

Effect of Logistics Management Practices on Operational Performance of Humanitarian Organizations: Case study: World Food Programme (WFP), Rwanda

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Abstract: Humanitarian organizations in developing countries including Rwanda are still experiencing Logistics Management challenges such as late delivery due to poor transportation, stock out due to poor inventory management and missing goods in the warehouse due to poor warehouse management systems. The above challenges have resulted into high cost of inventory and transportation, poor quality goods and late deliveries of goods. The purpose of this study was to establish the effect of logistics management on operational performance of World Food Programme using qualitative and quantitative research designs. The target population was the entire 60 employees who are directly responsible for logistics management in WFP. Primary source of data was collected using questionnaire. The collected data was processed using SPSS and analyzed using descriptive, correlation and Regression analysis to determine the significant relationship between Logistics Management Practices and operational performance of World Food Programme. The results showed a correlation coefficient of 0.917 depicting a positive and significant relationship between logistics management practices and operational performance in WFP. The study recommends that World Food Programme should continue to improve logistics management practices and specifically pay more attention on warehouse management to ensure high operational efficiency in terms of quality service and products, short lead times and low cost of services and products.

Keywords: Logistics, Management, Practices, Operational, Performance, Humanitarian, Organisation

I. INTRODUCTION

In Humanitarian sector, Humanitarian logistics is the process and systems involved in mobilising people, resources, skills and knowledge to help vulnerable people affected by disaster (Wassenhove, Humanitarian aid logistics, 2006) Logistics Management practices involve the functionality and practice of all the logistics components such as Inventory management practices, Warehouse Management practices and Transport management practices as well as Information communication and Technology systems (Forslund, 2012) Maximizing logistics value through reduction of lead time, business costs, improving service flexibility, responsiveness and reliability are the most important requirements for the organization (D Song & Lee, 2015)

Logistics management practices are very important in promoting operation efficiency of organization because it allows the right product needs to reach the customers at the right time, right quality, at the right cost and right place as well as right quantity (Forslund, 2012) Components attributing to the best logistics management practices include warehousing, transportation and information systems which lead to cost minimisation, capital minimisation and service efficiency (Mukolwe, G.A., & Wanyoike, D.M., 2015) Many authors have put forward different interpretations about different logistics management practices but for the aim of this study, logistics Management practices were only restricted to Inventory, Warehousing and Transport as basic practices that would affect the operational performance of World Food Programme as an agent of Humanitarian Organisations.

Humanitarian logistics is a critical element of an effective disaster relief process and this therefore has led to a focus on humanitarian logistics. Disaster relief has a large logistics component (G. Kovacs, and Spens, K.M., 2007), (Trunick, 2005) & (Wassenhove, Humanitarian aid logistics, 2006) Humanitarian logistics has led to long-term development for humanitarian aid, which also transformed it to a more prepositioning and planning for humanitarian logistics hence a necessity. The effect on the relief efforts must be focussed on having an efficient service at the right place and right time (Hyde, 2009) In today's world of modern technology, greatly improved methods in logistics and supply chain management and greater access to know-how and information is critical for Humanitarian Organisations to learn from the corporate and for-profit sector and incorporate emerging best practice. WFP is the forefront of Humanitarian logistics as evidenced by its Management of the United Nations Humanitarian Air Services and the Humanitarian Response Depot Net Work (HRDN) as well as

its role as a logistics service provider to other Humanitarian Organisations. Components of WFP's logistics operations include ocean transportation, aviation, Surface or land transportation including Rail and road transport (Sheeran & Queen, 2010) Rwanda being a land locked country uses surface/land transport which is an important link in WFP's Supply Chain where food produced is distributed by means of road network only. Rail network is not yet developed, and lake or river transport is inadequate hence a gap in the optimisation of Logistics/Transport Management practices (WFP Review, 2012)

Poor infrastructure and productive capacity limitations due to poor quality of both hard and soft infrastructure, extending from customs practices, transportation and procedures based on six core dimensions of trade in form of infrastructure quality, custom performance, logistics capability and competence, tracking and tracing, and timeliness of shipments (Verter, 2017). Logistics management entails the flow of products and information between firms, that is, logistics activities with the fundamental value adding characteristics of time and place utility (Ballou R. H., 1999), (Lambert, Stock & Ellram, 1998). Management of Logistics incorporates a collection of organizational disciplines that involve material planning, handling, procurement, transportation, warehousing and information systems which allow services to cut down time and space (Gentle, 2013) Therefore, a clear consideration of the company's culture and the value logistics places on these disciplines as well as the developments and management style necessary in dealing with them will lead to diverse benefits for the organisation (A Escriba-Esteve, A., Sanchez-Peinando, L & Sanchez-Peinando E, 2009). According to Muchori (2015) negative effect on efficiency of freight logistics was a result of traffic congestion.

Lean production regards inventory as a form of waste which should be reduced and has become one of the good inventory management practices in USA manufacturing firms (Hofer & Eroglu, 2011). This practice does not apply to humanitarian organizations since these Organizations are Non-Profit and the research was based in USA. Therefore, this may not be applicable to humanitarian organizations in Rwanda, hence this study sought to address the gap by establishing the effects of Inventory Management Practices on Operations Performance of Humanitarian Organizations in Rwanda. A study revealed that a well-organized, managed firms of raw materials inventory leads to cost-effectiveness and profitability of industrial firms (Kwado, 2016). Whereas the study of Kwadwo (2016) covers the effect of inventory management on profitability of manufacturing companies in Ghana, the study does not show effect of Inventory management practices on organisational performance of humanitarian organisation hence the reason to carry out the study especially in the Rwandan context. This previous study also used chi square instead of regression analysis. The arrangement and movement of supplies within a supply chain network is majorly a contribution of warehouses in form of customer service levels, lead times, and the cost structure of a company are a result of a well-organized warehouse activities (A Ramaa., K.N.Subramanya & T.M.Rangaswamy, 2012).

Warehousing impacts the performance of the whole logistics in the supply chain. Critically, the study was conducted in India in a profitable retail Company and Warehouse management systems are focused on Supply chain and organizational performance.

In WFP and Rwanda in particular, the most common concern with respect to timeliness of WFP's interventions was the delay in the delivery and distribution of food or the inability to carry out the activities as planned including reduced ratios (WFP Review, 2012). WFP Supplies account for a large share of the costs of responding to a pandemic and delays in the delivery of supplies seriously compromise the timeliness of health interventions hence Logistics Management practices in support of Supply chain are critical to effective response (WFP. Fleischer, 2015). This reflects the importance of Logistics Management practices which entails better communication networks comprising different modes of transport systems, better Warehousing facilities, Inventory control systems and Technological information communication facilities. In Rwanda, WFP Logistics launched a project to introduce the SAP based Logistics Execution Support System (LESS) into the corporate WINGS II system. The LESS aims to standardize commodity inventory management and create clear accountability assigned to all Logistics movements that will be traceable in the system hence allowing tracking and accounting of food for onward distribution to beneficiaries (WFP Review, 2012). It is in this regard therefore, that the researchers get to know the extent to which Logistics Management Practices affect the operational performance of Humanitarian Organizations in respect to World food Programme that operate in food supply chains. While benefits in logistics management practices are realized through present literature concerning transport, emphasis is largely on logistics and supply chain element and their effects on organizational performance in manufacturing industries. Besides few literature exists showing how transport management practices affect operational performance in humanitarian organizations in Rwanda. Referring to WFP Rwanda, WFP cargo transport operations rely solely on contracted third party transporters unlike other WFP sister organizations outside Rwanda.

Statement of the Problem

Logistics management practices aims at delivering the right product, to the right place, at the right time within the accepted cost. Despite logistics management practices in place, many humanitarian agencies especially in developing countries are still facing logistics management challenges in that some products are delivered late and inadequate in quantity (Lars, 2002). Some products have even expired to due to poor

inventory management system and transportation system in place hence making them fail in meeting their goals and objectives. Humanitarian agencies have experienced “differing or overlapping aid” due to failure in application of the best logistics management practices which results in “oversupply or inappropriate supply” hence, disrupting the flow of donations (McCoy, 2008).

In reference to WFP, Haiti’s devastated infrastructure which made emergency operations in the quake hit nation the most challenging that WFP has ever faced, and hence a failure to exercise logistics management practices. In the context of transportation, serious effects were realized in terms of long lead times, high costs of transportation and poor quality of commodities in terms of expiry (WFP, Marco Frattini., 2010). In Rwanda, issues affecting logistics management includes heavy rains and lengthy rainy seasons, long distance and hilly landscape roads as observed especially in the Northern and the Western province as well as soil erosion, rock falls, landslides and floods which destroyed heavy infrastructure hence, sometimes made it difficult for emergencies (WFP, 2003). In Rwandan health sector, blood safety can be affected in some instances when the mode of transport that do not meet required standards and which may impair the quality of blood is used (RBC, 2016).

Various studies focused on the effect of logistics management practices on performance of profitable organizations, small and medium industrial firms without acknowledging the role they can play to enhance the performance of humanitarian organizations. The results create a gap in cargo trucks monitoring in terms of delivery time, quality and quantity of product in transit and high costs in cargo handling. Various authors have highlighted the benefits, and criticisms of using logistics management practices. The research gaps have been identified under contextual, conceptual and methodology approaches while topics and results were also found to be different. Though various literatures have been highlighted on logistics management practices, little has been done to find out the effects of logistics management practices on operational performance of humanitarian organizations such as WFP in Rwanda. It is against this context that this study sought to examine the effect of logistics management practices on operation Performance of humanitarian organisations in Rwanda with a specific attention on World Food Program.

II. LITERATURE REVIEW

Inventory management and organizational operational performance

A study conducted by Hofer and Eroglu (2011) in USA manufacturing firms used the Empirical Leanness Indicator (ELI) as a measurement for inventory management practices established a positive correlation between inventory management practices and organization’s performance. Kwadwo (2016) carried out a study on the Impact of efficient Inventory Management on profitability; evidence from four selected and listed manufacturing companies on the Ghana Stock Exchange showed a significant relationship between inventory management and profitability. Kamau (2015) investigated the impact of inventory management practices on organisational competitiveness with an objective to determine the influence of inventory investment on competitiveness of Safaricom Ltd in Kenya. he found out that inventory management practices in one way or the other affects profit maximisation and customer satisfaction while Muhayimana (2015) focused on the contribution of inventory management techniques on better management of manufacturing firms in Rwanda a case study of Sulfo-Rwanda Industries. These authors, however, focused more on the effect of inventory management on profitability of other industries without paying much attention on operational performance of humanitarian organizations in terms of quality of service and product, delivery time, cost of service and product.

Warehouse management and organizational operational performance

Studies conducted on the effect of Warehouse Management System on Supply chain and on financial performance show that the information systems used in Warehouse management is broadly applied in literature and is a contribution in form of customer service levels and lead times (Rama, Subramanya & Rangaswamy, 2012; Wambua, Kobo, Nyang’Au & Momanyi, 2015 and South African Warehouse Solutions Company Mecalux, 2018). The information system offers high quality customer care, with on-time deliveries that are error-free, manages workflows and streamlines product flows. The information system integrates with any enterprise resource planning (ERP) and better process coordination from manufacturing to the delivery of goods to the end customer (Mecalux, Easy WMS, 2018). However, the literature here does not clearly show its applicability of bar codes and radio-frequency identification (RFID) and their effect on the performance of humanitarian organizations especially in the Rwandan context.

Transport management and organizational operational performance

Studies were done on the influence of transport and logistics on performance of Indian based firms (Vijayaraghavan & Raju, 2008), on managerial perceptions in the road transportation industry in South Africa about Green Logistics (Göransson & Gustafsson, 2014) as well as the effect of road traffic congestion on freight logistics efficiency at the port of Mombasa-Kenya (Muchori, 2015) respectively. The results of these studies revealed that a tracking and the control dispatch system used by UPS to reach route optimization will provide information about unnecessary vehicle usage, poor driving behaviors, speeding and fuel wastage, UPS systems have Global Position (GPS) system that can trace cars and see whether they stop or go off route. They

further pointed out that, the results of route optimization are less distance travelled, lower amounts of fuel used, reduced lead time, which lead to decreased costs and efficiency (Hampus Göransson & Henrik Sandén Gustafsson, 2014). While benefits in logistics management practices through present literature is realized concerning transport, emphasis is largely on logistics and supply chain element and their effects on organizational performance in manufacturing industries. Besides, little literature exists showing how transport management practices affect operational performance in humanitarian organizations in Rwanda.

III. RESEARCH METHODOLOGY

Research design is the abstract design within which research is done and designing research it is essential to identify the sort of evidence needed to answer the research question in a rational way (Akhtar, 2016). This study used quantitative methods with a descriptive design to collect data from the respondents. Quantitative technique provides scientific information of the phenomenon under study (Rahi, 2017). The target population for this study was 60 employees of WFP which included the Directorate, Administration and Finance, IT, HR, Supply Chain and Programme. A sample as a group of a smaller number of people chosen from a population with a purpose of an investigation of which members of the sample are named as participants (Alvi, 2016). Since the population was less than 100, the entire population of 60 was taken as the sample size.

This study used questionnaire to collect data from the respondents. Judd et. al (1991) defined questionnaire as a reasonable data collection tool which permits the researcher to gather large amount of data within a short period of time (Charles M. Judd & Eliot R. Smith, 1991). The questionnaires were randomly distributed on stratified basis to 60 respondents of which 4 were from directorate, 9 from administration and finance, 4 from Information Technology, 5 from Human resources, 16 from supply chain and 22 from Programme as planned in which all were successfully filled giving a response rate of 100%. The questionnaires were in a simple and clear English language and respondents were free to participate or not to participate in the study. The completed questionnaires were collected after one week with a response rate of 100%.

The data collected was processed using SPSS version 22. The data was coded and edited to ensure it is error free. Multiple linear regressions was applied to determine the best (most important) predictors of the dependent variable. The multiple linear regression model performed is expressed as follows:

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \varepsilon$$

where β_0 is intercept, β_i are regression coefficients, y represents the dependent variable (operational performance) and x_1 represents inventory management practices, x_2 represents ware-house management practices and x_3 represents transportation management practices. This is to ensure achieving better results when determining the Effect of logistics management practices on the performance of humanitarian organizations in Rwanda (Sesay, Data analysis and interpretation, 2011)

IV. RESEARCH FINDINGS AND DISCUSSION

This chapter aimed at showing the analysed data, findings, interpretation and discussion of findings. The research objective was to find out how logistics management practices affect performance of humanitarian organizations in Rwanda referring to world food programme as the case study. Data collected was analysed using both descriptive statistics via mean and standard deviation and inferential statistics to determine the correlation between the independent and dependent variables as well as the effects of independent on the dependent variable.

Table 1: Inventory Management Practices

| Statement | N | Mean | Std. Deviation |
|---|----|--------|----------------|
| The MRP system captures data of all company materials | 60 | 4.2167 | .41545 |
| The MRP system captures data of all the suppliers and their products | 60 | 4.1500 | .48099 |
| The MRP system captures data of all incoming materials | 60 | 4.1667 | .41850 |
| The MRP system captures data of all out going materials | 60 | 4.2333 | .46456 |
| The MRP system captures data about the nature of materials in inventory | 60 | 4.2333 | .42652 |
| The MRP system captures data about the terms and conditions of goods | 60 | 4.1333 | .50310 |
| Material requirement planning improves on timely service delivery in the World Food Programme. | 60 | 4.0833 | .38142 |
| Material requirement planning improves on cost effective service delivery in the World Food Programme | 60 | 4.1333 | .46820 |
| Material requirement planning improves on quality service delivery in the World Food Programme | 60 | 4.1667 | .41850 |

| | | | |
|--|----|--------|--------|
| The application captures data of all organization's materials | 60 | 4.0333 | .58125 |
| The application captures data of all incoming materials | 60 | 4.1833 | .59636 |
| The application captures data of all out going materials | 60 | 4.1500 | .60576 |
| The application captures data about the nature of materials in inventory | 60 | 4.0500 | .56524 |
| The application captures data about the conditions of goods | 60 | 4.0333 | .60971 |
| EOQ Inventory management practices improves on timely service delivery in the World food Programme | 60 | 4.0833 | .49717 |
| EOQ Inventory management practices improves on cost effective service delivery in the World food Programme | 60 | 4.0167 | .65073 |
| EOQ Inventory management practices improves on quality service delivery in the World food Programme | 60 | 3.9667 | .58125 |
| EOQ Inventory management practices alerts WFP when to order and how much to order. | 60 | 4.0000 | .73646 |

Source: Primary Data, 2019

Concerning Inventory Management Practices on the Operational performance of World Food Programme, The research results show that a mean finding show that a mean of 4.2167 with a standard deviation of 0.41545 for MRP and a mean of 4.0833 with a standard deviation of 0.49717 for Economic Order Quantity respectively reveal that respondents agree to the fact that Material Requirement Planning (MRP) and Economic Order Quantity (EOQ) are used in World Food Programme. Therefore, it can be concluded that Inventory Management systems contribute greatly to the operational performance of World Food Programme.

Table 2: Warehouse Management Practices

| Statement | N | Mean | Std. Deviation |
|--|----|--------|----------------|
| Provide accuracy | 60 | 4.1500 | .51503 |
| Timely service delivery | 60 | 4.0333 | .58125 |
| Monitoring of inventory | 60 | 4.2167 | .55515 |
| Generating reports | 60 | 4.2833 | .58488 |
| Collaboration | 60 | 4.0167 | .56723 |
| WMS has reduced cost operations in WFP | 60 | 4.0000 | .75913 |
| WMS has increased accuracy in WFP | 60 | 4.2167 | .58488 |
| WMS has improved inventory control in WFP | 60 | 4.1833 | .56723 |
| WMS has improved labor efficiency in WFP | 60 | 4.0833 | .53016 |
| WMS has improved in recycle time in WFP | 60 | 3.9833 | .56723 |
| WMS has improved on identification of materials in WFP | 60 | 4.1000 | .60226 |
| WMS has attracted confidence in WFP donors | 60 | 4.1333 | .56648 |

Source: Primary Data, 2019

On the effect of Warehouse Management Practices on the Operational performance of World Food Programme, The research results show that a mean of 4.2833 with a standard deviation of 0.58488 for systems like programme codes, bar code and radio frequency identification (RFID) reveal that respondents agree to the fact that Warehouse Management systems are used and implemented in World Food Programme and they have contributed to the quality of service and product, reduced delivery times, reduced cost of service and product through improved inventory control, increase of accuracy, reduced costs of operations and identification of warehouse materials. In conclusion, Warehouse Management systems contribute greatly to the operational performance of World Food Programme.

Table 3: Transport Management practices

| Statement | N | Mean | Std. Deviation |
|--|----|--------|----------------|
| The Organization carefully makes decision to optimize the transport mode when choosing a carrier | 60 | 4.1167 | .49030 |
| The firm considers the carrier to move inbound & outbound cargo to minimize costs of movement | 60 | 4.0833 | .49717 |
| The Organization carefully considers measures for evaluating transport performance when choosing the carrier | 60 | 4.1000 | .65613 |
| The Organization considers transit time in selecting carriers | 60 | 4.0333 | .68807 |
| The Organization considers environmental and energy concerns of transport providers when selecting carriers | 60 | 3.8667 | .81233 |

| | | | |
|---|----|--------|---------|
| The Organization considers security measures deployed to safe guard shipments in transit by individual carriers | 60 | 4.0500 | .56524 |
| The Organization considers the nature of cargo to be shipped in deciding appropriate carriers | 60 | 4.0333 | .71228 |
| The organization considers consolidation opportunities to reduce transport costs | 60 | 4.0000 | .63779 |
| The organization considers compliance on loading regulations and enforcement (axle load limits) | 60 | 4.0833 | .61868 |
| The organization considers vehicle scheduling and route optimization | 60 | 4.0500 | .59447 |
| The organization considers capacity of transportation providers to maximize on economies of scale | 60 | 4.0833 | .59065 |
| The organization considers opportunities for continuous truckload and backhaul moves to keep costs down | 60 | 3.9667 | .48596 |
| The organization considers proximity of transportation providers to warehouses, ports, airports and other destinations. | 60 | 3.9667 | .58125 |
| The system captures data on different locations to be visited | 60 | 2.7000 | 1.12446 |
| The system tracked the movement of the cars | 60 | 2.5333 | 1.03280 |
| The system is refrigerated to ensure goods reach in good conditions | 60 | 2.6000 | 1.13794 |
| The system monitors mechanical conditions of the car | 60 | 2.5333 | 1.09648 |
| The system manages drivers' operations like speed and mileages | 60 | 2.4333 | .98060 |
| The Organisation uses RTGS (Real time gross settlement system) to settle freight | 60 | 2.5000 | 1.01681 |
| Shipment monitoring management practices improves on timely service delivery in the World Food Programme | 60 | 2.9000 | 1.18893 |
| Shipment monitoring management practices improves on cost effective service delivery in the World food Programme | 60 | 2.8167 | 1.17158 |
| Shipment monitoring management practices improves on quality service delivery in the World food Programme | 60 | 2.8667 | 1.12697 |

Source: Primary Data, 2019

On transport management practices, the results show that carrier management, transport load planning and optimisation are highly practiced and implemented by WFP as revealed by a mean of 3.9667 and 4.1167 with variances 0.58125 and 0.49030 are in the highest category meaning respondents agreed to a great extent that Transport management practices involving carrier management practice Load planning and optimisation practices are highly applied and implemented in World Food Programme. Besides however, on another side of the section answered by respondents on the application and effects shipment monitoring systems in WFP, the respondents' results were different showing a mean of 2.433 and 2.900 with a standard deviation of 0.98060 and 1.17158 respectively hence the respondents disagreed with the existence, applicability and implementation of shipment monitoring management systems in WFP but on the other side they agree that if used they may improve on timely service delivery, improves on cost and quality of service in World Food Programme. Transport Management Practices contribute greatly to the Operational performance of World Food Programme.

Relationship between logistics management practices and operational performance

To determine the relationship between Logistics management practices and operational performance in WFP, Pearson correlation and linear regression analysis tools were used as shown by the table below:

Table 4: Correlation analysis

| | | Logistics Management Practices | Operational Performance |
|--------------------------------|---------------------|--------------------------------|-------------------------|
| Logistics Management Practices | Pearson Correlation | 1 | .917** |
| | Sig. (2-tailed) | | .000 |
| | N | 60 | 60 |
| Operational Performance | Pearson Correlation | .917** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 60 | 60 |

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

The table indicates a correlation coefficient of 0.917. This means that the relationship between logistics management practices and operational performance is very high, meaning that Logistics management practices contribute very highly to the operational performance in World Food Programme. The p-value of 0.000 shows that the correlation is significant.

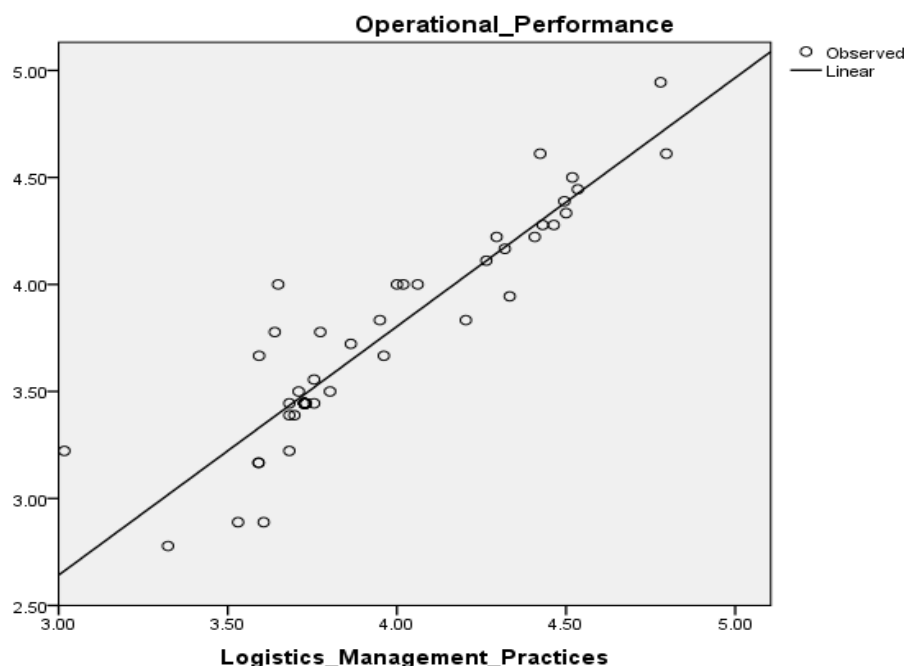


Figure 1: Correlation between Logistics Management Practices and Operational Performance of WFP.

The Scatter diagram above shows that many points are close to the best fit line and the trend is positive. This means a positive relationship between logistics management practices and operational performance in WFP.

Table 5: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .972 ^a | .945 | .942 | .11023 |

a. Predictors: (Constant), Transportation Management Practices, Inventory Management Practices, Warehouse Management Practices

Table above indicates that 94.2% of the variation in Performance is explained by the variation in the independent variables active in the interaction.

Table 6: To assess the effect of variation in predictors (Independent variables), multiple regression analysis was performed

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | Sig. |
|-------|-------------------------------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | t | |
| 1 | (Constant) | .141 | .187 | | .753 | .454 |
| | Inventory Management Practices | .138 | .049 | .105 | 2.785 | .007 |
| | Warehouse Management Practices | .109 | .043 | .100 | 2.510 | .015 |
| | Transportation Management Practices | .730 | .036 | .849 | 20.366 | .000 |

a. Dependent Variable: Operational Performance

All predictors are statistically significant in the model as all p-values are less than or equal to 0.01. Transportation management is the best predictor because the corresponding regression coefficient 0.730 is greater than 0.138 and 0.109. This means that of all the management practices applied in WFP, transport management practices is highly significant and influences operational performance more than Inventory management practices and Warehouse Management practices. The findings agree with Hofer and Eroglu (2011); Kwado, (2016); Rama, et al (2012); Kamau, (2015); Wambua, et al (2015); Mecalux, (2018); Vijayaraghavan and Raju (2008); Göransson and Gustafsson, (2014) and Muchori, (2015).

V. CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, it can be concluded that logistics management practices which entails inventory management practices, warehouse management practices and transport management practices have a significant and positive effects on the operational performance of World Food Programme as an agent of humanitarian organisations. in spite of having many inventory, warehousing and transport management practices in place, the findings in this research show that by use of Economic Order Quantity, Material Requirement Planning (MRP), Programme code, Bar code, RFID, Carrier Management, Load planning and

optimisation contribute greatly and positively to the operational performance of World Food Programme in terms of quality of service and product, short delivery times (Lead time) and reduction of cost of service and product.

The relationship between Logistics management practices and operational performance in WFP, was determined by use of Pearson correlation and linear regression analysis. The results showed a correlation coefficient of 0.917 and the Scatter diagram shows that many points are close to the best fit line towards the right direction in the graph and the trend is positive meaning that there is a positive relationship between logistics management practices and operational performance in WFP.

The study recommends that World Food Programme should continue to improve logistics management practices and specifically pay more attention on warehouse management to ensure high operational efficiency in terms of quality service and products, short lead times and low cost of services and products. WFP should work closely with third party transport partners to monitor their trucks electronically for example, by use of shipping monitoring systems like Global Positioning Systems (GPS) Truck Activity Reporting Systems (TARR), Cargo monitoring and control systems (CMACS) to ensure quick delivery of WFP cargo. Third parties in transportation should install GPS devices to monitor their fleet that operate in WFP for consistent and sustainable delivery. The management should embark on awareness on risk prevention and mitigation of disasters to ensure operational efficiency. This study also recommends that management should organize training, workshops, seminars to sensitize employees especially logistics and Supply chain department on the changes that are taking place in logistics and supply chain. Management should develop innovative training programmes to equip the employees with heightened knowledge and skills in Logistics management. WFP'S fleet of heavy duty must be employed so as to reach some of the world's most remote insecure and inaccessible locations.

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