

**LOGISTICS MANAGEMENT AND SERVICE DELIVERY IN UNITED NATIONS
AGENCIES. A CASE STUDY OF WORLD FOOD PROGRAMME,
KAMPALA UGANDA**

BY

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DECLARATION

I, **Chemutai Patrick Emmanuel** declare that, this study is my original work and has never been presented to any institution or university for both professional and academic award. Where the work of others has been used, due acknowledgement has been done.

Signed:

Date:

APPROVAL

This is to certify that this research dissertation entitled “Logistics Management and Service Delivery in United Nations Agencies. A case study of World Food Programm, Kampala Uganda has been conducted by Chemutai Patrick Emmanuel under my supervision and is hereby approved.

Signed;

Date:

Dr. Richard Mwirumubi (PhD)

DEDICATION

This research dissertation is dedicated to my family members.

ACKNOWLEDGEMENTS

First and foremost, I would like to acknowledge the Almighty God for His Grace, strength and protection during my academic struggle.

I express my sincere gratitude to my supervisor Dr Richard Mwirumubi (PhD) for accepting to spend his valuable time to supervise my work especially his patience, support and guidance that made this study successful.

I am also indebted to my family members and children who missed me during the time of my academic struggle.

May You All Be Blessed.

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LIST OF ABBREVIATIONS AND ACRONYMS

UN	United Nations
WFP	World Food Programm (at Nalukolongo Kampala Uganda)
FAO	Food and Agriculture Organization
IASC	International Agriculture service committee
JIT	Just in Time

LIST OF OPERATIONAL DEFINITIONS

Logistics management

Logistics management is that part of the supply chain that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer requirements (Ballou, 2007).

Service delivery

According to Bonney and Editor (2012), service delivery refers to the provision and distribution of goods and services to the people who needs them.

ABSTRACT

The study was about Logistics Management and Service Delivery in United Nations Agencies. A case study of World Food Programm, (WFP), Kampala Uganda and this is because it is responsible for delivery and distribution of food items and services.

The study was guided by the following objectives:

- i. To find out the contribution of transportation to effectiveness and efficiency and at World Food Programm Nalukolongo,
- ii. To establish the contribution of warehousing to availability of services at World Food Programm Nalukolongo
- iii. To establish how stock controls ensures cost reduction at World Food Programm Nalukolongo.

The study adopted a case study strategy; that used both qualitative and quantitative approaches. The target study population 71 from which a sample size of 60 respondents was determined based on Sloven's formula. Purposive, simple random and census sampling techniques were used to select the sample. Interview guide, self administered questionnaires and documentary review checklist were the main data collection instruments.

In respect of transportation of warehousing and stock controls findings revealed positive results. Transportation eases the distribution of goods and services, makes service delivery efficiency and effective Warehousing makes services available any time, provides safety of goods and services and it is a tool for monitoring service delivery. Stock controls that include Official authorization, lead time and re-order stock level, help to reduce cost of operations.

The study concludes that, logistics management contributes to 52% to service delivery at WFP and other factors contribute 48% (e.g the availability of funds)

Recommendation to WFP to train its staff on how to apply and adopt stock control techniques, procure its own transport (e.g. airlines), outsource other warehouses to accommodate its stock were advised. The study also came up with areas for further study which include: Logistics management and quality control of food suppliers by WFP, Inventory management and cost reduction of perishables in WFP and Transportation and service delivery of food items in Uganda. The study also recommends the adoption of the core competence theory in order to improve on set of skills that deliver additional value to stakeholders.

CHAPTER ONE: INTRODUCTION

Background to the study

The study was about Logistics Management and Service Delivery in United Nations Agencies. A case study of World Food Program (WFP), Kampala Uganda. The study is very important because logistical management consistently aligns of all processes that form the basis of service delivery. The management (i.e. the planning, execution and control) of all factors that affect the material flow and the information about it, seen from the perspective of customer's requirements for the purpose of achieving a high reliability, a high degree of completeness and a short delivery time (Birk,2008).

Historically, the idea of establishing the WFP was conceived in 1961 after the 1960 Food and Agricultural Organization (FAO) Conference that proposed the establishment of a multilateral food aid programme. It was formally established in 1963 by the United Nations General Assembly on a three-year experimental basis. WFP introduced a logistics management mechanism following the recommendations of an independent Humanitarian Response Review in 2005, the mechanism approach was adopted in 2005 as a way of addressing gaps and strengthening the effectiveness of humanitarian response through building logistic systems, which include transportation, warehousing and stock controls. Due to its expertise in the field of humanitarian logistics, the World Food Programme (WFP) was chosen by the (IASC) as the lead agency for the delivery of services to the beneficiaries. WFP also acts as 'provider of last resort' offering common logistics services, when critical gaps hamper the humanitarian response. In 2013, the WFP reached 80.9 million people in 75 countries and provided 3.1 million tonnes of food, including nutritionally enriched Ready-to-use therapeutic foods. 7.8 million malnourished children received special nutritional support in 2013, and 18.6 million children received school meals or take-home rations. In 2015, the WFP reached 76.7 million people in 81 countries. In emergencies, more than 50 million people were reached in order to improve their nutrition and

food security. School meals were provided to 17.4 million children helping retain children in schools, supporting uninterrupted access to education.

Conceptually, according to Supasansanee (2009), logistics management encompasses all inflows of materials management, purchased materials into works and services. Service is an act offering something to one party or another.

Theoretically, the study was guided by the competences theory by Jack, Powers and Skinner (2010), which emphasizes that all the items that are core in the organization must be considered first and distributed accordingly, hence emphasis on logistics management and service delivery.

Contextually, WFP has scaled up its use of cash and vouchers as food assistance tools, 7.9 million people received assistance through cash or voucher Programmes in 2013. WFP has coordinated the five-year Purchase for Progress pilot project Launched in September 2015, to assists smallholder farmers by offering them opportunities to access agricultural markets. The Logistics mechanism provides coordination and information management services to support operational decision-making and improve the predictability, timeliness and efficiency of humanitarian food emergency responses. Where necessary, it also facilitates access to common logistics services. Due to its expertise in the field of humanitarian logistics, the World Food Programm (WFP) was chosen by the (IASC) as the lead agency for the delivery of services to the beneficiaries. WFP also acts as ‘provider of last resort’ offering common logistics services, when critical gaps hamper the humanitarian response. In 2013, the WFP reached 80.9 million people in 75 countries and provided 3.1 million tonnes of food, including nutritionally enriched Ready-to-use therapeutic foods. 7.8 million malnourished children received special nutritional support in 2013, and 18.6 million children received school meals or take-home rations. In 2015, the WFP reached 76.7 million people in 81 countries. In emergencies, more than 50 million people were reached in order to improve their nutrition and food security. School meals were

provided to 17.4 million children helping retain children in schools, supporting uninterrupted access to education (Goh, 2000).

Under the era of globalized economy, the intensified competition pushes organizations to carry logistics operations and cut costs in an effort to concentrate on core competences (Bonney and Editor, 2012). The logistics industry began to transform from the traditional transportation industry and this is continuing at a rapid rate. Logistics deals with the flow and storage of goods and related information, as defined by the Council of logistics management (Fantazy, Kumar and Kumar (2010). All the processes of planning, implementing and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods, and related information from point-of-origin to point-of-consumption are for the purpose of conforming to customer requirements. Logistics, previously viewed as a classical function, which involves adversarial relationships among suppliers, customers and transportation providers, is emerging as a key source of competitive advantage and a leading reason for strategic alliance relationship between companies and their logistics providers (Hoske, 2009).

According to Humpphreys (1998), logistics can be seen as evolution through four distinct areas: warehousing and transportation management, total cost management, integrated logistics management and supply management. The development of the logistics industry began by merely providing tactical transportation and warehouses services to more centralized logistics functions aimed at cost control and customer services. Logistics is the process of planning, implementing and controlling the efficient, effective flow of goods storage of goods, services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements (Groth and Kinney, 1994) Logistics exists to satisfy customer requirements by facilitating relevant manufacturing and marketing operation. The main responsibility of logistics is the geographical positioning of raw materials, work in process and finished inventories at the lowest possible cost. Logistics accounts for one of the highest costs of

doing business. Logistics expenditure normally ranges from 5% to 35% of sales depending on the type of business. Thus logistics even though very important for any delivery success is expensive (Marchet, Perego and Perotti, 2009).

According to Supasansanee (2009), logistics management encompasses all materials flows management, from the inflow of purchased materials into works (i.e. materials planning of raw materials components and other products, transport of materials from suppliers to works, receiving and inspection and storage of materials) materials flow through manufacturing processes (i.e. materials issues and materials handling) and material up to the final consumption.

Service delivery: refers to the extension of quality services to clients, Tim (1999) that leads to service delivery. Beneficiaries appreciate when the value and service provided meet or exceed beneficiary expectations. Expected service is the type of service level that beneficiaries want to receive from any provider (Huq et al 2010). A service is an act or service delivery offered by one party to another. Although the process may be tied to a physical product, the service delivery is transitory, often intangible in nature, and does not normally result in ownership of any of the factors of production. A service is also an economic activity that creates value and provides benefits for customers at specific times and places by bringing about a desired change in, or on behalf of the recipient of the services (Huq et al 2010).

The study embraced the Transactional Cost Theory and Theory of Core Competency. The transactional cost theory was developed in 1979 by Oliver Williamson while working on concepts that were first developed by Koumanakos (2008). The theory was first developed for accounting purposes but has been expanded to other fields, like procurement. The theory of core competency is attributed to Jack, Powers and Skinner (2010). It refers to the main strengths or strategic advantages that an organization including its combination of pooled knowledge and technical capacities that enable the organization to execute its mandates or objectives. The core competencies results from a specific set of skills or production techniques that deliver additional

value to the stakeholders. Among the two theories, the study was guided by the competences theory and this was because it indicates that all the items that are core in the organization must be considered first.

The WFP has scaled up its use of cash and vouchers as food assistance tools, 7.9 million people received assistance through cash or voucher Programmes in 2013. In the same year, the WFP purchased food in 91 countries; 86% of that food came from developing countries among its other activities, the WFP has coordinated the five-year Purchase for Progress (P4P) pilot project. Launched in September 2008, P4P assists smallholder farmers by offering them opportunities to access agricultural markets and to become competitive players in the delivery of food. The project spanned across all parts of Uganda and trained 800,000 farmers in improved agricultural production, post-harvest handling, quality assurance, group marketing, agricultural finance and contracting with the WFP.

The project resulted in 366,000 metric tons of food produced and generated more than \$48 million in income for its smallholder farmers. The WFP focuses its food assistance on those who are most vulnerable to hunger, which most frequently means women, children, the sick and the elderly. In fact, part of the response to the 2010 Haiti earthquake consisted of distributing food aid only to women as experience built up over almost 5 decades of working in emergency situations has demonstrated that giving food only to women helps to ensure that it is spread evenly among all household members. School-feeding and/or take-home ration Programmes in 71 countries help students focus on their studies and encourage parents to send their children, especially girls, to school. However much, WFP has managed to reach those most vulnerable to hunger, such as women, children, the sick and the elderly but services has been reported inadequate with a lot of delays in reaching the needy and continuous starvation (UN report, 2016). The policy objectives of world food Programm include:

- i. Save lives and protect livelihoods in emergencies

- ii. Support food security and nutrition and (re)build livelihoods in fragile settings and following emergencies
- iii. Reduce risk and enable people, communities and countries to meet their own food and nutrition needs
- iv. Reduce under nutrition and break the intergenerational cycle of hunger"
- v. Zero Hunger in 2030"

The performance of World Food Programm is explained by the analysis which links the study variables for the years 2014-2017 as indicated in table 1.1.

Table1.1 Trend analysis of World Food Programm (2014-2017)

Variables	Factors	2014	2015	2016	2017
Logistics Management	Transportation	70%	70%	70%	70%
	Warehousing	69%	69%	69%	69%
	Stock controls	50%	50%	50%	50%
Service Delivery	Effectiveness and efficiency	40%	38%	37%	35%
	Availability of service	50%	45%	40%	38%
	Operating Costs	36%	39%	48%	49%

Source: Adopted from World Food Programm Report 2017

The trend analysis of WFP indicates that, the performance in relation to effectiveness and efficiency, availability of services and cost reduction has been declining over a period of four years. This was due to logistics management factors which include transportation, warehousing and stock controls.

Statement of the problem

WFP launched a food for progress initiative aimed at mitigating world hunger through logistics management for ensuring the most cost effective procurement operations with the aim of improving its food deliveries (UN Report, 2017). This has not been achieved due to:

- High procurement costs
- Failure to provide timely food stuffs to the clients
- Breakdown of transport system

These have led to delays by the WFP in accessing areas that suffer severe calamities like the Bududa region in the year 2012 and the continuous starvation in most refugees' camp (UN report, 2017), have been experienced. The post-harvest losses due to draught and pesticides have reduced the food suppliers, hence causing the populace to go insufficient from suppliers. It is with this background that, the researcher intended to investigate the contribution of logistics management and service delivery in United Nations Agencies using World Food Programme, Kampala Uganda.

Purpose of the study

The purpose of the study was to establish how logistics management ensures service delivery with a view of achieving effectiveness and efficiency, availability of service and cost reduction in WFP.

Objectives of the study

The study was guided by the following research objectives

- i. To establish the contribution of transportation to effectiveness and efficiency at WFP.
- ii. To establish the contribution of warehousing to availability of services at WFP.
- iii. To examine how stock controls ensure cost reduction at WFP.

Research Questions

- i. What is the contribution of transportation to effectiveness and efficiency at WFP?
- ii. What is the contribution of warehousing to availability of services at WFP?
- iii. How has stock controls ensured cost reduction at WFP?.

Research hypotheses

H₀: There is no significant relationship between transportation and effectiveness and efficiency at World Food Programm Nalukolongo.

H₁: There is a significant transportation to effectiveness and efficiency at World Food Programm Nalukolongo.

H₀: There is no significant relationship between warehousing and availability of services at World Food Programm Nalukolongo

H₁: There is a significant relationship between warehousing to availability of services at World Food Programm Nalukolongo.

H₀: There is no significant relationship between stock controls and cost reduction at World Food Programm Nalukolongo

H₁: There is a significant relationship between stock controls and cost reduction at World Food Programm Nalukolongo.

Scope of the Study

The scope of the study covered the subject scope, geographical scope and time scope.

Subject scope

The study sought to find out the relationship between logistics management and service delivery.

The main focus was, to find out the contribution of transportation to efficiency and effectiveness, at WFP, and to establish the contribution of warehousing to availability of services at WFP and to establish how stock controls ensures cost reduction at WFP.

Geographical scope

The study was conducted in WFP in Nalukolongo headquarters, Kampala Uganda.

Time scope

The study took a period of 6 months that is from February to august 2018 and it considered WFP reports from 2014 to 2017.

Justification

World Food Programm is one of the formal United Nations organizations that is charged with the delivery of food staffs in emergency areas world wide. Logistics management has over the years been challenged to reinvent its logistics management process with a view of ensure if effective and efficient service delivery.

With the view to institute improvement in its service delivery, the WFP launched the annual World Hunger Relief Week, a global campaign to increase awareness about hunger, engage volunteers, and raise critically needed funds to help the WFP serve the world's areas of greatest need and draw up new strategies to improve its service delivery. Therefore this study opens new ways for World Food Programm and other hunger relief agencies around the world on how to improve service delivery.

Significance of the Study

The study findings are thought to be useful in the following ways;

Management of WFP in Nalukolongo

The study findings shall enhance the organization's oversight function in providing better services to clients so as to improve on the service delivery.

Staff of WFP

The findings, conclusions and recommendations shall be of practical significance to both staff of by providing better services to the beneficiaries.

Academics and prospective researchers:

The findings of the study shall provide and add knowledge to existing literature in higher institutions of learning and shall also act as a foundation for further research in the areas of logistics management and service delivery.

iv. Other policy makers

The study shall raise awareness among the policy makers and managers or other organizations.

The Policy makers shall use the noted recommendations to improve on service delivery.

i. Government organizations

The study recommendations shall guide the agriculture and ministry of disaster preparedness in policy formulation on how best to manage their logistics and how to improve service delivery in emergency cares.

Arrangement of the study

The research dissertation contains eight chapters, which starts with preliminaries which include cover page, the declaration, approval, dedication, acknowledgements, acronyms and abbreviations, operation definitions and abstract.

Chapter one; presents the instruction, that focused on the background information about research topic, background to the study, Problem statement, Purposes of the study, Objectives of the study, Research questions, Hypotheses, Scope of the study, significance of the study, Setting of the study.

Chapter two; presents literature review basing on the findings of various researchers in Uganda about the issue under study, a review of related literature and writing of the various researchers outside the country and conceptual frame work.

Chapter three; presents the research methodologies which were used by the researchers, population sample, sampling techniques, sample size, data analysis, research sign, data collection procedures, instruments used , interpretation and limitation of the study.

Chapter four presents the findings on the contribution of transportation to effectiveness and efficiency at WFP Nalukolongo.

Chapter five presents findings relating to the contribution of warehousing to availability of services at WFP, at Nalukolongo.

Chapter six presents findings on how stock controls ensure cost reduction at WFP, at Nalukolongo Headquarters Kampala Uganda.

Chapter seven presents the harmonization of the study variables.

Chapter eight presents the summary, conclusion and recommendations

Finally, references and Appendices.

Conclusion

This chapter presented the study objectives which needed to be translated in the literature hence lead to chapter two the study literature.

CHAPTER TWO : STUDY LITERATURE

Introduction

This chapter presents literature survey and review of the research works that have been conducted locally in Uganda and outside Uganda; as well as the theories and the conceptual framework of the study. The aim is to get the current state of knowledge on the issue under investigation which was based on research objectives that were stated in chapter one.

Literature Survey

Balunywa (2005), carried out a study on supply chain management and delivery effectiveness at Mukwano Group of Companies. The objectives of the study were to find out the major types of supply chain practices, to establish the relationship between supply chain and service delivery, and the impact of the procurement supply chain management on delivery effectiveness at Mukwano Group of Companies. However, the study did not look at the impact of logistics management on the service delivery and thus the current study intended to close this gap.

Literature Review

The definition of logistics adopted by the council of Logistics management is the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements (Faber, 2002)." Note that this definition includes inbound, outbound, internal, and external movements, and returns of materials for environmental, salvage, repair and recall purposes (Faber, 2002).

Transportation and effectiveness and efficiency

According to Birk (2008), every business firm, regardless of what it produces or distributes, requires the movement of goods from one point to another, and, therefore, is involved in transportation. Transportation essentially concerns the spatial dimension of the business firm. "The spatial dimension refers to geographical relationships and reflects the juxtaposition of firms with respect to their materials sources, markets, and competitors, plus the spatial relations of the latter to their sources and markets Birk (2008). The purpose or function of transportation is to

serve as a connecting link between the spatially separated units within a firm's own organization (such as between plants and warehouses) and between units of the firm and units of other firms and individuals (such as suppliers and customers). Good transportation has the effect of holding to a minimum time and cost involved in the spatial relationships of the firm. It is imperative to understand that the modern logistics structure rests on efficient motor carrier transportation. Techniques such as Just –in- Time (JIT) and Efficient Consumer Response (ECR) would not be possible without the highly developed trucking industry Birk (2008).

Logistics involves a wide set of activities dedicated to the transformation and distribution of goods, from raw material sourcing to final market distribution as well as the related information flows (Gammelgaard, and Larson, 2001). Derived from “Greek” logistics, denotes, (to reason logically). In the Nineteenth century the military referred to it as the art of combining all means of transport, revictualling and sheltering of troops. Today it refers to the set of operations required for goods to be made available on markets or to specific locations (Gammelgaard, and Larson, 2001). The application of logistics enables a greater efficiency of movements with an appropriate choice of modes, terminals, routes and scheduling. The implied purpose of logistics is to make available goods, raw materials and commodities, fulfilling four major requirements related to order, delivery, quality and cost fulfillment. Logistics is thus a multidimensional value added activity including production, location, time and control of elements of the supply chain. It thus enables a better managerial level of space-time relations and as such an important aspect of transport geography. Logistics acts as the material and organizational support of globalization, requiring a complex set of decisions to be made concerning an array of issues such as the location of suppliers, the transport modes to be used and the timing and sequencing of deliveries. Activities comprising logistics include physical distribution; the derived transport segment, materials management and the induced transport segment (Jack, Powers and Skinner, 2010).

Physical distribution is the collective term for the range of activities involved in the movement of goods from points of production to final points of sale and consumption. It must insure that the mobility requirements of supply chains are entirely met. It includes all the functions of movement and handling of goods, particularly transportation services (trucking, rail, air, inland waterways, marine shipping, and pipelines), transshipment and warehousing services (e.g. consignment, storage, inventory management), retail and wholesale. Conventionally, all these activities are assumed to be derived from materials management demands (Mentter, Rewitt, Keebler and Min, 2001).

Transportation of goods and services improves service delivery and prevent customers from going to the next source. With changes to customization and personalized service for customers, building relationships has become important for corporate survival. The relationships allow organizations to differentiate themselves from competitors, maintain loyalty, and in turn pass off value to their customers (Bedman and Gottorna, 2003). Companies that use logistics management strategies experience a high level of information sharing based on the quality and quantity of information. This has to do with how information is communicated between the different partners. The level of information shared is used as a basis of competitive advantage, since together they understand the needs of the final customer better and can respond quicker to changes (Sapasansane 2009).

The expansion of standard transport infrastructure such as highways, terminals and airports is also essential for the development of modern logistics. Logistics and integrated transport systems are therefore related, particularly because of the container which has concomitantly become a unit of load (transport), production and distribution. Thus, the physical as well as the ICT elements of technological change are being underlined as it helps strengthen the level of control distributors have over the supply chain. The technological dimension of logistics can thus be considered from five perspectives (Aluri, 2011). In economic theory terms, transportation's

function is to create place utility for the goods produced or distributed by the firm. The word "utility" means usefulness or ability to give satisfaction. Place utility exists when goods are in the place where they can be consumed. Goods that are not in the place where they are needed have less than full value and so transportation creates value by creating place utility. Along with the necessity to have goods in the right place, the goods must be there at the right time (time utility) and in the right form (form utility) and in the possession or ownership of the person(s) who wants to consume them (Tirsawell 2008).

Without place, time, form, and possession utility, goods have no value to the customer. In a broad sense, the production process is really not complete until all four utilities have been created because until then goods are not capable of giving satisfaction and would not prompt a customer to exchange something of value for something with no value. Thus, transportation is an essential part of the total production process that cannot be overlooked (Tse 2009). Transportation creates time and place utility, both of which are necessary for economic exchanges to take place, its availability, adequacy, and cost have an effect on several kinds of decisions made by a business firm in addition to decisions related to managing the transportation function itself. Customer delivery requirements often require the timeliness which can only be achieved by the use of trucks (Balou, 2007).

The transportability of a product in terms of its physical attributes and the cost, availability, and adequacy of transportation enters into any product decision. Closely related to the product decision for firms dealing in tangible products is the decision relative to where the product(s) should be sold. This decision is affected by the transportation characteristics of the product(s) itself as well as transportation availability, adequacy and cost. What to purchase and where to purchase are also affected by transportation considerations, regardless of whether the firm is a manufacturer, wholesaler, retailer or service organization. The goods involved may be component parts, raw materials, supplies, or finished goods for resale. The transportation

characteristics of the goods, the availability, adequacy and cost of transportation have a bearing on the "what and where" decision (Auri and Munnang, 2011).

Although decisions relative to where plants, warehouses, offices, stores, and other business facilities should be located are influenced by many factors, transportation availability, adequacy, and cost are extremely important in such decision making. The core business of the firm will dictate the mode of transportation services required. Proximity to highway services is a key factor in the location decision for new manufacturing facilities. The significance of the transportation factor varies widely from industry to industry, but transportation requirements always need to be considered in location decisions (Caputo, Fratocchi and pelagagge, 2006).

Since transportation is a critical cost factor in business operations, it can have a bearing on the pricing decisions made by business firms, especially those firms that have a cost-oriented pricing policy. In fact transportation is one of the nation's "basic" economic activities. This does not mean that in any individual firm there is an automatic cause-and-effect relationship between transportation cost changes and the firm's prices, but transportation cost is one of the factors that usually should be considered in pricing decisions (Chow, Heaver and Henriksson, 1994).

Freight transportation system enables consumers to enjoy the availability of goods which are not produced in their immediate locale because of climate or soil conditions, the lack of raw materials, utilities, or labor, or the cost of production. Such a system allows consumers a choice of goods which would not otherwise be available. A good transportation network makes possible the mobility of people for economic, educational, social, or other purposes while reducing or eliminating isolation, while promoting economic, social, and political development and economic and political unity in the country (Williams and Tokar, 2008).

There are many ways to categorize and describe the economic importance of transportation. For society or the economy as a whole, transportation makes possible geographic specialization or territorial division of labor. Geographic specialization takes place when a nation or region or

state or city produces those products and services for which it is best suited in terms of its capital, labor, raw materials and other resources and talents. California and Florida specialize in the production of citrus fruit because of a climate while the Great Lakes region produces much of the nation's steel because of the proximity of raw material and low-cost transportation. Chemicals are manufactured in Texas and Louisiana for the same reasons. In this way the most efficient utilization of each areas' resources and talents are made. If such geographic specialization does not occur, then a nation, region, state, or city will be forced to devote some of its resources and energies to production of goods and/or services for which it is not well suited thus resulting in economic inefficiency and a lower standard of living for all concerned (Fedle 2003).

Transportation's role is critical but so accepted that it may be taken for granted. Consider a simple example, where area A specializes in producing widgets, then area A must rely on shipments from other areas for the things other than widgets that its population wants or needs. Area A must also depend on other areas to import the surplus of widgets that A will produce. If, however, there is no adequate transportation between A and the areas it wishes to trade with, or if the transportation charges are so high as to make the price for the various products involved too high, then trade between A and the other areas will not take place and geographic specialization by A will be impossible (Translund 2010).

The role of transportation in large-scale production is similar with geographic specialization in that the availability of an adequate transportation system is a requirement to sustain large-scale production. The benefits of large-scale production in terms of economies of scale, production efficiencies and lower prices are well-known. The United States has been the leading exponent of the principle of large-scale production. But large-scale production by a firm requires that raw materials, parts, and supplies be collected from a variety of sources and a large geographic market for the product(s) produced is accessible at reasonable cost. Therefore, adequate

transportation service at reasonable cost is indispensable to large-scale production (Supasansanee and Kasiphongphaisan, 2009).

Improvements in the transportation network are usually credited with having a positive effect on the value of the land that is adjacent to or served by the improvements. The principal factor is one of accessibility. If land is suddenly accessible to a new transportation facility, an airport for example, the value of the land will ordinarily increase because the land has been given greater access to economic markets and hence is more useful. The same can be said if land is already served by some form of transportation, and transportation access is improved, for example, when a new interstate highway interchange supplements a conventional two-lane highway, accessibility of the land has been increased and the time, effort, and, perhaps, the cost involved in getting to and from the land have been reduced. This greater accessibility should result in an increase in the value of the land (Creazza, Dallari and Melacini, 2010). Transportation facilitates geographic specialization, large-scale production and land accessibility by providing time and place utility thereby permitting diversely located sellers of the same product to compete in a given geographic market. Because goods can be transported anywhere in the country, transportation availability tends to prevent captive markets and local monopolies. The net effect is to keep prices lower than they would be if access to markets were restricted due to the unavailability of transportation services (Dadzie, 1998).

Warehousing and availability of services

In addition to the work methods, equipment and space requirements it is essential that the warehouse is adequately resourced. This is done by planning or estimating the requirements for people and equipment in order to operate the warehouse facility. The warehouse/inventory manager is responsible for monitoring the movement of goods as they are transported from the supplier and for the control of stock movement in the warehouse facility (Coyle, Bardi and Novack, 2000).

There is a trade-off to be made between the people and handling equipment requirements for any given workload. In global warehouse operations, which are run like commercial operations, the focus is on minimizing the cost of running the operation. In this situation, it is often better to invest in handling equipment and reduce the dependence on people resources (Jayaraman, 1998). Warehouse equipment is maintained to prevent accidents and breakdowns from occurring. Maintenance activities consist of inspections, regular servicing and monitoring performance for failure trends, as this will enable symptoms to be recognized before failure occurs (Mentzer 2001).

Equipment maintenance has a strong health and safety bias. Often health and safety legislation will impose on management an obligation for safe systems of work. Ensuring safe policies and procedures of work will require an examination of men, machinery, methods, materials and environmental aspects (Chow, Heaver and Henriksson, 1994). This is Facility or a group of facilities that perform consolidation, packaging, decomposition and other functions linked with handling freight. Their main purpose is to provide value-added services to freight, which is stored for relatively short periods of time (days or weeks). Delivery Centers are often in proximity to major transport routes or terminals. They can also perform light manufacturing activities such as assembly and labeling. A warehouse is a facility designed to store goods for longer periods of time (Li et al, 2006).

Since it would be highly impractical to ship directly goods from producers to retailers, distribution centers essentially act as a buffer where products are assembled, sometimes from other distribution centers, and then shipped in batches. Distribution centers are established in part to deal with different forms of asynchronisms in freight distribution such as different paces of production and consumption (Gunasekaran, Larson 2001). Distribution centers commonly have a market area in which they offer a service window defined by delivery frequency and response time to order. This structure looks much like a hub-and-spoke network. The wide array of

activities involved in logistics, from transportation to warehousing and management, has respective costs. Once compiled, they express the burden that logistics impose on distribution systems and the economies they support, which is known as the total logistics costs (Goh and Ang, 2000).

The nature and efficiency of distribution systems is strongly related to the nature of the economy in which they operate. Worldwide logistics expenditures represent about 10-15% of the total world GDP. In economies dependent on the extraction of raw materials, logistical costs are comparatively higher than for service economies since transport costs account for a larger share of the total added value of goods. For the transport of commodities, logistics costs are commonly in the range of 20 to 50% of their total costs. The emergence of logistics in contemporary supply chains is based upon continuous improvements in transport and inventory management costs, leading to lower cycle and lead times (Cho, Ozment and Sink, 2008).

Stock control and cost reduction

WFP has to establish levels of operating stocks based on consumption and rate of usage (Bhatnagar and Teo, 2009). The stock levels are reviewed from time to time depending on current needs, ensure that weekly and monthly stock balances reports of each stock item and the total value are prepared, maintain monthly stock usage report of each item kept in the store and the overall in the usage trend in last six months, review and report on six monthly basis slow moving items indicating the last movement date the unit value and total value and liaise with user department, establish quantity, lead -time and availability of each item supplied on the market (Bhatnagar and Teo, 2009).

The amount of time required from the receipt of an order to when this order is completed (assembled) and ready for delivery. Often labeled as the completion rate and is mostly linked with the function of production in the manufacturing sector. Often labeled as the level of responsiveness of production (Supasansanee and Kasiphongphaisan, 2009). The time it takes for an order to be fulfilled, which includes preparation, packing and delivery to a designed location.

Often labeled as the arrival rate and is mostly linked with the function of distribution, mainly its efficiency and reliability (Naslund and Williamson, 2010). Before the emergence of online purchases, customers were rarely exposed to the concepts of cycle times and lead times since goods were directly purchased at a store. The customer was seeing the outcome of cycle and lead times, but not the process. An online transaction, particularly if it concerns a complex and customizable good (e.g. a computer) commonly includes the time it takes for the order to be ready for shipment and the delivery time from the distribution center to the customer's address.

Driving Forces in supply chain management lean supply chains, as a managerial concept, is often labeled as seminal in the emergence of modern supply chains where inventory levels are kept at a minimum and where a large share of the inventory is in constant circulation. Typically the manufacturing sector has 6 to 8 inventory turns per year. In the electronics sector, this can even be more frequent with 10 to 20 inventory turns per year. During the 1980s, the application of flow control permitted to reduce inventories in time-sensitive manufacturing activities from several days' worth to several hours. Much of these efforts initially took place within the factory, while supply and output flowed as batches from suppliers and to distributors (Agrawal, Mehra and Siegel, 1998).

Materials management considers all the activities related in the manufacturing of commodities in all their stages of production along a supply chain. It includes production and marketing activities such as production planning, demand forecasting, purchasing and inventory management. Materials management must insure that the requirements of supply chains are met by dealing with a wide array of parts for assembly and raw materials, including packaging (for transport and retailing) and, ultimately, recycling discarded goods and commodities (Li et al, 2006).

The close integration of physical distribution and materials management through logistics is blurring the reciprocal relationship between the derived transport demand function of physical distribution and the induced demand function of materials management. This implies that distribution, as always, is derived from materials management activities (namely production), but also, that these activities are coordinated within distribution capabilities. The functions of production, distribution and consumption are difficult to consider separately, thus recognizing the integrated transport demand role of logistics. Distribution centers are the main facilities from which logistics are coordinated (Mentzer, 2001). It has been established that the role of inventory management is to ensure that stock is available to meet the needs of the beneficiaries as and when required. Inventory represents a large cost to the humanitarian supply chain. This is made up of the cost of the inventory itself, plus the cost of transporting the goods, cost of managing the goods (labor, fumigation, repackaging, etc) and keeping the goods in warehouses. The inventory manager's job is to make inventory available at the lowest possible cost (Tirschwell, 2008).

In order to achieve this, the inventory manager must ensure a balance between supply and demand by establishing minimum holding stocks to cover lead-times. To achieve this, the inventory manager must constantly liaise with the Programms to keep abreast of changing needs and priorities. The warehouse must always have sufficient stocks to cover the lead-time for replacement stocks to avoid stock-outs (Li et al, 2006). Note that EOQ in practice only works in a fairly stable environment where demand variability and replenishment lead-time are reasonably stable and predictable. This is not the case in an emergency. Economic order quantity is applicable in more stable environments such as refugee camps and perhaps later in a relief/recovery phase (Li et al, 2006). Inventory management in an emergency is more 'project based', matching supply with demand in a rapidly changing environment. This requires building

a supply chain that has a high level of flexibility and adaptability, with rapid identification of need and rapid fulfillment of that need through the supply chain.

In managing this sort of system, inventory should be considered in relatively small quantities (inventory packages of associated relief items) that are attached (pegged) to an identified need then moved (and tracked) through from source to the identified need (Mentzer, 2001). Optimization comes from having logistics systems that can configure, procure and consolidate these packages quickly and at least cost and a distribution chain that is flexible and can adapt to changing requirements quickly and at least cost. Information systems that facilitate transparency of the supply chains inventory levels and location + peg supply to demand provide the visibility necessary to facilitate good planning and decisions that maximize service and reduce cost (Chow, Heaver and Henriksson, 1994).

Theoretical Review

The theoretical review of this study has based on the transactional cost theory and theory of core competency.

Transactional Cost Theory

The transactional cost theory was developed in 1979 by Oliver Williamson while working on concepts that were first developed by (Koumanakos, 2008). The theory was first developed for accounting purposes but has been expanded to other fields. The basis of the transactional cost theory is the concept of transactional cost. A transactional cost has been defined as the cost incurred in making an economic exchange of some sort or the cost of participating in the market. This cost is divided into three components; search and information costs, bargaining costs, and policing and enforcement costs (Njeru & Ngugi, 2014). The search and information costs relates to the costs of examining on whether the required goods and services availability in the market as well as their prices. On the other hand, the bargaining costs involve the costs incurred in reaching an agreement between the seller and buyer such as legal costs of drawing contracts. Finally, the

policing and enforcement costs are costs of ensuring that the terms of the contract are adhered to by both parties (Driscoll, Halliday, & Stock, 2010).

The theory indicates that firms seek to minimize transactional costs of individual transactions that would take place between a buyer and seller in an open market. The theory seeks to explain the context in which it is beneficial to undertake a particular process within the firm and circumstances making it ideal to outsource a given process to outside firms (Maami, 2011). The theory of transaction cost economics also examines the boundaries between what is better performed within the firm and what should be outsourced. Within the context of transactional cost theory, procurement occurs as a result of need to acquire services and goods from external suppliers in the context that it is not economically viable to produce those goods in house. However, in the procurement of the services from external suppliers it is in the interest of the energy sector parastatals to reduce the transactional costs associated with the procurement.

The transactional cost theory is critical in context of operational performance and efficiency. The Transactional cost theory indicates that firms should endeavour to produce the goods through external suppliers in contexts where they it is not viable to produce them in house. This enables the energy sector parastatals to save on the lead times of procuring critical services and equipment that are required for the work to progress. The services provided by warehousing were also likely to be of higher quality especially where the organizations lack competent in house capacity.

Core Competency theory

The theory of core competency is attributed to Jack, Powers and Skinner (2010). The core competencies refer to the main strengths or strategic advantages that an organization including its combination of pooled knowledge and technical capacities that enable the organization to execute its mandates or objectives. The core competencies results from a specific set of skills or production techniques that deliver additional value to the customer. The theory indicates that all

the items that are non-core activities of the organization must be outsourced to the best suppliers unless such activities give the institution a competitive advantage Prahalad and Hamel (1980). Therefore, the firms should only retain in-house those set of activities that are core to their organization (Prahalad and Hamel (1980)). After reviewing the above theories, it is discovered that they all relevant to the study, however the theory of core competency is more applicable to the current study and thus chosen to guide the study due to its core activities such as transportation, warehousing and stock controls.

The conceptual framework

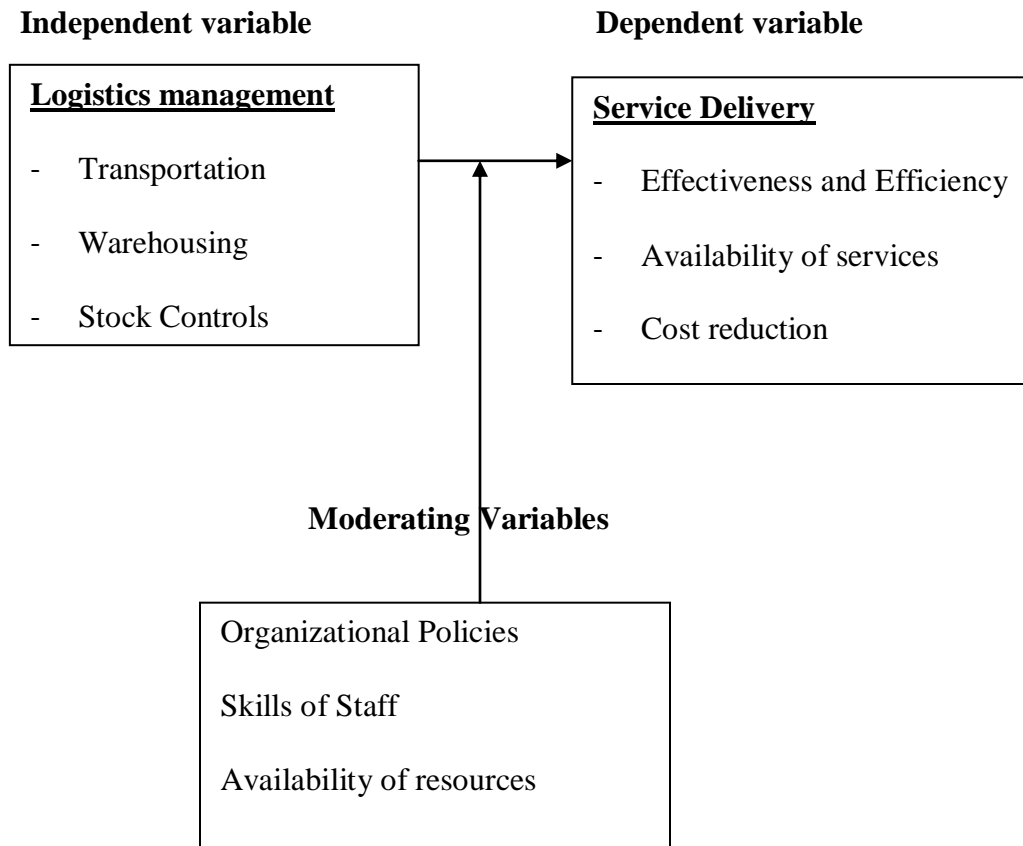


Figure 2.1: Conceptual framework

Source: Moderated by researcher from Bhatnager (2009).

The conceptual frame work above shows the relationship that exists between the variables and highlights the indicators for logistics management and service delivery as well as the intervening Variable. The independent variable (logistics management) is illustrated by Transportation, warehousing and stock controls. The dependent variable (service delivery) is also explained by effectiveness and efficiency, availability of services and cost reduction. These are moderated by organizational policies, skilled staff and availability of resources.

Gaps

The reviewed literature indicated that, close integration of physical distribution and stock management through logistics is changing the reciprocal relationship between the derived transport demand function of physical distribution and the induced demand function of services. This implies that distribution, as always, is derived from logistics management activities but also, that these activities are coordinated within the delivery capabilities which requires warehousing as shown in this study.

Conclusion

This chapter reviewed the literature on the logistics management and service delivery that noted more theories which needed to be used for identifying the methods carrying out the research under research methodology.

CHAPTER THREE : STUDY METHODOLOGY

Introduction

This chapter presented methodologies that were used in the study research and these include: research design, study population, sample size, sampling techniques, sources of data collection, data collection methods, data processing, analysis, and presentation, and the anticipated limitations.

Research Design

Research design is a plan used by researchers to collect data to fill gaps or to answer research questions. The research design of the study was divided into four sections that were; research approach, research strategy, research duration and research classification.

Research approach

A descriptive approach was used to explain the way people experience social phenomena regarding the work of WFP. It further focused on understanding why something is happening rather than being able to describe what is happening. This approach was further used because it yielded valuable data.

Research strategy

The study focused on the case study strategy. The case study approach refers to an in-depth study or investigation of a contemporary phenomenon using multiple sources of evidence within its real-life context. According to Yin (2003), case research is particularly useful when the phenomenon of interest is of a broad and complex nature and, hence, is best studied within the context in which it occurs. Yin (2003) also notes that using multiple cases is a powerful source of information. The study also adopted a cross-sectional research design because the researcher gathered data once over a period of time. It also base on a case study design where data was obtained from one organization. Using this research design, data was collected from more than one respondent in World Food Programm in Nalukolongo. The choice of this design is due to

the fact that it is cheap in terms of time and human resource as data was collected ,Johnson (1998).

Research classification

The researcher used both qualitative and quantitative methods of data collection and analysis so as to capture the details and adequate information. The use of both methods ensured that the data was effectively interpreted using the numbers, figures as well as the narrative.

Study Population

The population according to Joshua (1998) simply means the aggregate of persons from whom data to the study was collected. The study population comprised a total of 71 respondents including staff from World Food Programm in Nalukolongo. These included top management (2), accounts (2), suppliers (15), procurement (3), beneficiaries (25), supervisors (3), store keepers (10) and drivers (11).

Sample Size

The sample size comprised 60 respondents and this was determined by the Sloven's formulae for sample size determination as it is shown below.

$$n = \frac{N}{1 + N(e)^2}$$

Where, N is the target population,

n is the sample size

e, is the level of statistical significance which will be 0.05 for purpose of this study.

$$(e)^2 = 0.0025$$

For this case:

$$N = 71$$

$$n = \frac{71}{1+71(0.0025)}$$
$$\frac{71}{}$$

$$n = \frac{1+0.1775}{60}$$

In addition to the above formula, Sekaran (2003) contends that, a sample size larger than 30 but less than 500 is appropriate for most studies and this in agreement with the current study sample size. The sample size was 60 and the researcher opted for this sample size because it enabled him gather the required data and the distribution of the population and sample size is indicated in table 3.1:

Table 3.1 Sample Size and Sampling Techniques

Position/category	Population	Sample size	Sampling technique
Top management	2	2	Census
Accounts	2	2	Census
Suppliers	15	12	Simple random
Procurement	3	3	Census
Beneficiaries	25	22	Simple random
Supervisors	3	3	Census
Store keepers	10	8	Purposive
Drivers	11	8	Purposive
Total	71	60	

Source; Primary data (2018)

Sampling Techniques

The researcher was selected the sample size using census sampling technique.

Census Sampling

A census is a study of every unit, everyone or everything, in a population. It is known as a complete enumeration, which means a complete count (Joshua, 1998). When a population has been identified, a decision needs to be made and taking a census sample is a more suitable option. This method was used because it provides a true measure of the population (no sampling error). It also provided a benchmark data that may be obtained for future studies, and further

provides detailed information about small sub-groups within the population that would have been neglected.

Purposive sampling

This is the selecting of respondents with the aim of obtaining specific information (Creswell, 2005). In this method, the researcher targeted specific staff in World Food Programm. This was because such members have gathered relevant and adequate information about the operations and they were involved in the World Food Programm's activities and are therefore more knowledgeable about the topic. They acted as key informants and provided reliable information on the problem under study.

Simple Random sampling

Simple Random sampling involved organizing the units in the population into strata using common characteristics, in this way every person in the selected strata had an equal chance of being selected (Creswell, 2012).

Background of Respondents

The respondents' background considered gender, age, levels of education and period of stay at WFP and the findings are presented in the proceeding tables.

Gender of Respondents

Respondents were asked to state to state their gender and the result is contained in table 3.2.

Table3.2: Gender

Gender	Frequency	Percentage (%)
Female	20	33
Male	40	67
Total	60	100

Source: Primary data (2018)

The results from table 3.2 imply that, 40(67%) of the respondents were males and 20(33%) were females. Majority of the respondents were males and this implies that World Ford Programm employs more males than females. This is because males are more qualified and willing to work with World Ford Programm than females. In addition, males were willing to participate in the study compared to females.

Age of Respondents

Respondents were asked to state their age and the responses are contained in table 4.2.

Table3.3: Age of Respondents

Age	Frequency	Percentage (%)
18 -25 yrs	18	30
26 - 33 yrs	14	23
34 - 41 yrs	28	47
Above 42 years	0	0
Total	60	100

Source: Primary data

Findings in table 3.3 revealed that 18(30%) of the respondents were between 18 -25yrs, 14(23%) were between 26-33 years and the majority, 28(47%) were between 31 – 41 years and none were above 42 years. Findings have revealed that, all the respondents are above 18 years and this implies that World Ford Programm employs mature people and energetic since all them are below 42 years.

The Level of Education

Respondents were asked to state their education level and the responses are contained in table 3.4.

Table3.4: Level of Education

Education level	Frequency	Percentage (%)
PhD	-	-
Masters	4	7
Degree	14	23

Diploma	14	23
Certificate	28	47
Below certificate (UACE, UCE)	0	0
Total	60	100

Source: Primary data (2018)

Findings from table 3.4, 4(7%) had masters, 14(23%) were degree holders and 14(23%) were diploma holders, 28(47) were certificate holders. All the respondents had attained at least a certificate and this implies that World Ford Programm employs qualified and in addition to this the respondent would interpret and understand the questions that were sent to them and thus reliable data.

The Period of work with WFP

Respondents were asked to state to state Period worked and are stated in table 3.5 w.

Table3.5: Period Worked with the WFP

Age	Frequency	Percentage
Less than 1 year	02	7.7
1-5 Years	14	53.8
6 years and above	10	38.5
Total	26	100

Source: Primary data (2018)

Findings from the table 3.5 revealed that 2(3%) of the respondents were between less than 1yrs, 14(53.8%) were between 1 – 5 years and were the majority, 10(38.5%) were 6 yrs and above. Majority of the respondents had stayed in the World Ford Programm Nalukolongo for at least 1 year and this means that, they had gathered enough information about the topic under study therefore they gave valid data.

Data collection procedures

The researcher was given an official introductory letter from the university that was delivered to human resource department of World Food Programm. This enabled the researcher to officially conduct the study in the area under consideration. The researcher then proceeded to the field,

and the introductory letter was presented to respondents on request. The introductory letter thus helped the researcher to establish a strong relationship and confidence building with the respondents.

Data Sources

Primary data

Primary sources of data are works created at a time of an event, or by a person who directly experienced an event (Masembe, 2004). Primary data (2018) was obtained by use of questionnaires with both structured and open questions, interview guide, note books, pencils and pens to obtain relevant data.

Secondary Data

This is any published work that is one step removed from the original source (Masembe 2004), this was obtained from World Food Programme in Nalukolongo. Documents such as annual reports, information from the internet, journals and relevant books as well as publications.

Data Collection Methods

Data collection methods are integral part of research methodology. This study focused on survey methods to assess thoughts, opinions, and feelings of respondents concerning the role of logistics management on service delivery. During the survey, questionnaires, interviewing and document review methods were used to collect field data.

Questionnaire

According to Robson (2003), a questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents. The researcher used self administered structured questionnaire (Appendix I) to collect data from respondents. This instrument was administered to all valid respondents and it captured socio demographic characteristics of respondents, and their responses towards logistics management and service delivery. This instrument was used because it collected a lot of data in little time.

Interview

Structured interviews were used to collect data from the different stakeholders and these mainly comprised of respondents from management. Face to face interviews were conducted to enable the researcher establish what the respondents think about on the logistics management and service delivery.

Documentary Review

Document review is a way of collecting data by reviewing existing documents. Documents was hard copy or electronic and they included reports, performance ratings, meeting minutes and newsletters. Reviewing existing documents helped the researcher to understand the history, philosophy, and operation of WFP.

Data Collection Instruments

Data for this study was collected using the following instruments

Self Administered Questionnaires

A self administered questionnaire consists of a set of questions for submission to a number of persons or respondents in order to gather specific data about a given phenomenon or subject. This technique helped to collect primary data through a number of questions, which are given to a cross section of respondents and it constituted of closed ended questions. The close ended questions provided specific options for the respondent concerning logistics management and service delivery at WFP. With this instrument, large number of respondents was covered in a short period of time, at relatively lower cost and the result of the questionnaires were easily quantified by the researcher and it was designed on Likert scale.

Interview Guide

According to Kaplan and Saccuzzo (2009) in interview information was obtained through inquiry and recorded, this was done after the researcher had made an appointment with respondents. The researcher used the assistants especially those who are well conversant with the research language and who are so influential in the area to arrange and conduct these interviews. At the end of the day, the researcher obtained not only verbal but also non verbal information.

Documentary Review Checklist

The document checklist helped the research analyze the information contained in various reports, Journals pertaining logistics management and service delivery.

Reliability and Validity of Research Instruments

According to Gronross (2007), the validity of a measure refers to whether it actually measures what it claims to measure. Validity of instruments was ascertained by discussing the questionnaire draft with the supervisor. To ensure that, these questionnaires as data collection instruments were valid, they were pre-tested in WFP using a reasonable number of respondents (20) who had knowledge about Logistics management and Service delivery. The supervisor and

other experts in the field were consulted about the content validity of instruments, ambiguity of question items and their relevancy. Amogor, (2000) states that validity is the appropriateness of the instrument. Okech (2000) in support to Amin holds that validity of an instrument is the ability of the instrument to collect justifiable and truthful data; that is, measuring what it is developed to measure. The instruments were given to ratters who rated the relevancy of each item and a content validity index (CVI) was computed using the following formula:

$$CVI = \frac{R}{R+N+IR}$$

Where

CVI = content validity index; R= Total number of items rated as relevantly N = Total number of items rated as Neutral; and IR= Total number of questions rated as irrelevant

So using the formula above, the researcher calculated the content validity index for the questionnaire as follows; the results of the CVI are shown in table 3.6.

Table 3.6: Showing the Content Validity Index of the study variables

Variable	Number of items judged relevant (R)	Number of Neutral items (N)	Number of irrelevant Items (IR)	CVI
Transportation	6	2	2	0.6
Warehousing	7	2	1	0.7
Stock controls	8	-	2	0.8
Average				0.7

Source: Primary data (2018)

The computed CVIs were above the 0.5 or 50% threshold postulated by Okech (2000) and an average of 0.7 is also above 0.5 and this implies that the tools that were used in data collection were valid.

Reliability is the consistence of the measurement where by the results were not changed every time when testing is done in the same way with the same object. Therefore a measure was considered reliable because the person's score on the same test is similar. On the reliability issue,

at least 10% of the questionnaires were selected randomly in order to evaluate the data collected, and then any possible amendment was made. Cronbach's alpha coefficient was used to test for the reliability of the questionnaire using formula;

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum \sigma_k^2}{\sigma^2} \right)$$

Where

$\sum \sigma_k^2$ = the sum of the variances of the k parts (usually items) of the test.

σ = standard deviation of the test (items in the instrument).

α = Cronbach's alpha coefficient.

The results obtained were as follows;

Table 3.7: Reliability analysis

Variable	Number of questions	Cronbach's alpha coefficient
Transportation	8	0.91
Warehousing	7	0.80
Stock controls	6	0.78

Sources: from primary data reliability test (2018)

Table 3.7 shows the alpha values of 0.91 for Transportation, 0.80 for Warehousing and 0.78 for Stock controls which were higher than 0.60 recommended for social research by Oketch (2000), thus suggesting that all the items used to measure each variable were consistent in measuring the reliability. Table 3.7 reveals that, all the variables have Alpha Values which are above 0.6 marks, and therefore all the variables in the instrument are deemed reliable.

Data Processing and Analysis

Data Processing

According to Oketch (2000) data processing is the collection and manipulation of items of data to produce meaningful information. For case of reporting and interpretation, the data obtained was checked, edited, coded and arranged into frequency tables and figures for validation before processing for the presentation of the findings. The questionnaire data was converted into

numbers for each of value and the analysis that only accepts numerical data was used, frequencies and percentages were used to process data.

Data analysis

The data was analyzed using the inferential statistics with the aid of statistical Package for Social Science (SPSS) which besides being user friendly, was appropriate for handling standard deviation, inferential statistical models like correlations and regression were used to measure the relationship between logistics management and service delivery at WFP.

Ethical considerations

The nature of this research study indicates the existence of some potential ethical problems in the areas that was related to the confidentiality, disclosures, avoidance of false or deceptive statements, institutional approval, informed consent to research inducements for research participation and reporting of research results. All responsible precautions were taken regarding the collection of both primary and secondary data and reporting of the results. In addition, the study focused on the limits of the confidentiality pursuant to an ethical code of conduct that made every attempt to keep private and confidential identities of all the respondents. As a result, the researcher stated in all instruments (questionnaire and interview guide) that all information that was provided by the respondents was for research purposes only, and was treated with strict confidence. Clearance was sought from the university where a letter was provided from the Dean of School of Business Administration, and the ethical form (Appendix III), while consent of the respondents was also sought from them before administering the questionnaires and interview guide.

Limitations to the study

Secrecy

The study area is perceived as sensitive by many respondents because it involved matters of secret information that could not be revealed. This was overcome by assuring the respondents of their anonymity and proving to them that the study was strictly for academic purposes.

Financial constraint

Financial constraint was a problem since the researcher was the sole contributor to the research in terms of money for printing, typing, and binding of the final work. To overcome this, the researcher made an effort to utilise the little money at hand.

Time

Time was another limitation which rose due to the restricted deadlines for submission. However, proper time allocation was taken seriously to keep within the boundaries of the deadline that are set.

Conclusion

Having finalized with the study literature and methodology, there is a need to go to the field to conduct field research and analyze data for the final dissertation, which was presented in the subsequent chapters as per University's guidelines.

CHAPTER FOUR: TRANSPORTATION ENSURES EFFECTIVENESS AND EFFICIENCY AT WFP

Introduction

The objective one of the study was to find out the contribution of transportation to effectiveness and efficiency in WFP. Many questions were set to respondents and the results are presented in the proceeding tables.

Air transport makes service delivery reliable

Respondents were asked whether air transport makes service delivery reliable and the responses are contained in the table 4.1.

Table 4.1: Air transport makes service delivery reliable

Response	Frequency	Percentage
Strongly Agree	14	23.4
Agree	18	30
Disagree	0	0
Not sure	0	0
Strongly disagree	28	46.6
Total	60	100

Source: Primary data (2018)

From the table 4.1, 14(23.4%) strongly agreed, 18(30%) agreed, 0(0%) were not sure and none disagreed 28(46.6) strongly disagree. Majority of the respondents agreed and this implies that Air transport makes service delivery reliable in WFP.

Road transport leads to time delivery of services

Respondents were asked how road transport leads to time delivery of services and the responses are contained in the table 4.2.

Table 4.2: Road transport leads to time delivery of services

Response	Frequency	Percentage
Strongly agree	30	50

Agree	0	0
Not sure	10	20
Disagree	0	0
Strongly disagree	20	30
Total	60	100

Source: Primary data (2018)

From table 4.2, 30(50%) strongly agreed, 10(16.7%) were not sure and none disagreed 20(33.3%) strongly disagree. Majority of the respondents agreed and this indicates that road transport leads to time delivery of services in World food Programm.

Railway transport adds value to service delivery

Respondents were asked to state how railway transport adds value in service delivery and the responses are contained in table 4.3.

Table 4.3: Railway transport adds value in service delivery

Response	Frequency	Percentage
Strongly agree	14	23.4
Agree	18	30
Not sure	0	0
Disagree	0	0
Strongly disagree	28	46.6
Total	60	100

Source: Primary data (2018)

From table 4.3, 14(23.4%) strongly agreed, 18(30%) agreed, 0(0%) were not sure and none disagreed 28(46.6) strongly disagree. Majority of the respondents agreed and this implies that railway transport adds value to service delivery.

Transport eliminates service delivery complexities

Respondents were asked to state how Transport criminates service delivery complexities and the responses are contained in table 4.4.

Table 4.4: Transport eliminates service delivery complexities

Response	Frequency	Percentage
Strongly agree	14	23.4
Agree	18	30
Not sure	0	0
Disagree	0	0
Strongly disagree	28	46.6
Total	60	100

Source: Primary data (2018)

From table 4.4, 14(23.4%) strongly agreed, 18(30%) agreed, 0(0%) were not sure and none disagreed 28(46.6) strongly disagree. Majority of the respondents agreed and this implies transport eliminates service delivery complexities.

Air transport eases the distribution of goods and services

Respondents were asked whether air transport eases the distribution of goods and services and the burden and the responses are contained in table 4.5.

Table 4.5: Air transport eases the distribution of goods and services

Response	Frequency	Percentage
Strongly agree	24	40
Agree	18	30
Not sure	0	0
Disagree	0	0
Strongly disagree	18	30
Total	60	100

Source: Primary data (2018)

From table 4.5, 24(40%) strongly agreed, 18(30%) agreed, 0(0%) were not sure and none disagreed 18(30) strongly disagree. Majority of the respondents agree and this means that Air transport eases the distribution of goods and services.

Air makes service delivery flexible

Respondents were asked to state to state how Air makes service delivery flexible and the responses are contained in table 4.6.

Table 4.6: Air transport makes service delivery flexible

Response	Frequency	Percentage
Strongly agree	14	23.4
Agree	18	30
Not sure	0	0
Disagree	0	0
Strongly disagree	28	46.6
Total	60	100

Source: Primary data (2018)

From table 4.6, 14(23.4%) strongly agreed, 18(30%) agreed, 0(0%) were not sure and none disagreed 28(46.6) strongly disagree majority of the respondents agreed that Air transport makes service delivery flexible.

Hypotheses Testing

The study tested whether there is a significant relationship between transportation and Effectiveness and efficiency.

The reviewed literature on objective one suggested a positive relationship between transportation and Effectiveness and efficiency. In order to confirm the nature of relationship a correlation, regression, Anova and coefficients analyses were performed. The results are summarized in table 4.7 through 4.10:

Table 4.7: Correlation Analysis matrix

	Transportation	Effectiveness and efficiency
Pearson		
Correlation	1	.333*
Sig. (2-tailed)		.037
N	60	60

	Pearson		
Effectiveness and efficiency	and Correlation	.227*	1
	Sig. (2-tailed)	.026	
	N	60	60

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

The correlation coefficient result revealed a positive significant relationship between transportation and effectiveness and efficiency ($r=0.333^*$, $p<0.05$). This result supports the hypotheses raised in line with objective one that there is significant relationship between transportation and effectiveness and efficiency in WFP.

Regression Analysis

Regression analysis result was generated to establish the extent to which transportation ensures Effectiveness and efficiency at WFP. A linear regression analysis was performed on the two variables and the results are presented in table 4.8:

Table 4.8: Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758a	.575	.532	.1882

a. Predictors: (Constant), Effectiveness and efficiency

Findings in the regression model summarized in table 4.8 indicate that transportation contributes up to 53% of the variance of Effectiveness and efficiency. (Adjusted R Square= 0. 53.2). This implies that transportation if advanced and implemented has the capacity to strongly influence the effectiveness and efficiency at WFP.

Table 4.9: ANOVA Test Result

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.228	48	3.091	21.366	.000b
	Residual	9.360	12	.070		
	Total	16.588	60			

a. Dependent Variable: Transportation

b. Predictors: (Constant), Effectiveness and efficiency.

According to ANOVA test results in table 4.9, it was revealed that transportation is significant in enhancing Effectiveness and efficiency ($F=21.366$).

Table54.10: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.111	.883		3.078	.040
Transportation	.638	.334	.337	3.349	.026

a. **Dependent Variable: Effectiveness and efficiency**

According to table 4.10, it is proved that transportation significantly influence effectiveness and efficiency which is established as (Beta value=0.337, $t=3.349$, $P<0.026$). Transportation is believed to cause positive change that improves the overall effectiveness and efficiency at WFP.

CHAPTER FIVE: WAREHOUSING AND AVAILABILITY OF SERVICES

Introduction

This chapter presents results about warehousing and availability of services at WFP Nalukologo. Many questions were put forward to respondents and the results are presented in the proceeding tables.

Receipts and issues when posted correctly help in monitoring service delivery

Respondents were asked to state whether receipts and issues when posted correctly help in monitoring service delivery and the responses are contained in table 5.1.

Table 5.1: Receipts and issue when posted correctly helps in monitoring service delivery

Response	Frequency	Percentage
Strongly agree	26	44
Agree	20	33
Not sure	0	0
Disagree	8	13
Strongly disagree	6	10
Total	60	100

Source: Primary data (2018)

From table 5.1, 26(44%) strongly agreed, 20(33%) agreed, 8(13%) disagreed whereas 6(10%) strongly disagreed. The majority of the respondents agreed and this implies that receipts and issue when posted correctly helps in monitoring service delivery.

Proper material classification provides safety of goods and services

Respondents were asked to state how proper material classification provides safety of goods and services and the responses are contained in table 5.2.

Table 5.2: Proper material classification provides safety of goods and services

Response	Frequency	Percentage
Strongly agree	30	50

Agree	10	17
Not sure	4	7
Disagree	16	26
Strongly disagree	0	0
Total	60	100

Source: Primary data (2018)

From table 5.2, 30(50%) strongly agreed, 10(17%) agreed, those who were not sure were presented by 4(7%), 16(26%) disagreed. The majority of the respondents agreed and this implies Proper material classification provides safety of goods and services.

Use of Bin card improves transparency

Respondents were asked to state whether use of bin card improves transparency and is contained in the table 5.3.

Table 5.3: Use of bin card improves transparency

Response	Frequency	Percentage
Strongly agree	14	23.4
Agree	18	30
Not sure	0	0
Disagree	28	46.6
Strongly disagree	0	0
Total	60	100

Source: Primary data (2018)

From table 5.3, 14(23.4%) strongly agreed, 18(30%) agreed, those who were not sure were presented by 0(0%), 16(12.9%) disagreed whereas 28(46.61%) strongly disagreed. The majority of the respondents agreed and this implies that use of bin card improves transparency.

Good turnover of inventory makes goods and services available at the time of need

Respondents were asked to state whether there is good turnover of inventory makes goods and services available at the time of need and the responses are contained in table 5.4.

Table 5.4. Good turnover of inventory makes goods and services available at the time of need

Response	Frequency	Percentage
Strongly agree	24	40
Agree	14	23
Not sure	2	3
Disagree	12	20
Strongly disagree	8	13
Total	60	100

Source: Primary data (2018)

From table 5.4, 12(40%) strongly agreed, 07(23%) agreed, those who were not sure were presented by 1(3%), 6(20%) disagreed whereas 4(13%) strongly disagreed. The majority of the respondents agreed and this implies that good turnover of inventory makes goods and services available at the time of need.

Material verification eases the process of clearing and forwarding

Respondents were asked to state whether material verification eases the process of clearing and forwarding and their responses are contained in table 5.5.

Table 5.5: Material verification cases the process of clearing and forwarding

Response	Frequency	Percentage
Strongly agree	10	17
Agree	22	37
Not sure	14	23
Disagree	6	10
Strongly disagree	8	13
Total	60	100

Source: Primary data (2018)

From table 5.5, 10(17%) strongly agreed, 22(37%) agreed, those who were not sure were presented by 14(23%), 6(10%) disagreed whereas 8(13%) strongly disagreed. The majority of the respondents agreed and this implies that material verification cases the process of clearing and forwarding.

Material codification helps to deliver quality services

Respondents were asked to state whether material codification helps to deliver quality of service and forwarding and their responses are contained in table 5.6.

Table 5.6: Material codification helps to deliver quality services

Response	Frequency	Percentage
Strongly agree	14	23.4
Agree	18	30
Not sure	0	0
Disagree	28	46.6
Strongly disagree	0	0
Total	60	100

Source: Primary data (2018)

From table 5.6, 14(23.4%) strongly agreed, 18(30%) agreed, those who were not sure were presented by 0(0%), 16(12.9%) disagreed whereas 28(46.61%) strongly disagreed. The majority of the respondents agreed and this implies that material codification helps to deliver quality of service.

Hypotheses testing

The study tested whether there was significant relationship between warehousing and availability of services at WFP. In order to establish the nature of relationship between warehousing and availability of service sat WFP, inferential statistical analyses were performed to establish the correlation, regression, ANOVA and Coefficients. The results are presented in the tables 5.8 through 11.

Correlation Analysis

Table 5.8 Correlation Analysis Matrix

		Warehousing	Availability of services
Warehousing	Pearson Correlation	1	0.380**
	Sig. (2-tailed)		.000
	N	60	60
Availability of services	Pearson Correlation	0.380**	1
	Sig. (2-tailed)	.000	
	N	60	60

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

The correlation results in table 5.8 revealed a positive significant relationship between warehousing and availability of services($r = 0.380$, $p < 0.05$). This implies that when goods are kept near the beneficiaries, they are supplied immediately when a need arises. The correlation of

($r=0.380$) is an indication that once warehousing is improved will automatically increase the availability of services.

Regression Analysis

The regression analysis test was performed to establish the degree of warehousing have on availability of services at WFP. The findings are summarized in the model summary under table 5.9.

Table 5.9 Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.470a	.221	.200	.6407

a. Predictors: (Constant), Warehousing

The results in table 5.9 showed that warehousing contributes 20% to availability of services (Adjusted R Square=0.200) and this means that, the remaining percentage is contributed by other factors. This finding suggests that well designed and implemented warehousing has the capacity to increase the availability of services at WFP.

Table 5.10 ANOVA Test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.603	50	5.603	17.327	.000b
	Residual	66.049	10	.288		
	Total	71.653	60			

a. **Dependent Variable: availability of services**

b. **Predictors: (Constant), Warehousing**

According to the ANOVA test results in the table 5.10, it was revealed that warehousing significantly enhances availability of services ($F=17.327$, $P<0.05$). This implies that there is a significant relationship between warehousing and availability of services at WFP.

Table 5.11 Coefficients

Model	Unstandardized		Standardized	t	Sig.	
	Coefficients		Coefficients			
	B	Std. Error	Beta			
1	(Constant)	7.112	.389		18.291	.000
	Warehousing	.430	.098	.280	4.408	.000

a. Dependent Variable: Availability of services

According to table 5.11, it is confirmed that warehousing significantly influence Availability of services which is established as (Beta value=0.280, $t=4.408$, $P<0.05$). Warehousing is believed to cause positive change in the way the organization makes services available at the time of need.

CHAPTER SIX : STOCK CONTROLS ENSURES COST REDUCTION

This chapter presents finding on how stock controls ensures cost reduction and the results are presented in the proceeding tables.

Maintaining maximum stock levels reduce stocking costs

Respondents were asked to state the maximum stock levels reduce stocking costs and the responses are contained in table 6.1.

Table 6.1: Maintaining maximum stock levels reduce stocking costs

Response	Frequency	Percentage
Strongly agree	14	23.4
Agree	18	30
Not sure	0	0
Disagree	28	46.6
Strongly disagree	0	0
Total	60	100

Source: Primary data (2018)

From table 6.1, 14(23.4%) strongly agreed, 18(30%) agreed, those who were not sure were presented by 0(0%), 16(12.9%) disagreed whereas 28(46.61%) strongly disagreed. The majority of the respondents agreed and this implies that maximum stock levels reduce stocking costs in logistics management and this leads to better Service delivery in World food Programm. .

Re-order stock level helps to place orders accurately

Respondents were asked to state whether the re-order stock level helps to place orders accurately and the responses are presented in table 6.2.

Table 6.2: Re-order stock level helps to place orders accurately

Response	Frequency	Percentage
Strongly agree	26	40

Agree	6	10
Not sure	0	0
Disagree	28	46.6
Strongly disagree	0	0
Total	60	100

Source: Primary data (2018)

From table 4.7 above, 26(40%) strongly agreed, 6(10%) agreed, those who were not sure were presented by 0(0%), 16(12.9%) disagreed whereas 28(46.61%) strongly disagreed. The majority of the respondents agreed and this implies that re-order stock level helps to place orders accurately and thus improving service delivery in WFP.

Lead time guides the creation of reports

Respondents were asked to state whether lead time guides the creation of reports and the responses are contained in table 6.3.

Table 6.3: Lead time guides the creation of reports

Response	Frequency	Percentage
Strongly agree	20	30
Agree	22	40
Not sure	18	30
Disagree	0	0
Strongly Disagree	0	0
Total	60	100

Source: Primary data (2018)

From the table 6.3, 20(30%) strongly agreed, 22(40%) agreed, 18(30%) were not sure. Majority of the respondents agreed with the statement and this implies lead time guides the creation of reports in WFP.

Maximum stock levels help to manage unproductive inventory

The respondents were the maximum stock levels help to manage unproductive inventory and the responses are contained in table 6.4.

Table 6.4: Maximum stock levels help to manage unproductive inventory

Response	Frequency	Percentage
Strongly agree	8	10
Agree	18	30
Not sure	12	20
Disagree	6	9
Strongly disagree	16	30
Total	60	100

Source: Primary data (2018)

From the table 6.4, 8(10%) strongly agreed, 18(30%) agreed, 12(20%) were not sure 16(30%) strongly disagreed. The majority of respondents agreed and this implies that managing maximum stock levels helps to manage unproductive inventory

Minimum stock levels makes beneficiaries get services they want

Respondents were asked to state whether minimum stock levels makes beneficiaries get services they want and the responses are contained in table 6.5.

Table 6.5: Minimum stock levels makes beneficiaries get services they want

Response	Frequency	Percentage
Strongly agree	14	23.4
Agree	18	30
Not sure	0	0
Disagree	28	46.6
Strongly disagree	0	0
Total	30	100

Source: Primary data (2018)

From table 6.5, 28(23.4%) strongly agreed, 18(30%) agreed, those who were not sure were presented by 0(0%), 16(12.9%) disagreed whereas 14(46.61%) strongly disagreed. The majority of the respondents agreed and this implies that minimum stock levels makes clients get services they want from in WFP.

Safety stock provides service delivery visibility

Respondents were asked to state whether safety stock provides service delivery visibility and the responses are contained in table 6.6.

Table 6.6: Safety stock provides service delivery visibility

Response	Frequency	Percentage
Strongly agree	18	30
Agree	14	23
Not sure	0	0
Disagree	28	47
Strongly disagree	0	0
Total	60	100

Source: Primary data (2018)

From table 6.6, 14(23.4%) strongly agreed, 18(30%) agreed, those who were not sure were presented by 0(0%), 16(12.9%) disagreed whereas 28(46.61%) strongly disagreed. The majority of the respondents agreed and this implies that Safety stock provides service delivery visibility

Official authorization promotes accountability

Respondents were asked to state whether official authorization promotes accountability and the responses are contained in table 6.7.

Table 6.7: Official authorization promotes accountability

Response	Frequency	Percentage
Strongly agree	28	47
Agree	14	23
Not sure	12	20
Disagree	6	10
Strongly Disagree	0	0

Total	60	100
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Source: Primary data (2018)

From table 6.7, 14(47%) strongly agreed, 07(23%) agreed, 09(30%) were not sure and 3(10%) disagreed. Majority of the respondents agreed and this implies that official authorization promotes accountability in WFP Nalukolongo.

Hypotheses Testing

The study tested whether there is a significant relationship between stock controls and cost reduction at WFP.

In order to examine the nature of relationship between stock controls and cost reduction, correlation, regression, Anova and coefficients tests were performed. The results are summarized in tables 6.8 through 6.11.

Table 6.8 Correlation Analysis Matrix

		Stock controls	Cost reduction
Stock controls	Pearson Correlation	1	0.754**
	Sig. (2-tailed)		0.000
	N	60	60
Cost reduction	Pearson Correlation	0.754**	1
	Sig. (2-tailed)	0.000	
	N	60	60

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

The correlation results in table 6.8 revealed a positive significant relationship between stock controls and cost reduction ($r = 0.754^{**}$, $p < 0.05$). This implies that via stock controls, WFP have the capacity to improve on cost reduction at WFP. The study through interviews with respondents revealed that stock controls avoids over stocking which reduces the storage cost. This is in line with Bonn and Forbringer (1992) who states that stock controls is part of inventory management which is a tool for cost reduction in any organization. Therefore, it can be suggested that utilizing stock controls results into cost reduction.

Regression Analysis

Regression analysis was performed in order to establish the extent to which stock controls explains the degree of variance in cost reduction. The result obtained is presented in the model summary table 6.9:

Table 6.9 Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
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1	0.88a	0.774	0.770	0.6881
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a. **Predictors: (Constant), Stock controls**

The regression analysis result in table 6.9 revealed that stock controls contributes up to 77% towards cost reduction in WFP (Adjusted R square= 0.770, SEE = 0.6881). This means the remaining percentage (23%) is contributed by other factors. It also implies that when stock controls are utilized, cost reduction will also be achieved.

ANOVA Analysis

ANOVA analysis was performed to test the hypotheses that Stock controls significantly relate with Cost reduction. The results are summarized in table 6.10.

Table 6.10: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	28.499	14	28.499	124.812	0.000b
1 Residual	21.691	46	0.228		
Total	50.190	60			

a. Dependent Variable: Cost reduction

b. Predictors: (Constant), Stock controls

According to the ANOVA test results in the table 6.10, it is revealed that Stock controls significantly enhances cost reduction (F=124.81, MS<0.05). This implies that best practices towards stock controls have the capacity of improving cost reduction at WFP.

Table 6.11 Coefficient Test Result

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	0.190	0.287		0.663	0.509
	Stock controls	0.838	0.075	0.854	11.172	0.000

a. **Dependent Variable: Cost reduction**

In table 6.11, the coefficient test result show that stock controls significantly improves cost reduction as reflected with beta value=0.854, t=0.663, P<0.05). This implies that the implementation of stock controls will have a positive impact on cost reduction at WFP.

Qualitative analysis

The respondents through interviews told the researcher that, transportation, or the movement of goods from any value-adding location to help in the quick delivery of services in WFP.

The drivers and transportation managers in WFP told the researcher that “transportation helps in delivering food to those who need it such as refuges in camps from remote areas”.

Stores managers and keepers especially those who have worked in the organization for more than one year indicated that warehousing is essential for keeping goods especially beverages closer to the beneficiaries.

The study through interviews with respondents found that, WFP does not have its own transportation facilities such as air and water transport facilities and this hinders the delivery of services to the beneficiaries.

The welfare officer of WFP told the researcher that, “warehousing is necessary and appropriate mostly for the delivery of drinks such as water as it can and need to be stored for periods of time and closer to the beneficiaries”

CHAPTER SEVEN: TOWARDS HARMONIZATION OF LOGISTICS MANAGEMENT AND SERVICE DELIVERY

Logistics management

The study found out that, logistics management encompasses all of the information and material flows throughout an organization. It includes everything from the movement of a product or from a service that needs to be rendered, through to the storing of goods and services up to its delivery to the beneficiaries. According to (Gunasekaran, and Larson (2001) the operation of organizations that provides so much value to beneficiaries and ultimately to the organization logistics management is an often over looked aspect of service delivery in the whole world.

Service delivery

Service delivery refers to the extension of quality products and services to the clients, (Nigel, (2006) at the end of it all, beneficiaries appreciate when the services provided when they meet or exceed their expectations.

Transportation and effectiveness and efficiency

The study found out that transportation provides a reliable service that reduces supply chain uncertainty. It plays a central role in seamless supply chain operations. The study found out that transportation of logistics eases the distribution of goods and services, makes service delivery efficient and effective. This is in line with (Jayaraman (1998), who argues that, transportation has been recognized for many years as one of the most important activities in logistics. It is a factor in the creation of time utility because it reflects on timeliness and consistency of products and services moving from one location to another.

However, *the transportation officer of WFP told the researcher that “they always get challenges with air transport due to the fact that its management is complex since it involves a plurality of players, each with specific features and requirements”.* The management of WFP said that air

transport includes structured third party logistics service providers, small transportation companies, couriers and express couriers, rail and sea carriers, dispatchers, multi-modal transport operators as well as port and inter-modal terminal infrastructures.

Findings in the regression model summarized in table 4.8 indicate that, transportation contributes up to 53% of the variance of Effectiveness and efficiency, (Adjusted R Square= 0. 575). This implies that transportation if advanced and implemented has the capacity to strongly influence the effectiveness and efficiency at WFP. Also To and Leung (2001), in the conclusion to a study on the storage facilities and service quality, mention that conventional warehousing facilities makes goods available when needed.

Warehousing and availability of services

The study discovered that warehousing is an integral part of every logistics system, it is a primary link between services providers like World Food Programm and the beneficiaries such as refugees. Respondents from the field help WFP in storing and retrieving product somewhere between the suppliers and beneficiaries.

Further, the study found out that warehousing provides the inventory item's status, condition and disposition to management and this findings are supported by (Gunasekaran Marri and Mencl,1999) a who argues that the important considerations of warehousing in logistics systems are economies of scale, costs and availability of services.

The study also through interviews with respondents revealed that the major functions of warehousing in WFP is receiving, transferring, order selection, shipping, storage and information transfer that links all activities taking place in the logistics management process that aims at improving service delivery.

This is supported by Faber Koster and Velde (2002) who stated that, in order to make services available time there must be warehousing facilities must in place. However, Tim (1999) disagreed by saying that warehousing deals with size and location, layout, design and equipment

set up of facilities which are all imperative considerations with significant impacts on a company's ability to satisfy customers and make profit not service availability and service delivery.

The correlation results revealed a positive significant relationship between warehousing and availability of services. This implies that when goods are kept near the beneficiaries, they are supplied immediately when need arises. The correlation of $r=0.380$ is an indication that once warehousing is improved it will automatically increase the availability of services delivery.

Stock controls and cost reduction

The study found out that good inventory management minimizes the wastage of many resources including materials, storage space, management and costs. The study revealed that stock control techniques that are used improve service delivery in WFP include: Official authorization, Lead time and Re-order stock level. These help to make sure that services required by clients are available in time and they are handled by the right people to serve the required purpose. This is supported by Williams and Tokar (2008) believe that effective inventory controls helps to improve balances supply and demand. Tokar (2008) argues that controlling stocks help the organization to minimize the unnecessary cost. This is because it helps the organization to keep a safe stock level determined by the demand during the ordering cycle and this is in line with Robson (2003) who states that minimizing the numbers of cancelled orders; avoiding periodic shortages of storage space and inventory items; and controlling variance in stock helps the organization to cut the operating costs.

The regression analysis result in table 6.9 revealed that stock controls contributes up to 77% towards cost reduction in WFP (Adjusted R square= 0.770, SEE = 0.6881). This means the remaining 23% is contributed by other factors such as availability of funds. It also implies that when stock controls are utilized, cost reduction will also be achieved. These results are supported by Birk (2008) whose results indicated Adjusted R square = 0.78 and stated that effective and

comprehensive stock controls help organizations to utilize their valuable resources and minimize the over all cost and thus improving its service delivery.

The procurement officer of WFP told the researcher that, “by implementing controls provides accurate and useful information that help organisations to consistently and persistently manage their cost structures while achieving better service delivery”.

Relationship between Logistics management and Service delivery at WFP

The main hypotheses that the current study set out to test was the relationship between logistics management and Service delivery at WFP. In order to establish this, correlation, regression, ANOVA and Coefficients analysis for the three objectives were performed on the collected data. The regression coefficients of the three objectives represented by adjusted R^2 and the average was considered in order to reach on the conclusion.

The adjusted R² for each objective is presented as below:

Transportation and effectiveness and efficiency	=	0.575
Warehousing and availability of services	=	0.200
Stock controls and cost reduction	=	0.770
The average	=	$\frac{0.575+0.200+0.770}{3}$
		= 0.515 or 52%

Since the average results are positive this implies that, there is a positive significance relationship between logistics management and service delivery at WFP. The average results of adjusted R² of 52% also means that a unit increase in logistics management, leads to 52% increase on service delivery at WFP. However, other factors like availability of funds contribute to 48% that is why some of the respondents disagreed to some of the set questions.

CHAPTER EIGHT : SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the summary discussions, conclusion and recommendations of the findings. The summary focuses on the findings in relation to objectives of the study that it intends to achieve, the summary is followed by the conclusion which is also based on the findings of the study and lastly the recommendations to improve on logistics management and service delivery in World Food.

Summary

The summary of findings is presented in accordance with study objectives, the agree or disagree rate is obtained by adding the strongly agree to agree or adding strongly disagree and disagree.

Stock Controls and cost reduction

As reflected in chapter four most respondents indicated that Maximum stock levels reduce stocking costs (basing on 53.4% agree rate), Re-order stock level helps to place orders accurately (basing on 53% agree rate), Lead time guides the creation of reports (basing on 70% agree rate), Safety stock provides service delivery visibility (basing on 53% agree rate), Official authorization promotes accountability (basing on 70% agree rate).

Transportation to effectiveness and efficiency

As reflected in chapter four most respondents indicated that Air transport makes service delivery effectiveness (basing on 53.4% agree rate), road transport makes service delivery efficiency (basing on 70% agree rate), Railway transport adds value to service delivery (basing on 53% agree rate), transport eliminates service delivery complexities (basing on 54% agree rate), Air transport eases the distribution of goods and services (basing on 70% agree rate) air makes service delivery flexible (basing on 53% agree rate).

Warehousing and availability of services

As presented in chapter four, most respondents indicated that receipts and issues when posted correctly help in monitoring service delivery (basing on 77% agree rate) proper material classification provides safety of goods and services (basing on 67% agree rate), use of Bin card improves transparency (basing on 53% agree rate), Good turnover of inventory makes goods and services available at the time of need (basing on 63% agree rate), Material verification eases the process of clearing and forwarding (basing on 54% agree rate), Material codification helps to deliver quality services (basing on 55% agree rate).

Conclusions

The study analyzed the three factors (transportation, warehousing and stock controls) that have been determined to be the most vital to the success of logistics management success towards service delivery in WFP.

The study found out that transportation as part of logistics management eases the distribution of goods and services, makes service delivery efficiency and effectiveness. This had made World food Programm to be one of the best organizations in Uganda which are helping the needy people for example the victims of war. However, the researcher found out that World Food Programm does have its own transport means more especially air and railway means of transport.

The study also revealed that warehousing in logistics management used by WFP makes services available in time, provides safety of goods and services and it is used as a tool for monitoring service delivery. These help the organization to carry out strategic planning. However, the study revealed that warehouses used by WFP are not enough and has at times outsourced public warehouses.

The study revealed that stock control techniques that are used improve service delivery in WFP include: Official authorization, Lead time and Re-order stock level. These help to make sure that the services required by the clients are available in time and they are handled by the right people

and they also serve the appropriate purpose. However, the interviews that were carried by the researcher indicated that WFP lack skilled staff who can use these techniques effectively.

The average results of adjusted R^2 of 52% also means that a unit increase in logistics management, leads to 52% increase on service delivery at WFP. However, other factors like availability of funds contribute to 48% that is why some of the respondents disagreed to some of the set questions.

Recommendations

1. To make clients appreciate the work of WFP, it should train its staff on how to apply the stock control techniques for improve on its service delivery example by sending some of its staff to refresher courses on stock controls .
2. WFP should put in place its own transport system. For example set up its own airlines, that will increase on the speed for goods and services delivery, hence improving service delivery.
3. WFP should open up many other warehouses which can accommodate its stock and this will reduce on the damages and will keep them safely. This will maintain the quality of goods and services to be delivered to its clients, hence improving service delivery.
4. The study also recommends the adoption of the core competence theory in order to improve on set of skills that deliver additional value to stakeholders.

Areas of further study

- i. Logistics management and quality control of food suppliers by WFP
- ii. Inventory management and cost reduction of perishables in WFP.
- iii. Transportation and service delivery of food items in Uganda.

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APPENDICES

APPENDIX I: Self Administered Questionnaire

I am Chomitai Patrick Emmanuel, a student of Nkumba University in the School of Business Administration doing a Masters degree in Business Administration. I am undertaking a research on the topic: Logistics management and Service delivery in World food Programm Nalukolongo Head quarters. Please spare some time to answer the questions in this questionnaire. This study is purely for academic purpose and please be best assured that the information you provide will be kept with utmost confidentiality. You are therefore kindly requested to complete each question in this questionnaire.

Section A:

Background of Respondents

Fill in the space provided or tick the chosen answer.

1. Gender

Male Female

2. Age (in years)

a) Between 18-25 years b) 26-33years
c) 34-41years d) above 42 year

5. Highest Level of education so far attained.

a) Certificate
b) Diploma
c) Degree
d) Masters

6. For how long have you been serving this organization?

a) Less than 2 years
b) Between 2 and 5 years
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c) Between 5 and 10 years

d) More than 10 years

For section B, C and D, you are required to fill the box that best describes your answer following the Likert scale below:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

SECTION B: Transportation

Statement	1	2	3	4	5
15. Air transport makes service delivery effectiveness					
16. Road transport makes service delivery efficiency					
17. Railway Transport adds value to service delivery.					
18. Transport eliminates service delivery complexities					
19. Air Transport eases the distribution of goods and services					
20. Air makes service delivery flexible					

SECTION C: Warehousing

Statement	1	2	3	4	5
21. Receipts and issues when posted correctly, help in monitoring service delivery.					
22. Proper Material Classification provides safety of goods and					

services					
23. Use of a Bin card improves transparency					
24. Good inventory turnover makes goods and services available at the time of need					
25. Material Verification eases the process of clearing and forwarding					
26. Material Codification helps to deliver quality products and services					

SECTION D: Stock control

Statement	1	2	3	4	5
8. Maximum stock levels reduce stocking costs.					
9. Re-order stock level helps to place orders accurately.					
10. Lead time guides the creation of reports.					
11. Maximum stock levels help to manage unproductive inventory.					
12. Minimum stock levels make clients get services they want.					
13. Safety stock provides service delivery visibility					
14. Official authorization promotes accountability					

APPENDIX II: INTERVIEW GUIDE

1. How is the level of service delivery rated at WFP Programm in Uganda?
2. What is the effect of stock controls on service delivery at WFP Programm?
3. What is the effect of transportation on service delivery at World food Programm?
4. What is the effect of warehousing on service delivery at WFP?
5. How can logistics management be developed in promoting service delivery at WFP?
6. How does logistic management contribute to service delivery of WHP:
7. How can skills of staff ensure service delivery at WHP?

Appendix III: Ethics Form

Student's Registration Number/ Index Number: **2014/FEB/MBA/WKD/M1363**

Student's Name : Chemutai Patrick Emmanuel

Supervisor's Name : Dr. Richard Mwirumubi (PhD)

Date Ethics Form submitted:April 2018.....

Proposed Starting / Ending Date of the Project: June 2018.....

Research Topic: Logistics Management and Service Delivery in United Nations agencies. A case study of world food Programm, Nalukolongo Headquarters, Kampala Uganda.

Purpose of the Research: The main purpose of the study was to establish the effect of logistics to service delivery at world food Programme in Uganda using Nalukolongo headquarters of Kampala district as a case study with a view of achieving Effectiveness and efficiency, availability of service and cost reduction.

Objectives:

- i. To find out the contribution of transportation to effectiveness and efficiency at World Food Programm Nalukolongo.
- ii. To establish the contribution of warehousing to availability of services at World Food Programm Nalukolongo.
- iii. To establish how stock controls ensures cost reduction at World Food Programm Nalukolongo

Brief Description of the Methods, Procedures and Strategies to be used:

- a) **Methods**

- i. Questionnaires
- ii. Interviews
- iii. Documentary reviews

b) Procedures

- i. Key informants will be identified
- ii. Inform the respondents in advance about the time, venue and date of the interview
- iii. Distribute the questionnaires to identified informants
- iv. To inform those involved in activities and tasks to be observed
- v. To inform the Staff and Administrators about the research to allow access of relevant information from different stakeholders.

c) Strategies

- i. To select a representative sample of respondents, observes and interviewees involved in the study.
- ii. To use the methods noted above, namely: interviews, questionnaires and documentary reviews.

Benefits of the Research: This research is important and its findings will be beneficial to the following stake holders:

- i. UN Agencies
- ii. Academics
- iii. Government
- iv. World Food Programm

Certification by the Student and Supervisor

Student

I certify that, I behaved in a professional manner and adhered to the high ethical standards and abided by the regulations, terms and conditions set by your organization while carrying out my research activities connected with external stakeholders (individuals, groups, organizations and others) and Nkumba University.

Student's Signature..... **Date**.....

Supervisor

We urged our student (researcher) to behave in a professional manner and adhere to the high ethical standards and abide by the regulations, terms and conditions set by our and your organization while carrying out his research activities.

Supervisor's Signature **Date:**.....

Appendix IV: Documentary review checklist

- 1) Text books

- 2) WFP Annual reports
- 3) Journals
- 4) Websites
- 5) Periodicals