazelle, E., (2002) *World-class Warehousing and Material Handling*. New York, McGraw-Hill,.
- [8] Gitonga Sharon (2017). Logistics management Practices and operational performance of fast moving consumer goods manufacturers in Nairobi. Unpublished Masters thesis, University of Nairobi, Nairobi, Kenya.
- [9] Goldsby, T. J., et al., (2014). The Critical Role of Transportation in Business and the Economy, Financial Times Press, 1 Lake Street, Upper Saddle River, USA, NJ
- [10] Grant, D.B., Lambert, D.M., Stock, J.R., and Ellram, L.M. (2006) *Fundamentals of Logistics Management*, Berkshire, McGraw Hill, UK.
- [11] Green, Whitten, & Inman, (2008). The Effect of Retail Store Environment on Retailer Performance. *Journal of Business Research*, 49, 167-181.
- [12] Grunt, J.N & Nowakowska (2007). Selected Tools of Information Management in Logistics. Czestochowa University of Technologies.
- [13] Lai K-H., Ngai E.W.T., and Cheng T.C.E. (2004), An empirical study of supply chain performance in transport logistics. *International Journal of Production Economics* 87, pp 321-331.
- [14] Lambert, D. M., Stock, J.R, and Ellram L.M (1998), *Fundamentals of Logistics Management*, Singapore, Irwin/Mc Graw – Hill,.
- [15] Lambert, D.M. and Cooper, M.C. (2000), "Issues in supply chain management", *Industrial Marketing Management*, 29 (1), 65-83.
- [16] Liviu I., & Emil, C., (n.d). Methodologies for performing and assessing transportation management. Retrieved from <http://www.upm.ro/proiecte/EEE/Conferences/papers/S228.pdf>
- [17] Monette, D. R., Sullivan, T. J., & DeJong, C. R. (2002). *Applied Social Research*. Orlando, FLA: Harcourt Press.
- [18] Mungatia, L.K. (2010). Effectiveness of Supply Chain Strategy in Disaster Management in World Vision Kenya, Unpublished MBA Thesis, University of Nairobi.
- [19] Mwangangi, Patrick Wathe (2016). Influence of logistics management on performance of manufacturing firms in Kenya. Unpublished PhD thesis, Jomo Kenyatta University of Agriculture And Technology, Nairobi, Kenya

- [20] Naliaka, V. W., & Namusonge, G. S. (2015). Role of inventory management on competitive advantage among manufacturing firms in Kenya: A case study of Unga Group Limited. *International Journal of Academic Research in Business and Social Sciences*, 5(5), 87–104.
- [21] Omondi, M.P., Ombui, K., & Mung'atu, J.K. (2013). Factors affecting effective strategy implementation for attainment of Millennium Development Goal 5 by international reproductive health non-governmental organizations in Kenya.
- [22] Richards, (2014) *Warehouse Management: A Complete Guide to Improving Efficiency and Minimizing Costs in the Modern Warehouse*.
- [23] Solakivi, Töyli, Engblom&Ojala, (2011). Comparing Domestic and International Distributors' Performance a Manufacturer's Perspective. *International Journal of Physical Distribution & Logistics Management*, 25, (6), 41-53.
- [24] Stevenson, B. (2010). *Operations management* (10th ed.). New York: McGraw Hill Publishing.
- [25] Thomas, A., & Kopczak, L., (2005). From Logistics to Supply Chain Management: The Path Forward for the Humanitarian Sector",
- [26] Tseng Y-y., Yue W.L. and Taylor M.A.P (2005), The Role of Transportation in Logistics Chain. *Proceedings of the Eastern Asia Society for Transportation Studies*, Vol. 5, pp. 1657-1672.
- [27] Van Wassenhove, L.N. (2006). Humanitarian aid logistics: supply chain management in high gear, *Journal of Operational Research Society*, (57)5, 475-89.
- [28] Vikapia, R. (2005). The Role of the Manufacturer's Distributor; the Case of Champion Chemicals. *Industrial Marketing Management*, 24, 285-295
- [29] Wisner, J. D., *et al.*, (2011). *Principles of Supply Chain Management: A Balanced Approach*, Fifth India Edition, New Delhi, Cengage Learning India Private Ltd

AUTHORS

First Author – Esther Rachel Wasike , Jomo Kenyatta University of Agriculture and Technology, School of Entrepreneurship, Procurement and Management.

Second Author – Dr. Dennis Juma, Jomo Kenyatta University of Agriculture and Technology, School of Entrepreneurship, Procurement and Management.