PORT SERVICE AND ITS EFFECT ON HUMANITORIAN LOGISTICS IN ADDIS ABABA

BY: Girma Tadesse

ADVISOR: Dr. Abebe Ejigu

A THESIS SUBMITTED TO PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER OF ARTS IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

June, 2016

ADDIS ABABA, ETHIOPIA

ABSTRACT

The aim of this study was to assess the significance of port service provision in humanitarian aid services and the level of organizations' satisfaction in Addis Ababa. The main reason for selecting the topic was that the service the community demanded was not given significant emphasis, while the demand for humanitarian service is rising in absolute terms in recent years both from the public and donation. Hence, it is found to be a critical area for the underlined problem. The research design selected in this study is a descriptive, cross-sectional design. The data was collected all at the same time (or within a short time frame). The data showed that analysis of trend of growth of supply of goods imported for humanitarian services decreased from 2008 to 2015. The price change in 2008 was dramatically increased by 89.08 % whereas there are two years (2010 and 2013) which have decreased the importing goods in relief food and foods items by 43.25 % and 39.60 percent respectively. The result indicated that there is a very low responsiveness to customers, offering choices of non-standardized services; that lead by persuasions and incentives as a factor of port service demand. Flexible and adaptable to deliver high quality goods and services and empower citizens rather than simply serving those as institution are also the problematic issue in port service in Ethiopia. The correlation analysis illustrate the relation between the port service satisfaction and humanitarian logistics as it is highly or strongly correlated as r=0.705 and r=0.864 for correlation between humanitarian logistics and port availability and r=0.933 for humanitarian logistics with port cost. But port service demand has a weak correlation (r=0.046). It can be concluded that this study measures port efficiency or performance indicators use a diverse range of techniques for assessment and analysis, but although many analytical tools and instruments exist, a problem arises when one tries to apply them to a range of ports and terminals for humanitarian logistics. It is recommended as the need of a proper port performance measurement based on indicators: macro performance indicators quantifying aggregate port impacts on economic activity, and micro performance indicators evaluating input/output ratio measurements of port operations in the country.

DECLARATION

I hereby declare that the work which is being presented in this thesis entitled " PORT SERVICE AND ITS EFFECT ON HUMANITORIAN LOGISTICS IN ADDIS ABABA**" is original work of my own, has not been presented for a degree to any other university and all the materials used for the thesis have been duly acknowledged.**

Girma Tadesse **Date May 19,2016**

(Candidate)

This is to certify that the above declaration made by the candidate is correct to the best of my knowledge.

May 16, 2016.

Dr. Abebe Ejigu **Date**

(Thesis Advisor)

Formatted: Font: (Default) Calibri, 9.5 pt, Bold

ACKNOWLEDGEMENTS

I would like to express my deep gratitude to my research advisor, Dr Abebe Ejigu for his continuous advice and professional guidance towards the realization of this humanitarian logistics and port service study and in guiding how to conduct a research and supply chain related counsel. I would like to forward my warm appreciation and great thanks to my friends and my families for their helpful support during this thesis work.

Finally, I also want to extend my deepest thankful to the study participants for providing me with valuable information without any kind of inhabitations.

Abbreviations

DEA - Data envelopment analysis

Efy – Ethiopian Fiscal Year

GDP - Gross Domestic Product

GRT - Gross registered tonnes

HLL - Humanitarian Logistics

IGO - Intergovernmental organizations

IMF – International Monetary Fund

INGO - International Nongovernmental Organizations

NRT - Net registered tonnes

SCM - Supply Chain Management

TEU - Twenty foot equivalent unit

UNCTAD - United Nations Conference on Trade and Development

List of Figures

List of Tables

Table of Contents

Chapter 1

INTRODUCTION

1.1. Background of the Study

Measures of port efficiency or performance indicators use a diverse range of techniques for assessment and analysis, but although many analytical tools and instruments exist, a problem arises when one tries to apply them to a range of ports and terminals. Ports are very dissimilar and even within a single port the current or potential activities can be broad in scope and nature, so that the choice of an appropriate tool of analysis is difficult. Organizational dissimilarity constitutes a serious limitation to enquiry, not only concerning what to measure but also how to measure. Furthermore, the concept of efficiency is vague and proves difficult to apply in a typical port organization extending across production, trading and service industries.

Ports are complex and multipart organizations in which institutions and functions often intersect at various levels. This paper distinguished between logistics, trade and supply channels. The interaction among these three channels makes it difficult to identify which institutions are (or could be) performing what functions in the port system. The logistics channel consists primarily of specialists that facilitate the efficient progress of cargo through a supply chain (e.g. shipping lines, freight forwarders). Both the trade channel and supply chain are associated with ownership of goods moving through a system of interacting organizations, with the difference that the trade channel is normally perceived to be at the level of the sector.

Ports have an important role to play in the integration of all three types of channel. There are many organizations occupied (or potentially occupied) with logistics and supply chain integration within and around ports, mainly in the role of logistics channel facilitators (ocean carriers, land-based carriers, port operators, freight forwarders, port agents, etc.), but also as public institutions such as Customs authorities. This paper focused on the analysis of existing measures of port performance and efficiency, the association of ports with logistics and supply chain management, and appropriate measures of logistics and supply chain management efficiency in general and humanitarian operations and itseffect in particular.

1.2. Statement of the problem

Sustaining quality humanitarian service in the country requires efficient port availability both at the shore side and dry land port access to improve the sectors capacity. However, port service to humanitarian supply chain management is still under facilitated that strong need for making efficient portal service available to the sector to improve the welfare of the community in the country.

Capital Newspaper writer Muluken (2015) indicated that Ethiopia puts up a new national logistics strategy that will lead the sector‘s development for the coming several decades. The goal of the Ethiopian National Logistics Strategy is to enhance Ethiopia‘s economic growth through increasing trade, especially for value-added commodities, and through the reduction of transport costs by increasing efficiency. It is basically focused on the logistics sector, particularly the import/export stream that is said to be one of the hurdles that slow down the country‘s growth. The Ethiopian government has been undertaking several restructuring measures on the sector while expanding and modernizing the infrastructures in the meantime. Despite the efforts, the sector is still in its early stages compared to international practices.

In addition, there is also action that has been taken by the government of Ethiopian as Fekade‘s study (2013) indicated on the status of logistics infrastructure and planned future actions. He indicated as dry ports could handle many activities such as customs clearance, temporary storages, transshipment of goods, stuffing and un-stuffing of containers, consolidation of less than container loads and maintenance and repair of containers. Mojo and Semera dry ports have started working, building their capacity. The full implementation of Modjo and Semera dry ports and the construction of the remaining seven dry ports will have big impact in reducing sea port and transit costs. Each freight stations should have at least one forklift to handle containers while dry ports will have more than one based on their freight volume. 12 freight stations are proposed in the locations.

It is obvious that the government has given a great emphasis for the sector in developing portal services to business sector as pillar for economic status of the country. It is basically to improve the standard of living of the society, the efforts exerted to the sector shows insufficient availability.As Capital Newspaper writer assured in above that the sector is still in its early stages compared to international practices and standard. There is also no proper logistics channel that consists primarily of specialists that facilitate the efficient progress of cargo through a supply chain. In addition, there

are weak and inefficient shipping lines with have a plenty of freight forwarders with less knowledge and experience etc. Furthermore, there are plenty of problems on both the trade channel and supply chain that are associated with ownership of goods moving through a system of interacting organizations.

More importantly in relation to geographically, Ethiopia islandlocked between Djibouti, Kenya, Somalia, Sudan and Eritrea. Its terrain is variedwith high plateaus with a central mountain range divided by the Great Rift Valley.Ethiopia's climate ranges from tropical monsoons to frequent droughts. In May 1993,Ethiopia lost access to its entire Red Sea coastline when Eritrea became an independentstate. Thus, Christina et al. (2010) indicated a very good case in point as 90 percent of WFP Ethiopia cargo is transferred through Djibouti,which operates as the primary port of entry for Ethiopian international arrivals. Given thehigh fluctuations of cargo transferred through this port, and the increased overall volumehandled through the two new ports in Berbera and Sudan, the WFP is concerned with thesufficiency of trucking capacity available for in-land transportation.

As a consequence, the port service and its related problems have been severe for humanitarian logistics in particular. These problems which hiders efficient delivery of port services for humanitarian functions in the country stems from the presents of research gaps and presentation of proper empirical gap results like absence of studies specific to the sector.In general, the above mentioned challenges and bottlenecks in humanitarian supply chain management appeared as a result of inadequate and inefficient port services. Thus, this study focused on aid organization found in Addis Ababa city Administration and assessed the port service that made paralyzed the various humanitarian aid services delivered.

The study answered the following questions:

- What was the trend of growth of supply of goods imported for humanitarian services to the country?
- How significant was the growth trend of the demand in port services of humanitarian supply chain management in the country?
- How was the growth of the cost allocated for delivering goods each year?

- ❖ What constraints did humanitarian organizations face in relation to port services?
- ❖ How well the humanitarian organizations were satisfied with the current port services available?

1.3. Objectives of the study

The major objective of the study

To assess the significance of port serviceprovision in humanitarian aid services and the level of organizations‘ satisfaction in Addis Ababa

Specific objectives of the study were:

- To investigate the growth trend of the total supply of goods to humanitarian aid services for the past ten years in Addis Ababa.
- To identify the growth of demand in port facilities of humanitarian supply chain management in the country.
- To assess growth of the cost allocated for delivering goods supplied by humanitarian organizations in the city each year.
- To investigate the challenges humanitarian organizations face in relation to port services
- To assess the level of satisfaction of humanitarian organizations in the city to the current port services available.

1.4. Significance of the study

This study investigated the overall growth of humanitarian supply of goods and services; the growth demand in port facilities; the growth trend of cost of transportation and port services; and finally will conduct survey of the level of organizations‘ satisfaction from the port facility in Addis Ababa. The Study findings was required to give better insight to the development of humanitarian supply chain management in this city and significance of achieving the overall objective of humanitarian organizations in Addis Ababa. The study caome up with important recommendations on port service issues to be considered in humanitarian supply chain management. It will help policy

makers to give emphasis to improve port service delivery system to the humanitarian aid in order to change the standard of living of the people.

To this end, the paper may serve as springboard for other studies, which focused on similar topics and issues, related to social sectors generally and to public supply chain management specifically.

1.5. Scope of the study

The main reason for selecting the topic is that the service the community demanded was not given significant emphasis, while the demand for humanitarian service rising in absolute terms in recent years both from the public and donation. Hence, it is found to be a critical area for the underlined problem.

The study will help more works in the area and provide a clue for further studies to point out the barriers. Additionally, such information will lend itself to shed light on relevant policy decisions and development of effective and efficient port facility system at all levels in the country.

1.6. Organization of the Paper

The paper was organized in five chapters. The first chapter presented the introduction that includes the background, statement of the problem, research methodology, scope of the study, and significance of the study. The second chapter focused on reviewing literatures, and reviewing past research on health service quality and other predictors of humanitarian aid community satisfaction, describing how the sector has been viewed as a social institution that provides public goods to the community. The third chapter introduced the methodology and techniques used in conducting this study. The fourth chapter introduced data presentation and analysis. The paper will be concluded, in the fifth chapter, with conclusions and recommendations of the results, focusing on their implications for the maintenance and structure of public emphasis to services in Addis Ababa city administration.

Chapter 2

Literature review

2.1. Definitions

A supply chain is defined as a set of firms that pass materials forward; an alignment of firms that brings goods or services to market; or a network of organizations that, through upstream and downstream linkages, produce value in delivering products or services to the ultimate consumer. The emphasis on the level of the firm means that the term ‗supply chain management' is frequently used, although it is difficult to find a universally agreed definition because it has emerged from a number of disciplines. Indeed, the terminology has not yet stabilized and alternative expressions such as network sourcing, supply pipeline management, value chain management, and value stream management are also used. Products or services can move through or along networks, channels, chains, pipelines or streams(Sunil & Swaroop, 2008).

2.2. Supply chain management Outcomes

Supply chain management extends the principle of logistics integration to all companies in the supply chain through strategic partnerships and co-operation arrangements. Some regard the next challenge of supply chain management is to manage ‗pliant flows' so as to ensure that all parts of the chain ‗oscillate together' in a holistic fashion. In similar manner, others stress the need for ‗agile' supply chains in order to survive in a rapidly changing global environment. In general, only two concepts that can be associated with supply chain integration in the context of ports, namely intermodals and organizational integration appear to have captured widespread attention in the academic community. The word ‗intermodals' is usually associated with the inter-links between different transport modes and nodes, not only as a technology but also as an inter-organizational process. Organizational co-ordination is of paramount importance to any successful intermodal planning and management. For shipping and port businesses, highly competitive logistics channels are required to compete against other forms of intermodal transport such as landbridges. Developments in patterns of sea-borne trade are typical examples of partnership arrangements that are beneficial to all members in the inter-modal chain.

Typical examples include carrier's owners hip and/or management of ports or terminals, freight forwarding agencies, logistics providers, and even IT and c-commerce companies. Sometimes it

may be difficult for members of the international logistics channel to integrate. For instance, integration between shipping lines and ports is difficult to implement if both parties try to optimize the use of their respective assets (ships versus berths and warehouses) by transferring costs to each other. Other types of international logistics channel conflict may be between freight forwarders and shipping lines or between freight forwarders and ports. Taylor and Jackson rank ocean carriers as the most dominant in the current organization of international logistics channels for container(Sunil & Swaroop, 2008)

2.3. Principles ofPerformance Measures

2.3.1. Performance and efficiency principles

There are two categories of port performance indicators: macro performance indicators quantifying aggregate port impacts on economic activity, and micro performance indicators evaluating input/output ratio measurements of port operations. Various references, particularly UNCTAD monographs, provide a range of port indicators by ratio- type and category of operation indicators, and economic and financial indicators. Physical indicators generally refer to time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth). Sometimes, co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargos being unloaded from a ship until it leaves the port. Factor productivity indicators also tend to focus on the maritime side of the port, for example to measure both labour and capital required to load or unload goods from a ship. Similarly, economic and financial indicators are usually related to the sea access; for example, operating surplus or total income and expenditure related to gross registered tonnes (GRT) or net registered tonnes (NRT), or charge per twenty foot equivalent unit (TEU). Port impacts on the economy are sometimes measured to assess the economic and social impacts of a seaport on its respective hinterland or foreland.

The traditional port measures focus on sea access rather than land-side connects ions, and there is a need for better measurement of land-side efficiency. Many ports, particularly those in urban areas, have inadequate land-side connections. Land-side efficiency also needs to be addressed when ways are sought to expand port capacity. Port capacity is difficult to measure or even to define. It is, nevertheless, likely to be easier for a port to make better use of existing capacity rather than

subsidize new transport infrastructure. A logistics and supply chain approach may achieve better use of port capacity.

Port activities are usually measured by cargo output or through production functions. In the first case, the assessment of efficiency is based either on the contribution of a single factor productivity to port throughput such as output per worker or output per wharf, or on the measurement of total cargo handling productivity, where performance evaluation equates port operations to the production function. Much empirical research falls under this category and seeks to compare actual output to optimum output using the frontier method.

Recent models propose or use data envelopment analysis (DEA) to evaluate port efficiency. A detailed review of such techniques for measuring port efficiency is provided by. Such techniques do not always provide consistent results. The size of a port or a terminal is positively correlated with its efficiency, whereas larger ports are more likely to be economically inefficient. Such apparently conflicting results suggest that generalization is difficult and that the complex structural organization of ports is a major obstacle to conducting valid port performance measurement and comparison. Another limitation of the frontier model literature is that it has focused mainly on container terminals. In fact, this is a common denominator for much of the literature on port efficiency and performance measurement. There are many ways of measuring port efficiency or productivity, although reducible to three broad categories: physical indicators, factor productivity(Wilson, 1998).

2.3.2. Accountability

–The issue with accountability is that, it has a number of interpretations, not least the differences between political accountability- 'those with delegated authority being answerable for their actions to the people'- and managerial accountability –'those with delegated authority accountable for carrying out agreed tasks according to agreed criteria of performance" (Doig, 1998).

2.3.3. Performance Measurement

A range of measures is needed to cope with the multi-dimensional nature of public services. Broadly, there are two main types of performance indicator: financial (or cost related viz. unit costs), and non-financial (or quality related). The later can include such indicators as: percentage of

patients receiving treatment within 10 minutes of arriving at a hospital accident or emergency unit; number of complaints about the refuse collection service; proportion of children in a school achieving a specified number of GCSEs. The use of such indicators is designed to help measure and improve economy, efficiency and effectiveness(Wilson, 1998).

2.4. Towards a logistics and supply chain approach for ports

There may be a methodological difficulty in linking supply chain performance measurements to ports. Traditional port management is often typified by institutional fragmentation and conflict with other members of the logistics channel, whereas the supply chain management philosophy advocates process integration and partnership. A systemic approach to port performance is required. The systems approach should allow a neutral and objective perception of a problem‘s definition and investigation, and particularly helps in overcoming the obstacles of channel identification and conflicting standpoints. However, despite successive attempts to apply the systems approach to operational problems in shipping and ports, very few would claim to apply the concept of systems thinking to the whole port organization.

The role of ports exceeds the simple function of services to ships and cargo. Apart from their role as the traditional sea/land interface, ports are a good location for value-added logistics, in which members of different channels can meet and interact. Thus, the port system not only serves as an integral component of the transport system, but is also a major sub-system of the broader production and logistics systems. Perceived from an integrated logistics, trade and supply channel approach, ports can claim further roles and dimensions. From a logistics standpoint, the port is a very important node since it serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers). From a trade channel perspective, the port is a key location where channel control and ownership can be identified and trading take place. The port not only links outside flows and processes but also creates patterns and processes of its own. At this level, ports are one of the very few networking sites that can bring together various members of the supply chain. Often, the port authority fits perfectly in this role (for service and tool ports), but with current trends in landlord organizational structure the port authority may be more concerned with property and estate development than goods transfer or cargo—flows management. Following recent strategies of vertical integration by carriers, shipowners are

sometimes associated with port management. Shippers are also sometimes perceived as shipowners (industrial or bareboat shipping) and even as port managers (dedicated oil or car terminals). In these cases, all such institutional types are part of the integrated port management system(Inistitute of Ports of UK, 2011).

2.5. The Effects of Transportation on Logistics Activities

Transportation plays a connective role among the several steps that result in the conversion of resources into useful goods in the name of the ultimate consumer. It is the planning of all these functions and sub-functions into a system of goods movement in order to minimize cost maximize service to the customers that constitutes the concept of business logistics. The system, once put in place, must be effectively managed. (Fair *et al.*, 1981)

Traditionally these steps involved separate companies for production, storage, transportation, wholesaling, and retail sale, however basically, production/manufacturing plants, warehousing services, merchandising establishments are all about doing transportation. Production or manufacturing plants required the assembly of materials, components, and supplies, with or without storage, processing and material handling within the plant and plant inventory (Drucker, 2001).

2.6. The Role of Transportation in Service Quality

The role that transportation plays in logistics system is more complex than carrying goods for the proprietors. Its complexity can take effect only through highly quality management. By means of well-handled transport system, goods could be sent to the right place at right time in order to satisfy customers‘ demands. It brings efficacy, and also it builds a bridge between producers and consumers. Therefore, transportation is the base of efficiency and economy in business logistics and expands other functions of logistics system. In addition, a good transport system performing in logistics activities brings benefits not only to service quality but also to company competitiveness(Chang, 1998).

2.7. Improvements expected

2.7.1. Scale of public sector services

–Unlike the private sector, the goods and services that the public sector produces are not sold in the marketplace. This means that public sector output cannot be measured at market prices, so its scale must be measured by the volume of its inputs. Two measures are available: employment levels and the cost of service provision, i.e. the level of public expenditure" (Wilson, 1998).

2.7.2. Appropriate balance of capital, operations, and maintenance

Inappropriate allocation of expenditures on various types of expenditure categories may seriously affect the effectiveness and outcome of spending to the poor as well as the whole society. If well trained health workers are not assigned in clinics and health centers, the community may denied the access; if classrooms fail to be repaired, the expected educational quality may suffer; and so on. The appropriate economic composition of expenditures will be determined by institutional or program targets. The analysis of the economic composition of spending will usually distinguish between capital investment and recurrent expenditure, and the latter may also be decomposed into human aspect spending, and material input spending. Capital investments are likely to be the major constituents of public work programs, while in the public sectors human-aspect spending will tend to be dominant. Although, these intersectoral variations with the structure of spending, there are patterns of under-spending or over-spending for certain expenditure categories. These trends can be identified at the sectoral level by: giving emphasis on spending by *institution* where information is available, and by *program* on (1) capital and recurrent expenditures and within the recurrent budget and (2) payroll (human-aspect spending) versus non-payroll (material-input spending) costs(U.K. Treasury, 2011).

2.7.3. Level and type of services to be provided

Cross-country studies show that the poor tend to use lower rather than higher levels of service in different sectors like education, and local clinics and central hospitals. Accordingly, the poor tend to enjoy a larger share of the benefits of spending on basic services. Although the distribution of benefits accruing to the poor varies across countries, it is generally safe to assume that more pro-poor services. Simply increasing the total sectoral budget allocations may not significantly increase

the volume of resources available for services used by the poor. Reallocation of resources toward primary services within the existing sectoral envelopes is important; it may be equally important, however, to adopt policies and programs that expand utilization of services by the poor(U.K. Treasury, 2011).

2.8. Performance Measurement Rationale

Performance Measurement refers to implying the achievement of the ‗3Es', i.e. economy, efficiency, and effectiveness. Economy is the measure of input and involves the acquisition of resources a defined, appropriate specification at the least cost. Efficiency measures the relationship between input and output and involves maximizing useful outputs (services) from a defined and quantified level of resource input, or minimizing the quantity of resources consumed in producing a defined output. Effectiveness is the measure of output or impact. It involves measuring the extent to which output from a defined activity achieves the desired result or policy objective of the sector(Wilson, 1998).

2.8.1. The Concept of "Citizen Initiated Performance Assessment"

The ―Citizen initiated performance assessment" concept is built upon the premise that citizens are not only customers but also the owners, issue framers, co-producers, and evaluators of government. Customers select and pay for the services they want, but do not have any direct authority over the service provider except for their indirect influence through market forces. In a democratic society, citizens are more than customers because they have the right as well as the responsibility to influence the decision making process of the government and can hold public officials accountable for their budgetary and policy actions. The problem reflects a clear gap between what public officials try to measure and communicate to the public about their service effects and accomplishment, and what citizens perceive through the mass media and personal experience. The problem cannot be attributed to lack of performance data, as past studies have found that many governments have been collecting all kinds of output and outcome performance measures with what the stakeholders and constituencies look for in terms of government performance. This is why citizens' and other stakeholders' input, especially at the local level, is important in performance measurement (Ho & Coates, 2006).

2.8.2. Use of Performance Measures

Performance Measures have use at two levels-*internal* and *external*. Internal usage involves accountability for managers using performance measures and indicators to assist in: Policy planning, Control processes, Resource allocation decision making, and Monitoring the achievement of objectives.

External usage of performance measures drives from the increased emphasis ostensibly placed by government on public accountability and the need to empower the public. The aim appears to be to provide those outside the organization-the ‗stakeholders' in the organization's work, including auditors, commentators, pressure groups and the press-with a basis for judging the performance of the organization and its managers for the benefit of the public/electorate (Gardner, 1998).

2.9. Organizational Expectation and Satisfaction

Today's environment demands institutions that are extremely flexible and adaptable to deliver high quality goods and services. It demands institutions that are responsive to their customers, offering choices of non-standardized services; that lead by persuasions and incentives rather than commands; that give their employees a sense of meaning and control, even ownership. It demands institutions that empower citizens rather than simply serving them (Wilson, 1998).

Melissa (2011) indicated that adopting a supply chain management approach to humanitarian logistics (HL) holds great potential to enhance the future of humanitarian response and relief. HL stands as a key practical issue surrounding the systematic improvement of humanitarian action. Analyzinghumanitarian logistics (HL) effectively involves a number of challenges for researchers. Even though recent reviews of emergency management and the disaster relief literature provide a growing list of Operations Research/Management Science research, oddly enough many of the OR/MS models or applications developed so far fail to recognize this point Moreover, the range and roles of actors involved in humanitarian action are both sizeable and complex, making it difficult to draw correlations, much less establish causality among factors and outcomes.

However, the importance of humanitarian logistics (HL) as a central component of humanitarian response has become increasingly recognized in recent years. Logistics links nearly all stakeholders

in humanitarian relief operations, including donor governments, intergovernmental organizations (IGOs), international nongovernmental organizations (INGOs), local NGOs, the military, the private sector, and local communities. Operationally, the constraints facing many of these actors are multiple and overlapping. They include donor demand/pressure for accountability and transparency, competition for scarce funding resources, marketization of the INGO sector, high levels of staff turnover and low levels of institutional memory, and a lack of effective evaluation mechanisms.

2.10. Conceptual Framework

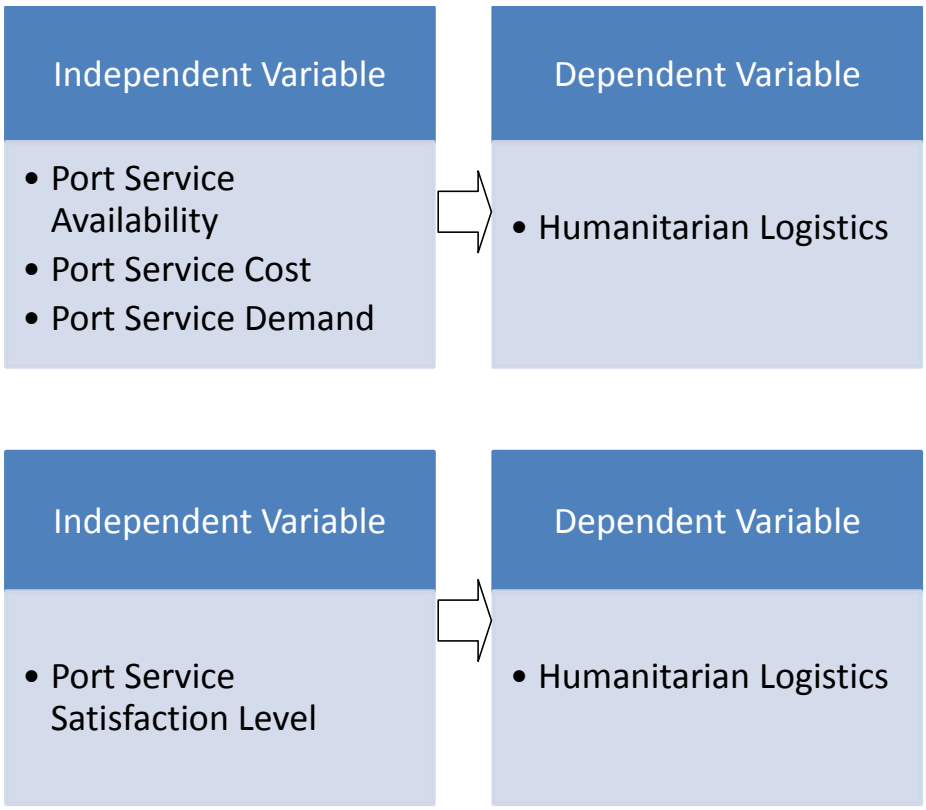

Figure 2.1: Conceptual framework of this study

Adapted from (Gardner, 1998)

Chapter 3

Research methodology

3.1. Area of the study and population

The Addis Ababa City is administratively divided into ten (10) sub-city administrations. It hosts the Federal Government sector bureaus, and headquarters of various international organizations. It is about 1,000km away from port Djibouti which is the major import-export corridor for the country. There is one airport including cargo terminal which used as the second most transporting goods to and out the country.

3.2. Research Design

The research design selected in this study is a descriptive, cross-sectional design. A cross-sectional design will be used for research that collects data on relevant variables one time only from a variety of people, subjects, or phenomena. The data will be collected all at the same time (or within a short time frame). A cross-sectional design will provide a snapshot of the variables included in the study, at one particular point in time. It may reveal how those variables will be represented in a cross-section of a population. The cross-sectional study is the most frequently used descriptive design (Malhotra, 1999:89).

The quantitative study was aimed at ascertaining the levels of commitment, the prevailing culture, as well as the preferred culture of the sector. A quantitative study, consistent with the quantitative paradigm, is an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true (Babbie and Mouton, 2002:646).

The descriptive research technique of data analysis wasalso used in the study. The major activities executed in port service processes, performance measures applied to improve efficiency ofutilization of logistics,financial as well as human resources in the sector, and activities specific to humanitarian aidwill be discussed. Descriptive researchhelped to describe a situation, problem, phenomenon, service or program in a systematic manner, or provides information about, for

instance, living condition of a community, or describes perceptions and attitudes towards an issue(cooper & Emory, 1995).

Based on the objective of the study, the research was designed to include questionnaires and interview. The questionnaires will be prepared in two forms, close-ended and open-ended questions, each for a separate type of data collection. The closed-ended questionnaire will be used for surveying the level of beneficiary organizations‘ satisfaction. While open-ended questionnaire will be used to collect data about performance measurement techniques used in the sector from respondents. The sample respondents will be stratified by hierarchy, sex and age categories.

3.3. Population and Sample

In research, the word population is used to mean the total number of people, groups or organizations who could be included in the study. Sampling involves making decisions about which people, settings, events or behaviors to observe. According to Cooper and Emory (1995:196), a population is the total collection of elements about which one wishes to make inferences. An element is the individual on whom the measurement is being taken and is the unit of study. For the purposes of this study the population is defined as those who will systematically be selectedmanagerial level staffs in aid organizations and selected port service sector. The study included 92 respondents from 36 international aid organizations and 11 respondents from three (3) inland ports and headquarter in Addis.

To get appropriate sample size the *Solven formula* will be used:

1. $n = \frac{N}{1+ N(e)^2}$ where, N - Number of population of Organizations
   n – number of sample

$n= \frac{40}{1+40(0.05)} = 36$

2. . $n = \frac{N}{1+ N(e)^2}$ where, N - Number of population of managerial respondents
   n – number of sample

$n= \frac{120}{1+120(0.05)^2} = 92$

3. $n = \frac{N}{}$ where, N - Number of population of managerial respondents from port offices

$1+ N(e)^2$ n – number of sample

$$n= \frac{12}{1+12(0.05)^2} = 11$$

To get sample proportion:

Sample proportion = n/N = 103/132= 0.78

3.4. Methods of data collection

To attain the purposes of the study, the following techniques of collecting pertinent information was used: reviewing literatures and taking notes of records, conducting semi-structured questioners, in-depth interviews, and employing organizational survey on level of satisfaction in port services. Once the total sample size from each population was determined, the required techniques was employed, i.e. both *primary* and *secondary* methods, in order to gather relevant information regarding how the service delivery process is executed in the sector, how performance techniques applied, and what was the overall level of users' satisfaction.

The primary data required from staff members was collected through a structured questionnaire as well as personal interview was made. The questionnaire consistedof closed ended and open ended types. The closed-ended questionnaire was used for surveying the level of organizational satisfaction in port services for humanitarian aid.

The other source was secondary data. Information related to the entire process as well as the development activities operated each year was collected from different sources. Additionally books, internet, annual operation reports of FMoT &FMoH, annual operation reports of Import Export coordinating Agency, National Bank's magazine, and health related proclamations was used.

3.5. Data Analysis Technique

According to Cooper and Emory (1995:67), data analysis usually involves reducing accumulated data to a manageable size, developing summaries, looking for patterns, and applying statistical techniques. This section explains how the data is to be captured and analyzed, and would also

define the statistical terms of Frequency, Means, Standard Deviation, which were used to analyze the data.

The method that was employed in the study was primarily descriptive statistical methods of analysis. The data obtained using the survey questionnaires to investigate performance measures applied in the sector was analyzed using percentages and simple mathematical methods. The qualitative data obtained through interview with public sectors‘ staff members and executive officials, involved directly or indirectly, in the health sector were also analyzed in the study. Additionally, tables and graphs were used.

The data that was obtained from the complete questionnaires was captured onto diskettes using Microsoft Excel Spreadsheets. The data were processed using the SPSS, (Statistical Package for the Social Sciences) software. The analysis was based on inferential statistics. The descriptive and inferential statistics that was used to includemeasures of central tendency, dispersion, correlation and regression. The results were presented in tabular format.

3.6. Validity

According to Kothari (2004), validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. This research adapted the questionnaire from Charles (2010) to collect data. Since the statement has been generated from an extensive review of academic and practitioner‘s literature, it was assumed that the construct of validity was hold. In addition, two experts who are experts on supply chain in humanitarian logistics specialists and one academic literate in supply chain or logistics or procurement criticized and tried to review the validity of the questionnaire in order to test the validity of the questionnaire in the context of humanitarian logistics.

3.7. Reliability

Reliability is the consistency of the measurement - the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. Reliability concerns the extent to which an experiment, test or any measuring procedure yields the same results on repeated trials (Gay et al., 2009). It is clear that whenever we measuring anything there is always a chance for errors. In fact, the goal of error-free measurement is never attained in any area of

scientific investigation. Two set of measurements may not duplicate each other exactly even if we repeated the same study with the same sample.

Table3.1 Reliability Test

	Reliability Statistics	
	Cronbach's Alpha	N of Items
Port Service Availability	.837	3
Port Service Cost	.853	3
Port Service Demand	.794	3
Port Service Satisfaction Level	.820	7
Humanitarian Logistics	.793	3

This research adapted a questionnaire from Charles (2010) and developed the questionnaire in relation to this study‘s objective and problem statement for collecting of the right data. Thus, reliability test is used to conduct and to assess the data quality. Cronbach‘s alpha was used to measure the internal consistency of measurement items and the result here indicated below. The cronabach alpha value of above over 0.75 for all dimensions and indicated that the data have internal consistency

3.8. Administrative and Ethical Aspects:

The goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from the research activities (Cooper and Schindler, 2001:112). The researcher undertook to protect the rights of the respondents by:

- Ensuring that none of the respondents were not named during the research or subsequent thesis;
- Respondents were selected to participate without compulsion;
- All respondents were properly informed of the reason and purpose of the research; and
- Informed consent was sought from the management of the selected organizations before the commencement of this research initiative.

Chapter 4

Results and Discussion

4.1 Humanitarian Logistics

Humanitarian aid is material and logistic assistance to people in need. It is usually short-term help until the long-term help by government and other institutions replaces it. It includes the people in need belong to homeless, refugees, victims of natural disasters, wars and famines. The primary purpose of humanitarian aid is to save lives, reduce suffering and respect to human dignity. Humanitarian aid is material or logistical assistance provided for humanitarian purposes, typically in response to humanitarian crises including natural disasters and man-made disaster. The primary objective of humanitarian aid is to save lives, alleviate suffering, and maintain human dignity. It may therefore be distinguished from development aid, which seeks to address the underlying socioeconomic factors which may have led to a crisis or emergency.

According to the Overseas Development Institute, a London-based research establishment, whose findings were released in April 2009 in the paper 'providing aid in insecure environments: 2009update', the most lethal year in the history of humanitarianism was 2008, in which 122 aid workers were murdered and 260 assaulted. Those countries deemed least safe were Somalia and Afghanistan. In 2012, Humanitarian Outcomes reports that the countries with the highest incidents were: Afghanistan, South Sudan, Syria, Pakistan and Somalia (Wikipedia, 2016).

4.2 Humanitarian Aid in Ethiopia

Over the last decade, Ethiopia has made tremendous development gains in education, health and food security according to USAID government Ethiopian website (read on March 2016). In 2014, GDP growth was 10.3 percent (IMF). The addition of 38,000 health extension workers has helped reduce the under-five child mortality rate by more than six percent a year since 2000.Ethiopia still remains one of the ten poorest countries in the world, with an estimated annual per capita income of $470 in 2013 (World Bank). Roughly 30 percent of Ethiopians live below the poverty line of $1.25 a day and are vulnerable to food insecurity, and about 75 percent depend on subsistence agriculture (IFPRI). From a humanitarian perspective, approximately 10.2 million people are in need of

emergency food assistance in 2016, in addition to 7.9 million chronically food insecure beneficiaries who are supported through the Productive Safety Net Program. Its fast-growing population, now estimated at more than 96 million, puts tremendous pressure on the land and natural resources that are the cornerstones for the country's growth.

To further the country‘s progress, the Ethiopian Government has committed itself to a five-year Growth and Transformation Plan and includes sustainably improving rural livelihoods and national food security. U.S. assistance capitalizes on a partnership with the government to increase economic growth with resiliency, deliver quality basic public health and education services and promote a governance environment that is conducive for sustainable economic development.

Ethiopia is currently experiencing a severe drought due to two consecutive poor rainy seasons. 10.2 million People are in need of emergency assistance. It is one of the countries most affected by the El Nino phenomenon. With 640 000 refugees, Ethiopia has overtaken Kenya as the country in Africa with the highest number of refugees. South Sudanese now make up the largest refugee population. Some 225 000 refugees have arrived since conflict erupted in neighbouring South Sudan in December 2013. More refugees are expected as fighting back home continues and food insecurity worsens. Nearly 560 000 people are internally displaced. Population displacements are caused mainly by floods and violent clashes over scarce resources. Over the last couple of months, the drought is also a main factor contributing to the displacement of people. In 2015, the Commission has allocated €25.5 million in humanitarian funding to Ethiopia. On 2 December, the EU announced an El Niño humanitarian response package of €125 million, out of which €79 million to be allocated to the Greater Horn of Africa, including Ethiopia.

Europe country fact website assure that the number of people in need of emergency food assistance has increased from 2.9 million in the beginning of the year to 10.2 million in December, as per the 2016 Humanitarian Requirements Document launch on 11 December in Addis Ababa. This figure is in addition to the 7.9 million chronically food insecure people, already being assisted by the national Productive Safety Net Program (PSNP), whose situation has worsened further as a consequence of the El Niño. Ethiopia is also faced with a significant influx of refugees, mainly from South Sudan (290 000) and Eritrea (67 000), but also from Somalia (250 000) and Sudan (37 000). Refugees live in 24 camps spread across five different regions: Tigray, Afar, Somali,

Gambella and Benishangul Gumuz. Some refugees are also living in urban settings. The rising number of refugees from South Sudan in addition to the long term refugees from Somalia and Sudan who are in need of more sustainable solutions has resulted in overstretched services and budgets. The worrying food security situation and on-going fighting in South Sudan may have an impact on Ethiopia and other neighboring countries already under pressure by the massive influx of refugees. The country is prone to natural disasters. People are regularly exposed to droughts, floods, landslides, epidemics and earthquakes. Consequences include forced displacement, under nutrition, extreme food insecurity, destruction of assets and livelihoods with induced poverty for many families. Local conflicts and clashes between clans over resources such as water are another cause for displacement. At any given time, the country counts between 300 000 to 560 000 internally displaced people (source: Europe country fact website as read on March 2016).

4.3 Dry Port in Ethiopia

A dry port is an inland intermodal terminal directly connected by road or rail to a seaport and operating as a center for the transshipment of sea cargo to inland destinations as Wikipedia indicated. In addition to their role in cargo transshipment, dry ports may also include facilities for storage and consolidation of goods, maintenance for road or rail cargo carriers and customs clearance services. The location of these facilities at a dry port relieves competition for storage and customs space at the seaport itself.

It was indicated as Ethiopia moved to establish various inland dry ports. The first of these dry ports in Ethiopia was to start operations in the first half of 2009 and located at Modjo, nearly 75 km East of Addis Ababa. The other one would be located at Semera. This move would help the country save foreign currency and increase efficiency in import export operations; we have here included the establishment proclamation of the Dry Port Administration Enterprise and its liabilities.

The Dry Port Services Enterprise has now merged with two other state owned companies to form the mega-company Ethiopian Shipping and Logistics Services Enterprise: Dry Port Administration Enterprise Establishment Council of Ministers Regulation No. 136/2007 or136/1999EC (according to the Ethiopian calendar - EC) and Proclamation to Define the Liability of Council of the Dry Port to the consignee Proclamation No. 588/2008 or 588/2000EC. These documents can be purchased at

Berhanena Selam Printing Enterprise Shop at Arat Killo.Highlights of the Proclamation and the regulation. The highlights of the above mentioned proclamation and regulation are listed below; however, it‘s advisable that a reader gets the documents for a comprehensive understanding of the existing proclamations and regulations (source: 2 Merkato website as read on March 2016).

4.4 Trend of growth of supply of goods imported for humanitarian services to the country (Evidences from secondary data)

Ports have an important role to play in the integration of all three types of channel. There are many organizations occupied (or potentially occupied) with logistics and supply chain integration within and around ports, mainly in the role of logistics channel facilitators (ocean carriers, land-based carriers, port operators, freight forwarders, port agents, etc.), but also as public institutions such as Customs authorities.

This paper adopted an approach that incorporates within a valid framework of analysis existing measures of port performance and efficiency, the association of ports with logistics and supply chain management, and appropriate measures of logistics and supply chain management efficiency in general and humanitarian operations and its effect in particular.

A dry port is an inland intermodal terminal directly connected by road or rail to a seaport and operating as a center for the transshipment of sea cargo to inland destinations as Wikipedia indicated. In addition to their role in cargo transshipment, dry ports may also include facilities for storage and consolidation of goods, maintenance for road or rail cargo carriers and customs clearance services. The location of these facilities at a dry port relieves competition for storage and customs space at the seaport itself.

As Ethiopia still remains one of the ten poorest countries in the world and approximately 10.2 million people are in need of emergency food assistance in 2016, in addition to 7.9 million chronically food insecure beneficiaries who are supported through the Productive Safety Net Program, this study was rounded on the Ethiopian Government that has committed itself to a five-year Growth and Transformation Plan and includes sustainably improving rural livelihoods and national food security. In addition, this study was conducted based on the data over the last nine years (2007 – 2015) as said as Ethiopia has made tremendous development gains in education,

health and food security. As per the above information especially in 2014, GDP growth was 10.3 percent (IMF). The addition of 38,000 health extension workers has helped reduce the under-five child mortality rate by more than six percent a year since 2000.

In this study, the central analysis rested on trend of growth of supply of goods imported for humanitarian services to the country (evidences from secondary data) registered by Ethiopian shipping and logistics enterprise by unmoral section. It was conducted as a trend analysis that looking at how a potential driver of change has developed over time, and how it is likely to develop in the future. It was not conducted prediction of what the future will look like. It was used as a powerful tool for strategic planning by creating plausible, detailed pictures of what the future might look like.

Table 4.1 Import Cargo Carried by Uni-Modal Transport System 2007 - 2015 Efy in Birr

Year	Business investment equipment	Relief food and food items	Poly	cars	Total
2007	2,678,711.027	517,924.070	301,266.669	70,783.548	3,568,685.314
2008	3,159,321.269	979,314.290	427,062.180	57,368.502	4,623,066.241
2009	4,310,662.144	992,216.434	647,474.882	47,078.762	5,997,432.222
2010	2,988,839.516	563,070.810	1,081,577.277	68,106.340	4,701,593.943
2011	3,650,320.702	637,383.882	555,238.550	64,514.305	4,907,357.439
2012	3,862,425.961	779,106.906	963,200.023	94,057.098	5,698,789.988
2013	3,993,344.041	470,547.471	603,944.477	131,398.380	5,199,234.369
2014	4,315,408.132	452,715.440	784,603.184	120,539.731	5,673,266.487
2015	4,535,892.980	523,035.54 0	981,144.37 0	139,195.44 0	6,179,365.150

Source: Ethiopian shipping and logistics enterprise

The Freight Forwarding Sector of the Enterprise is mainly concerned with multimodal and uni-modal service provisions of import and export cargoes. As multimodal transport service: essentially, this is a door-to-door cargo service with SAD (single administrative document) from the

point of origin to the point of destination. Unimodal transport service by contrast involves one mode of transportation, i.e, sea, rail or road, or air freight of cargo. Here services are disintegrated, with many operators and agreements involved. In ESL's case, the unimodal service ends at port of Djibouti, after which the consignee will choose his/her transitor and/or transporter and enter agreement with to receive cargo in the hinterland of the country.

Table 4.1 indicated that import cargo carried by uni-Modal Transport System 2007 - 2015 Efy include items of Business investment equipment, Relief food and food items, Poly and cars. Item of business investment equipment are taken the highest share than relief food and food items. It is taken a year 2014 year data for comparison as business investment equipment yearly imported items amounting 4,315,408.132 in Birr which is almost ten times the value of imported items of relief food and food items that amounting the value of 452,715.440. This is can be considered as the data is taken as of Ethiopian made tremendous development gains in education, health and food security in this year and especially in 2014, GDP growth was 10.3 percent (IMF). Table 4.1indicates that the highest recorded relief food and food items importing cargo carried by uni-Modal Transport System 2007 - 2015 Efy is 992,216.434 which is also the lowest from the business and investment equipment importing in the same year.

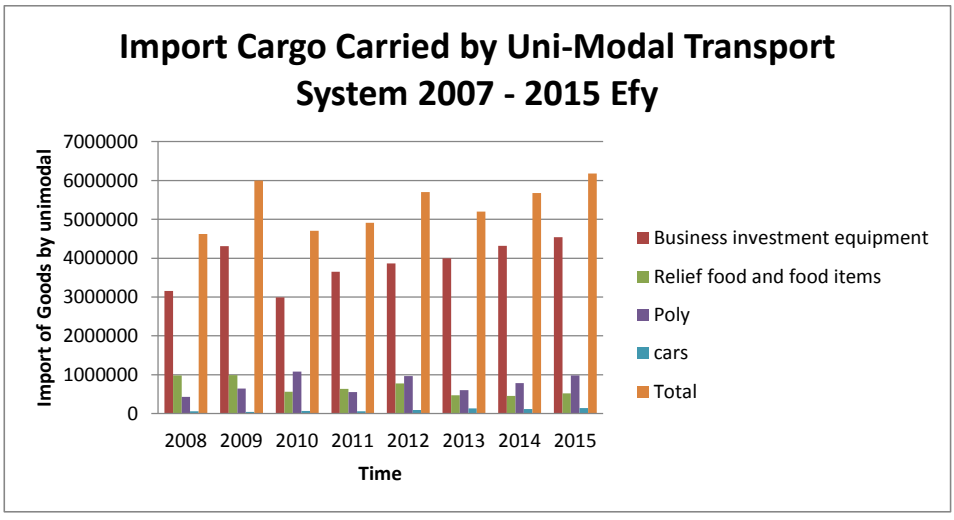

Figure 4.1 : Import Cargo Items 2007 – 2015 Efy

Source: Ethiopian shipping and logistics enterprise

Due to this economic growth made in Ethiopia the trend of growth of supply of goods imported for humanitarian services to the country, the evidences from secondary data shows in the below graph 4.2.

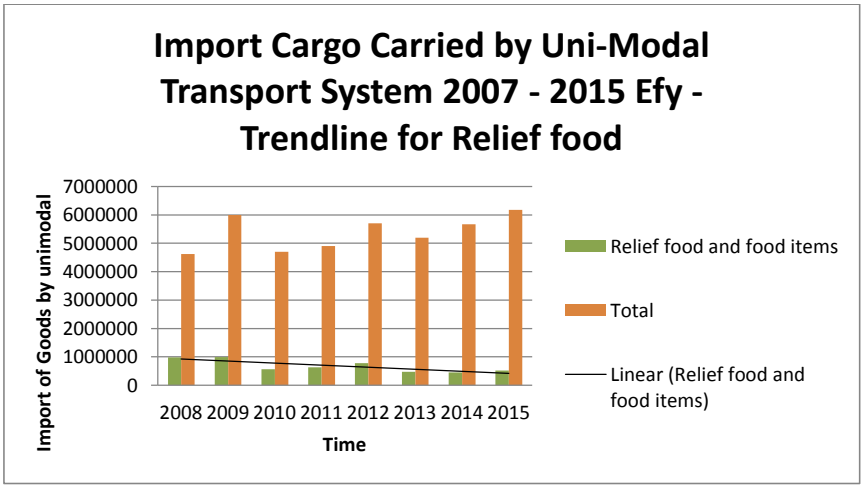

Figure 4.2 : Relief Food and Food Items Import Cargo Items 2007 – 2015 Efy – Trendline

Source: Ethiopian shipping and logistics enterprise

Table 4.2 Percentage change of relief food and food items Import Cargo Carried by Uni-Modal Transport System 2007 - 2015 Efy in Birr

Year	Business investment equipment	Relief food and food items	Change	Percentage Change
2007	2678711.027	517924.07	-	-
2008	3159321.269	979314.29	0.890845293	89.08
2009	4310662.144	992216.434	0.013174671	1.32
2010	2988839.516	563070.81	-0.43251211	-43.25
2011	3650320.702	637383.882	0.1319782	13.20
2012	3862425.961	779106.906	0.222351126	22.24
2013	3993344.041	470547.471	-0.39604248	-39.60
2014	4315408.132	452715.44	-0.03789635	-3.79
2015	4535892.98	523,035.54 0	-	-

Source: Ethiopian shipping and logistics enterprise and own survey

Figure 4.2 shows that analysis of growth trend of supply of goods imported for humanitarian services to the country. This evidence from secondary data was collected from Ethiopian shipping and logistics enterprise by unimodal section. It indicates that the trend is decreasing from 2008 to 2015. The trend analysis shows how a potential driver of change has developed over time, and how it is likely to develop in the future.

The price change in 2008 is dramatically increased by 89.08 % whereas there are two years (2010 and 2013) which have shown decreased in the importing of relief food and foods items by 43.25 % and 39.60 percent respectively. In this study, the percentage change is calculated based on the percentage change between two periods: calculate the amount of the increase (decrease) for the period by subtracting the earlier year from the later year. If the difference is negative, the change is a decrease and if the difference is positive, it is an increase and divides the change by the earlier year's balance.

4.2 The significant of the growth trend of demand in port services of humanitarian supply chain management in the country

Ports have an important role to play in the integration of all types of channel. There are many organizations occupied (or potentially occupied) with logistics and supply chain integration within and around ports, mainly in the role of logistics channel facilitators (ocean carriers, land-based carriers, port operators, freight forwarders, port agents, etc.), but also as public institutions such as Customs authorities.

The results presented in Figure 1 and 2 indicate that the trend is decreasing from 2008 to 2015. The trend analysis shows how a potential driver of change has developed over time, and how it is likely to develop in the future. The price change in 2008 is dramatically increased by 89.08 % whereas there are two years (2010 and 2013) which have shown decreased the importing goods in relief food and foods items by 43.25 % and 39.60 percent respectively.

This is importantly indication of the port service to improve the port service for humanitarian aid in terms of carrier‘s owners hip and/or management of ports or terminals, freight forwarding agencies, logistics providers, and even IT and e-commerce companies. In this year of decreasing the importing of relief food and food items, it is a significant opportunity for the decreasing of the trend

to integrate the international logistics channel. In relation to humanitarian, integration between shipping lines and ports will be important to implement if both parties try to optimize the use of their respective assets (ships versus berths and warehouses) by transferring costs to each other for earlier response of emergency needs. In addition, it will be an opportunity to international logistics channel conflict management between freight forwarders and shipping lines or between freight forwarders and ports.

4.3 Primary Data Respondents' Profile

The study were included 92 respondents that were composed of 36 international aid organizations and 11 respondents from three (3) inland ports and headquarter in Addis. Out of which only 80 respondents' returned completed and properly filled questionnaire which meant 86 percent coverage of the aid organization and all (100%) respondents from inland ports returned completed and properly filled questionnaire.

Accordingly, as the first part of the questionnaire consists of the demographic information of research participants. For that reason, the following variables about the respondents were summarized and described in the subsequent table and diagram. These variables includes: sex, age and highest education level achieved.

Table 4.3 Respondents' Profile – Age. Sex and Education

Age (in years)		**Young adults**	**Middle-aged adults**	**Older adults**		**Total**
Count		30	42	19		91
Percentage	25.27	49.45	18.68	6.59		100.00
Sex	Male	Female	-	-		
Count	60	31	-	-		91
Percentage	65.93	34.07	-	-		100.00
Education level	Secondary Education and Below	Diploma	Degree	Masters	PHD	
Count	-	10	63	18	-	91
Percentage	10.99	69.23	19.78	-		100.00

Source: own survey

Based on Table 4.3, among the total number of respondents 60 (about 65.93%) are male and 34.07% of the total respondents are female. Participants were categorized by age into young adults (ages 18-35 years; n = 30), middle-aged adults (ages 36-55 years, n = 42), and older adults (aged older than 55 years, n = 19). As Table 4.3 portrays, majority of the respondents, 63 in number (69.23%) are degree holders and 10.99% of the participants (10 in number) are diploma graduates and the remaining 18 (19.78%) comprises master‘s degree holders.The result indicates that the respondents were well qualified to response the needed information and this research collcted pertinent from well qualified and expriuenced respondents.

Table 4.4 Respondents‘ Profile – work Experience, position and working organization

	≤3	Between 3 and 5	Between 5 and 10	Between 10 and 15	>15
By work experience in year	15	20	42	6	10
	Managerial	Technical			
By position in their organization	61	30			
	aid organizations	Port service			
BY Current working place	80	11			

Source: own survey

As discussed in methodology part of the study, the researcher used purposive sampling method in order to gain sufficient data pertaining to this study. Therefore, while administering the research instruments, only employees at Head Officewho have the higher the job grade they entitled, given the higher probability of being included in the study.However, employees working at port service did not include in this study due to place difference and cost. In view of that, most of the participants(42 in number and 46.15%), have been working in their organization between 5 and 10 years who are at officer and managerial position.The subsequent most of the participants, 20 (21.97%), have been working in their organization between 3 and 5 years. The technical respondents comprised of 31 (34.9%) and the majority of the respondents were working in managerial and similar position.

4.4 Primary Data Analysis - Respondents' Perception about Port service and its Factors

4.4.1 The port service availability

The respondents were requested to rate the port service availability in our country with the appropriate factors of time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth) co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port and Factor productivity indicators also tend to focus on the maritime side of the port, for example to measure both labour and capital required to load or unload goods from a ship.

Table 4.5 Respondents' Rate the port service availability

	Very low	Low	Neutral	High	Very high
	Count	Count	Count	Count	Count
time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth)	0	6	11	26	48
Co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port.	0	8	7	36	40
Factor productivity indicators also tend to focus on the maritime side of the port, for example to measure both labour and capital required to load or unload goods from a ship.	0	6	9	36	40

Source: own survey, 2016

The port service availability was assessed on three main indicators and the result is presented in Table 4.5. Very high category is preferred by significant numbers of respondents for factor one called time measures and are mainly concerned with the ship (n=48; 52.75%). Category of high is

preferred by 26 respondents which is 28.57% and in total for both categories 74 respondents counted which is 81.32% of the total respondents. On this port service availability, the three factors were preferred as high and very high on more than 80 % (n=74 for the first factor and n =76 for other factors which is more than 80%).

Overall port service availability, 0% of the respondents responded very low but factor one and three preferred as low by six respondents (6.59%) and the second factor failed in the category of low by 8 respondents (8.79%). Similarly, for time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth) of kept neutral more than the other two factors called co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port and factor productivity indicators also tend to focus on the maritime side of the port, for example to measure both labor and capital required to load or unload goods from a ship.

4.4.2 Cost of the port service

In regard of the cost of port service cost, respondents were requested in terms of access for sea in terms of the financial indicators that are usually related to the sea access, the operating surplus or total income related to gross registered tonnes (GRT) or net registered tonnes (NRT), or charge per twenty foot equivalent unit (TEU) expensive and expenditure expensive in terms of related to gross registered tonnes (GRT) or net registered tonnes (NRT), or charge per twenty foot equivalent unit (TEU).

Table 4.6 Respondents‘ Rate cost of the port service

	Very low	Low	Neutral	High	Very high
	Count	Count	Count	Count	Count
Have access for sea in terms of The financial indicators that are usually related to the sea access	0	6	11	32	42
The operating surplus or total income	0	8	0	37	46
Expenditure expensive	0	8	0	32	51

Source: own survey, 2016

The result presented in Table 4.6 indicated that 80 % of respondents preferred the category of high and very high for these three of the cost of port service. Among them expenditure expensive in terms of related to gross registered tons (GRT) or net registered tons (NRT), or charge per twenty foot equivalent unit (TEU) failed in the category of very highby 51 respondents which is 56.04%. No respondents preferred very low category for all three factors and the first factor (n=6; 6.59%) was in the category of low by less amount than the two remaining factors (n=8; 8.79%). Respondents kept neutral for have access for sea in terms of the financial indicators that are usually related to the sea access as factor of cot of port service (n=11; 12.09%).

4.4.3 The Port Demand

Respondents were requested to rate the port service demand in terms of flexible and adaptable to deliver high quality goods and services, responsive to customers, offering choices of non-standardized services; that lead by persuasions and incentives and Empower citizens rather than simply serving them as institution.

Table 4.7 Respondents‘ Rate the port demand

	Very low	Low	Neutral	High	Very high
	Count	Count	Count	Count	Count
Flexible and adaptable to deliver high quality goods and services	4	61	15	4	7
Responsive to customers, offering choices of non-standardized services; that lead by persuasions and incentives	5	63	16	2	5
Empower citizens rather than simply serving them as institution	7	50	24	4	6

Source: own survey

The assessment for this section was made for three port service demand indicators as showed in the above. The results on these indicators were presented on Table 4.7. It is surprising that a completely differing responses were registered than the above two factors (portavailability and cost). The result presented in Table 4.7 indicated that 69.23% (n=63) of the respondents responded the category of

low for the second factor called responsive to customers, offering choices of non-standardized services. Flexible and adaptable to deliver high quality goods factor was preferred by 61 respondents (67.03 %) and services and the third factor called empower citizens rther than simply serving them as institution by 50 respondents (54.95%) were also failed in the category of low as a factor of port service demand. Greatest respondents kept neutral in this variable than the other two variables (availability and cost) as the majority registered for factor called empower citizens rather than simply serving them as institution (n=2; 26.37).

4.4.4 Port Satisfaction Level – Port Service

Table 4.8 Respondents' Rate the port service satisfaction

	Very low	Low	Neutral	High	Very high
	Count	Count	Count	Count	Count
Ports service organized based on the concept of systems thinking to the whole port organization	0	4	18	28	41
Location for value-added logistics, in which members of different channels can meet and interact	1	13	20	33	24
In relation to Perceived from an integrated logistics, can our port service facilitate trade and supply channel approach with our port claim further roles and dimensions.	7	7	10	44	23
From a logistics standpoint, a very important node since it serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers)	6	7	10	33	35
From a trade channel perspective, does our port have a key location where channel control and ownership can be identified and trading take place?	4	9	4	34	40
Port links outside flows and processes with creates patterns and processes of its own?	2	7	13	26	43
Port authority fit perfectly in the role of service and tool ports?	0	8	6	37	40

Source: own survey 2016

The main research area in this study was conducted on port service satisfaction level of aid organization for humanitarian logistics propose. Accordingly, respondents were requested their port service satisfactionlevel in terms ports service organized based on the concept of systems thinking to the whole port organization, location for value-added logisticsin which members of differentchannels can meet and interact, in relation to perceived from an integrated logistics, can our port service facilitate trade and supply channel approach with our port claim further roles and dimensions. In this regard, the factors included the perspective from a logistics standpoint, a very important node since it serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers).

The assessment for the satisfaction level in terms of the concept of systems thinking to the whole port organization indicated that most respondents which is 45.05% of the respondents expressed their satisfaction level by marking the category of very high and those respondents preferred category of high was 28 in n umber (30.77%). Aid organization were not so much interested as the previous factor on location for value-added logistics in which members of different channels can meet and interact as only 26.37% of respondents marked as the category of very high. Few respondents marked the category of very high (25.27%) for the third factor. 38.46 % of respondents marked the category of very high for a very important node since it serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers).

From a trade channel perspective, 47.25% respondents replied very highly which indicated our port have a key location where channel control and ownership can be identified and trading take place by marking the category of very high which is the highest among the group. 43.69% of respondents indicated that ourport links outside flows and processes with creates patterns and processes of its own Port authority fit perfectly in the role of service and tool ports as they marked the category of very high.

All factors are marked the category of very high by below 50% of the respondents that indicates that the respondents‘ satisfaction level was not fully or very high by the port service. Even the satisfaction level survey of high category was indicated as similar fashion; all factors were in the

category of high by below 40% except the third factor (location for value-added logistics in which members of different channels can meet and interact as scored 48% for high category).

4.4.5 Humanitarian Logistics

In this study, respondents were requested to rate their country humanitarian logistics whether it adapts and holds great potential to enhance the future of humanitarian response and relief. In addition, they were asked to rate Ethiopian humanitarian logistics stand as a key practical issue surrounding the systematic improvement of humanitarian action and analyse and effectively solve humanitarian challenges.

Table 4.9Respondents' Rate about humanitarian logistics in Ethiopia

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Count	Count	Count	Count	Count
Humanitarian logistics adapt and hold great potential to enhance the future of humanitarian response and relief	0	8	7	36	40
Humanitarian logistics stand as a key practical issue surrounding the systematic improvement of humanitarian action	0	6	11	32	42
Humanitarian logistics analyse and effectively solve humanitarian challenges	0	8	0	37	46

Source: own survey 2016

In this assessment, respondents were requested to rate their country humanitarian logistics whether it adapts and holds great potential to enhance the future of humanitarian response and relief. Accordingly, most respondents were in the category of very high by 43.96%, high by 39.56, kept neutral by 7.69 and others in the category of low by 8.79%. In addition, they were asked to rate Ethiopian humanitarian logistics stand as a key practical issue surrounding the systematic

improvement of humanitarian action and the result shows that 46.15% of respondents were in the category of very high, 35.16% in high, 12.09 kept neutral and 6.59 in low category. A very high score was registered in the last factor called analyse and effectively solve humanitarian challenges which have 50.55 % in very high, 40.66 in high and 8.79 in low category.

4.5 The growth of the cost allocated for delivering goods each year

This factor considers all the expenses that the aid organizations incur in their supply chain. These cost factors include shrinkage, administration and corridor costs. The primary components of the corridor cost are associated with port, shunting and transportation costs. Port costs include bagging, clearance, handling and port charges. Shunting costs can vary by location and are charged on a per metric ton basis. Transportation costs are provided as a birr (Ethiopian currency) rate per metric ton. These transportation costs inherently take into account such factors as economic forces, distance, time, and road conditions facing truck carriers contracted by the aid organizations.

Port Cost Comparison

The total port costs per metric ton, not including shunting, for bulk and break bulk cargo with the port shunting costs per metric ton by location are as follows: are as follows:

Table 4.10: Total Port Costs per Metric ton **by** Cargo Type and Shunting Costs per Metric Ton byPort and Shunting Location

Based on type of cargo				
	Djibouti Port	Barbara Port	Port Sudan	Mombasa
Bulk	$19.70	$19.92	$19.00	$16.79
Break Bulk	$12.10	N/A	$19.00	$7.30
Based on shunting location				
	Djibouti Port	Barbara Port	Port Sudan	Mombasa
PortWarehouse	$9.00	$5.66	$4.20	$4.10
Dry Port	$10.00	N/A	N/A	N/A
Free Zone	$13.00	N/A	N/A	N/A
Town Warehouse	$14.00	N/A	N/A	$2.40

Source: own survey 2016

As noted before, these are the two predominate forms of cargo and less than 1% of 2008 cargo was delivered via containers. Containerized cargo, where available, is significantly more expensive per metric ton than bulk or break bulk costs.Prior to 2009, the aid organization utilized only the Djibouti corridor to transport food aid into Ethiopia. However, now that Port of Sudan, Berbera and Mombasa ports are available, the aid organizations can properly identify the most appropriate corridor and the best timing for utilizing that corridor to deliver food aid to the Ethiopian population in need. The criteria that aid organization can use to determine the optimal corridor is based on a number of factors including time, cost, distance, reliability and relationship. As these factors are not mutually exclusive, it is important to understand how they influence each other.

To capture the total costs we analyzed the cost impact of cargo type (bulk or break bulk) as well as the impact of shunting. While containerized cargo is available at some ports, it was not include it in this analysis since it costs significantly more than bulk and break cargo and it is less than 1% of food aid volume. For the sake of simplicity, since the break bulk follows a similar relationship between the ports as bulk cargo, we are only going to focus our discussion on bulk cargo.

In regard of the cost of port service cost, respondents indicated that the port cost in terms of access for sea are very high of the financial indicators that are usually related to the sea access. They also indicated that the operating surplus or total income related to gross registered tonnes (GRT) or net registered tonnes (NRT), or charge per twenty foot equivalent unit (TEU) expensive and expenditure expensive in terms of related to gross registered tonnes (GRT) or net registered tonnes (NRT), or charge per twenty foot equivalent unit (TEU) are also high.

4.6 Constraints of humanitarian organizations face in relation to port services

The port service availability is a concern for Ethiopia for time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth) of kept neutral more than the other two factors called co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port and factor productivity indicators also tend to focus on the maritime side of the port on measuring both labor and capital required to load or unload goods from a ship. In regard of the cost of port service cost, the concern is on Co-ordination with land modes of transport

is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port.

There is a high and serious problem in relation to port service demand in terms of flexible and adaptable to deliver high quality goods and services, responsive to customers, offering choices of non-standardized services; that lead by persuasions and incentives and Empower citizens rather than simply serving them as institution.

The result presented in Table 4.7 indicated that there is a very low responsiveness to customers, offering choices of non-standardized services; that lead by persuasions and incentives as a factor of port service demand. Flexible and adaptable to deliver high quality goods and services and empower citizens rather than simply serving those as institution are also the problematic issue in port service in Ethiopia.

The Port Satisfaction Level – Port Service of our country indicated that the problem areas are bounded with location for value-added logistics in which members of different channels can meet and interact, in relation to perceived from an integrated logistics, port service facilitate trade and supply channel approach with our port claim further roles and dimensions. In this regard, there is a problem area that revolves on the perspective from a logistics standpoint. There is no important node that serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers).

4.7 The Satisfaction level of humanitarian organizations with the current port services available in Ethiopia

The Port Satisfaction Level as dependent variable used in this study to rate the port service satisfaction in terms of ports service organized based on the concept of systems thinking to the whole port organization, location for value-added logistics, in which members of different channels can meet and interact, in relation to what is perceived from an integrated logistics, can our port service facilitate trade and supply channel approach with our port claim further roles and dimensions. In this regard, the factors included the perspective from a logistics standpoint, a very

important node since it serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers). In this study, respondents were requested to rate their country humanitarian logistics as independent variable whether it adapts and holds great potential to enhance the future of humanitarian response and relief. In addition, they were asked to rate Ethiopian humanitarian logistics stand as a key practical issue surrounding the systematic improvement of humanitarian action and analyse and effectively solve humanitarian challenges.

Table 4.11 Correlation between port service satisfaction level and humanitarian logistics

		PSSL	HL
HL	Sig. (2-tailed)		.000
	N	91	91
	Pearson Correlation	.705**	1
	Sig. (2-tailed)	.000	
	N	91	91

Source: own survey 2016

A correlation analysis with Pearson_s correlation coefficient (r)was conducted on the modified and adopted model in the research to explore the relationships between the port service satisfaction and humanitarian logistics. Therefore, the correlation analysis illustrate the relation between the two factors is highly or strongly correlated as r=0.705 as sited by Haile (2013) to interpret the strengths of relationship between variables. His guidelines suggested that the classification of correlation of the correlation coefficient (r) as 0.1 - 0.29 is week ; 0.3 - 0.49 is moderate ; and = > 0.5 strong.

Abbreviations for this part analysis

- Humanitarian logistics – HL
- Port Service Satisfaction Level - PSSL

Table 4.12 Regression analysis 1

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.705[a]	.497	.491	.53817

a. Predictors: (Constant), PSSL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.449	1	25.449	87.866	.000[b]
	Residual	25.777	89	.290		
	Total	51.226	90			

a. Dependent Variable: HL

b. Predictors: (Constant), PSSL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.350	.314		4.303	.000
	PSSL	.725	.077	.705	9.374	.000

a. Dependent Variable: HL

Source: own survey 2016

In literature, linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable. In this research, the regression analysis used the independent variable indicated on the model to measure the humanitarian logistics. The significance level of 0.05 was used with 95% confidence interval. The reason for using single analysis was to examine the direct effect of port service satisfaction as the independent variable on the humanitarian logistics.

As indicated in the above table the independent variables predict the dependent variable R square = 49.7 % with adjusted R square 49.1 % the remaining 51.9 % other extraneous variable that can

affect humanitarian logistics. This result also indicates that the variable selected as independent had an effect on humanitarian logistics.

Table 4.11, the ANOVA test, it is noticed that F value of 87.866 is significant at 0.000 level. Therefore, from the result, it can be concluded that with 49.7% of the variance (R-Square) in port satisfaction level is significant and the model adopted appropriately measure the construct. The table also presents the result of regression analysis; the result regression analysis is based on port service satisfaction. The independent variables that contribute to variance of the dependent variable are explained by standardized Beta coefficient. Generally, the port service satisfaction will affect the humanitarian logistics.

4.8 PORT SERVICE AND ITS EFFECT ON HUMANITORIAN LOGISTICS IN ADDIS ABABA

Similarly, linear regression was used in this part of the study as it estimates the coefficients of the linear equation, involving one or more independent variables of port service availability, cost and demand that best predict the value of the dependent variable. In this research, the regression analysis used the independent variable indicated on the model to measure the humanitarian logistics. The significance level of 0.05 was used with 95% confidence interval. The reason for using multiple recreation analysis was to examine the direct effect of three dimension factor of the independent variable on the humanitarian logistics.

Abbreviations for this part analysis

- Humanitarian logistics – HL
- Port Service Availability - PSA
- Port Service Cost- PSC
- Port Service Demand - PCD

Table 4.13 Correlation analysis - port service and its effects

Correlations					
		HL	PSA	PSC	PCD
Pearson Correlation	HL	1.000	.864	.933	.046
	PSA	.864	1.000	.763	.028
	PSC	.933	.763	1.000	.070
	PCD	.046	.028	.070	1.000
Sig. (1-tailed)	HL	.	.000	.000	.334
	PSA	.000	.	.000	.396
	PSC	.000	.000	.	.256
	PCD	.334	.396	.256	.

Source: own survey 2016

Similarly, a correlation analysis was used in this part as Pearson_s correlation coefficient (r) was conducted on the modified and adopted model in the research to explore the relationships between the port service and its effect on humanitarian logistics. Therefore, the correlation analysis illustrate the relation between the two above factors is highly or strongly correlated as r=0.864 correlation between humanitarian, logistics and port availability and r=0.933 humanitarian logistics with port cost. But port service demand has a weak correlation (r=0.046) with humanitarian logistics.

Regression

Abbreviations for the next part of the part analysis (regression analysis). That is the port service and its effect on humanitarian logistics.

- Humanitarian logistics – HL
- Port Service Availability - PSA
- Port Service Cost- PSC
- Port Service Demand - PCD

Table 4.14 Regression analysis 2

Descriptive Statistics

	Mean	Std. Deviation	N
Humanitarian logistics – HL	4.2426	.75444	91
Port Service Availability - PSA	4.2231	.78647	91
Port Service Cost- PSC	4.3074	.77695	91
Port Service Demand - PCD	2.4137	.76893	91

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PCD, PSA, PSC[b]	.	Enter

a. Dependent Variable: HL

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.962[a]	.926	.923	.20926	1.792

a. Predictors: (Constant), PCD, PSA, PSC

b. Dependent Variable: HL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.416	3	15.805	360.943	.000[b]
	Residual	3.810	87	.044		
	Total	51.226	90			

a. Dependent Variable: HL

b. Predictors: (Constant), PCD, PSA, PSC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.049	.144		.342	.733		
	PSA	.350	.043	.365	8.068	.000	.418	2.394
	PSC	.636	.044	.655	14.449	.000	.416	2.403
	PCD	-.010	.029	-.010	-.352	.725	.994	1.006

a. Dependent Variable: HL

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	PSA	PSC	PCD
1	1	3.897	1.000	.00	.00	.00	.01
	2	.078	7.069	.00	.02	.02	.85
	3	.017	15.149	.99	.11	.08	.14
	4	.008	22.653	.00	.86	.90	.00

a. Dependent Variable: HL

Source: own survey 2016

As indicated in the above table the independent variables predict the dependent variable R square = 92.6% with adjusted R square 92.3% the remaining 7.7% other extraneous variable that can affect humanitarian logistics. This result also indicates that the variable selected as independent had an effect on humanitarian logistics.

Table 4.13, the ANOVA test, it is noticed that F value of 360.9 is significant at 0.000 level. Therefore, the result, it can be concluded that with 92.6% of the variance (R-Square) in port satisfaction level is significant and the model adopted appropriately measure the construct. The table also presents the result of regression analysis; the result regression analysis is based on port service satisfaction. The independent variables that contribute to variance of the dependent variable are explained by standardized Beta coefficient.

The VIF (Variance Inflation Factor) for each term in the model measures the combined effect of dependence among the regressors on the variance of that term. One or more large VIF indicate multicollinearity. Practical experience indicates that if any of the VIF results exceeds 5 or 10, it is an indication that the associated regression coefficients are poorly estimated because of multicollinearity. As shown in table 4.13 VIF result of the independent variable are below 2.4. This shows that the result is less than five so the variables are perfectly not correlated.Based on the above table on examining data analysis result,it is shown that port service demand is not the factor for humanitarian logistics whereas the other factors are the factors that affect the humanitarian logistics.

Obviously, port cost is important as the goal of the Ethiopian National Logistics Strategy is to enhance Ethiopia‘s economic growth through increasing trade, especially for value-added commodities, and through the reduction of ports service costs by increasing efficiency. It is basically focused on the logistics sector, particularly the import/export stream that is said to be one of the hurdles that slow down the country‘s growth. This is because the dry ports could handle many activities such as customs clearance, temporary storages, transshipment of goods, stuffing and un-stuffing of containers, consolidation of less than container loads and maintenance and repair of containers. Mojo and Semera dry ports have started working, building their capacity. The full implementation of Modjo and Semera dry ports and the construction of the remaining seven dry ports will have big impact in reducing sea port and transit costs. Each freight stations should have at least one forklift to handle containers while dry ports will have more than one based on their freight volume.

Similarly, sustaining quality humanitarian service in the country requires efficient port availability both at the shore side and dry land port access to improve the sectors capacity. Thus, port service availability to humanitarian supply chain management is still needed to strong need for making efficient service to the sector to improve the welfare of the community in the country.

Chapter 5

Summary, Conclusion, and Recommendation

5.1 Summary

This study focused on port services and its effect on humanitarian logistics. We know that ports have an important role to play in the integration of all three types of channel. There are many organizations occupied (or potentially occupied) with logistics and supply chain integration within and around ports, mainly in the role of logistics channel facilitators (ocean carriers, land-based carriers, port operators, freight forwarders, port agents, etc.), but also as public institutions such as Customs authorities. This paper adopted an approach that incorporates within a valid framework of analysing existing measures of port performance and efficiency, the association of ports with logistics and supply chain management, and appropriate measures of logistics and supply chain management efficiency in general and humanitarian operations and its effect in particular.

This study indicated that import cargo carried by uni-Modal Transport System 2007 - 2015 Efy include items of business investment equipment, relief food and food items, poly and cars. Item of business investment equipment are taken the highest share than relief food and food items. It was taken a year 2014 year data for comparison as business investment equipment yearly imported items amounting 4,315,408.132 in Birr which is almost ten times the value of imported items of relief food and food items that amounting the value of 452,715.440. This can be considered as the data is taken as of Ethiopian made tremendous development gains in education, health and food security in this year and especially in 2014, GDP growth was 10.3 percent (IMF). Table 4.1indicates that the highest recorded relief food and food items importing cargo carried by uni-Modal Transport System 2007 - 2015 Efy is 992,216.434 which is also the lowest from the business and investment equipment importing in the same year. Due to this economic growth made in Ethiopia the trend of growth of supply of goods imported for humanitarian services to the country, the evidences from secondary data. It indicates that the trend is decreasing from 2008 to 2015 by using the trend analysis that shows how a potential driver of change has developed over time, and how it is likely to develop in the future.

The price change in 2008 was dramatically increased by 89.08 % whereas there are two years (2010 and 2013) which have decreased the importing goods in relief food and foods items by 43.25 % and 39.60 percent respectively. In this study, the Percentage change is calculated based on the percentage change between two periods: calculate the amount of the increase/ (decrease) for the period by subtracting the earlier year from the later year. If the difference is negative, the change is a decrease and if the difference is positive, it is an increase and divides the change by the earlier year's balance. The result is the percentage change.

The respondents were requested to rate the port service availability in our country with the appropriate three main factors. The port service availability was assessed on three main indicators as showed in the above paragraph. The result is presented in Table 4.5; significant numbers of respondents preferred as very high for time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth) (n=48; 52.75% with high n=26; 28.57% in total n=74; 81.32%) in relation to port service availability. On port service availability, the three factors were preferred as high and very high on more than 80 % (n=74 for the first factor and n =76 for other factors which is more than 80%.

Overall port service availability, no respondent replied very low but factor one and three preferred as low by six respondents (6.59%) and the second factor failed in the category of low by 8 respondents (8.79%). Similarly, for time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth) of kept neutral more than the other two factors called co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port and factor productivity indicators also tend to focus on the maritime side of the port, for example to measure both labor and capital required to load or unload goods from a ship.

In regard of the cost of port service cost, respondents were requested in terms of three factors. The result of cost of the port service is presented in Table 4.6. The assessment was made for cost of port service in three factors as mentioned in the above. The result presented in Table 4.6 indicated that the cost of port service can be explained by the three factors as almost 80 % of respondents preferred high and very high for these three factors. Among them eexpenditure expensive in terms

of related to gross registered tons (GRT) or net registered tons (NRT), or charge per twenty foot equivalent unit (TEU) failed in the category of very high(n=51; 56.04%). No respondents preferred very low for these factors and the first factor (n=6; 6.59%) was in the category of low by less amount than the two remaining factors (n=8; 8.79%). Respondents kept neutral for have access for sea in terms of the financial indicators that are usually related to the sea access as factor of cot of port service (n=11; 12.09%).

Respondents were requested to rate the port service demand in terms of flexible and adaptable to deliver high quality goods and services, responsive to customers, offering choices of non-standardized services; that lead by persuasions and incentives and Empower citizens rather than simply serving them as institution. The assessment for this section was made for three port service demand indicators as showed in the above. The results on these indicators were presented on Table 4.7. It is surprised that a completely differing responses were registered than the above two factors (port availability and cost). The result indicated that 69.230% (n=63) of the respondents responded as low for rresponsive to customers, offering choices of non-standardized services; that lead by persuasions and incentives as a factor of port service demand. Flexible and adaptable to deliver high quality goods (n=61; 67.03 %) and services and empower citizens rather than simply serving them as institution (n=50; 54.95) were also failed in the category of low as a factor of port service demand. Greatest respondents kept neutral than in this variable than the other two variables (availability and cost) as the majority registered for factor called empower citizens rather than simply serving them as institution (n=2; 26.37).

The Port Satisfaction Level – Port Service of our country were one of the researchable area in this study. Accordingly, respondents were requested their port service satisfaction in terms ports service organized based on the concept of systems thinking to the whole port organization, location for value-added logistics in which members of different channels can meet and interact, in relation to Perceived from an integrated logistics, can our port service facilitate trade and supply channel approach with our port claim further roles and dimensions. In this regard, the factors included the perspective from a logistics standpoint, a very important node since it serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers).

The assessment for the concept of systems thinking to the whole port organization indicated that most respondents were satisfied as 45.05 preferred very high and 30.77 preferred high. In the factor called location for value-added logistics in which members of different channels can meet and interact, the respondents‘ satisfaction was lowered than the above factor as 26.37% marked as very high. Very high was selected in small amount (25.27) as low for all the seven factors for the factor that related to perceived from an integrated logistics, port service facilitate trade and supply channel approach with our port claim further roles and dimensions. In this regard, the factors included the perspective from a logistics standpoint was in the category of very high by 38.46 %, a very important node since it serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers).

The factor that explained as from a trade channel perspective, does our port have a key location where channel control and ownership can be identified and trading take place was in the category of very high by 47.25 which is the highest among the group. The other factor called port links outside flows and processes with creates patterns and processes of its own Port authority fit perfectly in the role of service and tool ports was in the category of very high by 43.69%.

All factors are in the category of very high (below 50%) that indicates that the respondents‘ satisfaction level was not fully or very high by the port service. Even the satisfaction level survey of high category was indicated as similar fashion; all factors were in the category of high (below 40%) except the third factor (location for value-added logistics in which members of different channels can meet and interact as scored 48% for high category).

In this study, respondents were requested to rate their country humanitarian logistics whether it adapts and holds great potential to enhance the future of humanitarian response and relief. In addition, they were asked to rate Ethiopian humanitarian logistics stand as a key practical issue surrounding the systematic improvement of humanitarian action and analyse and effectively solve humanitarian challenges. In this assessment, respondents were requested to rate their country humanitarian logistics whether it adapts and holds great potential to enhance the future of humanitarian response and relief. Accordingly, most respondents were in the category of very high by 43.96%, high by 39.56, kept neutral by 7.69 and others in the category of low by 8.79%. In addition, they were asked to rate Ethiopian humanitarian logistics stand as a key practical issue

surrounding the systematic improvement of humanitarian action and the result shows that 46.15% of respondents were in the category of very high, 35.16% in high, 12.09 kept neutral and 6.59 in low category. A very high score was registered in the last factor called analyse and effectively solve humanitarian challenges which have 50.55 % in very high, 40.66 in high and 8.79 in low category.

The port service availability is a concern for Ethiopia for time measures and are mainly concerned with the ship (e.g. ship turnaround time, ship waiting time, berth occupancy rate, working time at berth) of kept neutral more than the other two factors called co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port and factor productivity indicators also tend to focus on the maritime side of the port on measuring both labor and capital required to load or unload goods from a ship. In regard of the cost of port service cost, the concern is on Co-ordination with land modes of transport is measured, e.g. cargo dwell time or the time elapsed between cargo being unloaded from a ship until it leaves the port.

There is a high and serious problem in relation to port service demand in terms of flexible and adaptable to deliver high quality goods and services, responsive to customers, offering choices of non-standardized services; that lead by persuasions and incentives and Empower citizens rather than simply serving them as institution.

The result presented in Table 4.7 indicated that there is a very low responsiveness to customers, offering choices of non-standardized services; that lead by persuasions and incentives as a factor of port service demand. Flexible and adaptable to deliver high quality goods and services and empower citizens rather than simply serving those as institution are also the problematic issue in port service in Ethiopia.

The Port Satisfaction Level – Port Service of our country indicated that the problem areas are bounded with location for value-added logistics in which members of different channels can meet and interact, in relation to Perceived from an integrated logistics, port service facilitate trade and supply channel approach with our port claim further roles and dimensions. In this regard, there is a problem area that revolves on the perspective from a logistics standpoint. There is no important node that serves as an intermodal/multimodal transport intersection and operates as a logistics centre for the flows of goods (cargo) and people (passengers).

A correlation analysis with Pearson_s correlation coefficient (r)was conducted on the modified and adopted model in the research to explore the relationships between the port service satisfaction and humanitarian logistics. Therefore, the correlation analysis illustrate the relation between the two above factors is highly or strongly correlated as r=0.705 as sited by Haile (2013) to interpret the strengths of relationship between variables.

As indicated in the above table the independent variables predict the dependent variable R square = 49.7 % with adjusted R square 49.1 % the remaining 51.9 % other extraneous variable that can affect humanitarian logistics. This result also indicates that the variable selected as independent had an effect on humanitarian logistics. The result indicated that F value of 87.866 is significant at 0.000 level. Therefore, the result, it can be concluded that with 49.7% of the variance (R-Square) in port satisfaction level is significant and the model adopted appropriately measure the construct. The table also presents the result of regression analysis; the result regression analysis is based on port service satisfaction. The independent variables that contribute to variance of the dependent variable are explained by standardized Beta coefficient. Generally, the port service satisfaction will affect the humanitarian logistics.

Similarly, a correlation analysis was used in this part as Pearson_s correlation coefficient (r) was conducted on the modified and adopted model in the research to explore the relationships between the port service satisfaction and humanitarian logistics. Therefore, the correlation analysis illustrate the relation between the two above factors is highly or strongly correlated as r=0.864 correlation between humanitarian, logistics and port availability and r=0.933 humanitarian logistics with port cost. But port service demand has a weak correlation (r=0.046) .

As indicated in the above table the independent variables predict the dependent variable R square = 92.6% with adjusted R square 92.3% the remaining 7.7% other extraneous variable that can affect humanitarian logistics. This result also indicates that the variable selected as independent had an effect on humanitarian logistics. Table 4.13, the ANOVA test, it is noticed that F value of 360.9 is significant at 0.000 level. Therefore, the result, it can be concluded that with 92.6% of the variance (R-Square) in port satisfaction level is significant and the model adopted appropriately measure the construct. The table also presents the result of regression analysis; the result regression analysis is based on port service satisfaction. The independent variables that contribute to variance of the dependent variable are explained by standardized Beta coefficient. Based on the examining data analysis result, it is shown that port service demand is not the factor for humanitarian logistics whereas the other factors are the factors that affect the humanitarian logistics.

5.2 Conclusion

Based on the review and analysis made on the assessment of the significance of port serviceprovision in humanitarian aid services and the level of organizations‘ satisfaction in Addis Ababa the followingconclusions are made.

The trend of growth of supply of goods imported for humanitarian services to the country indicated as decreasing from 2008 to 2015. This study indicated that import cargo carried by uni-Modal Transport System 2007 - 2015 Efy include items of business investment equipment, relief food and food items, poly and cars. This study data was taken from 2007 to 2015 and on this time Ethiopian made tremendous development gains in education, health and food security in this year and especially in 2014, GDP growth was 10.3 percent (IMF). The relief food and food items importing cargo carried by uni-Modal Transport System 2007 - 2015 Efy is the lowest from the business and investment equipment importing in the same year. Due to this economic growth made in Ethiopia the trend of growth of supply of goods imported for humanitarian services to the country, the evidences from secondary data shows in the graph 4.2. The data showed that analysis of the trend of growth of supply of goods imported for humanitarian services to the country registered by Ethiopian shipping and logistics enterprise by unimodal section.

The relation between the two above factors is highly or strongly correlated as r=0.705 as sited by Haile (2013) to interpret the strengths of relationship between variables. It can be concluded that satisfaction level is significant effect on humanitarian logistics and the model adopted appropriately measure the construct.The relationships between the port service satisfaction and humanitarian logistics is highly or strongly correlated as r=0.864 correlation between humanitarian, logistics and port availability and r=0.933 humanitarian logistics with port cost. But port service demand has a weak correlation (r=0.046) . The port satisfaction level has a significant effect on humanitarian logistics and the model adopted appropriately measure the construct.It is concluded that port service demand is not the factor for humanitarian logistics whereas the other factors are the factors that affect the humanitarian logistics.

Sustaining quality humanitarian service in the country requires efficient port availability both at the shore side and dry land port access to improve the sectors capacity. However, port service to humanitarian supply chain management is still under facilitated that strong need for making efficient portal service available to the sector to improve the welfare of the community in the country.

5.3 Recommendation

- Ethiopia may need a proper port performance measurement based on indicators: macro performance indicators quantifying aggregate port impacts on economic activity, and micro performance indicators evaluating input/output ratio measurements of port operations. Various references, particularly UNCTAD monographs, provide a range of port indicators by ratio- type and category of operation indicators, and economic and financial indicators.
- Ethiopia may need an accurate study on ship turnaround time, ship waiting time, berth occupancy rate, working time at berth
- Co-ordination with land modes of transport should be a necessary factor to improve the humanitarian logistics in the country.
- Factor productivity should be studies as it should be an indicator that to focus on the maritime side of the port to measure both labour and capital required to load or unload goods from a ship
- The country should do more for its economic and financial development as the country is landlocked to get the sea access for emergency cases

- There should be studies on operating surplus or total income and expenditure related to gross registered tonnes (GRT) or net registered tonnes (NRT), or charge per twenty foot equivalent unit (TEU)
- The country should recognize more the port impacts on the economy that can be measured to assess the economic and social impacts of a seaport on its respective hinterland or foreland
- These is also a necessary thinking and adjustment on the traditional port measures and need to focus on sea access rather than land-side connections, and there is a need for better measurement of land-side efficiency
- The country should work on creation to adequate land-side connections. Land-side efficiency also needs to be addressed when ways are sought to expand port capacity. Port capacity is difficult to measure or even to define. It is to use the existing capacity rather than subsidize new transport infrastructure. A logistics and supply chain approach may achieve better use of port capacity.
- Our humanitarian emergency logistics should be focuses on the response phase of disaster management aimed at search and rescue, sustaining or saving life, and restoring self-sufficiency and it should involve trade-offs of speed, cost and accuracy with regard to the type of goods that are delivered and their quantities
- It is better to indicate that the sustaining quality humanitarian service should be improved in the country. It is necessary to bring efficient port availability both at the shore side and dry land port access to improve the sectors capacity. In addition, the port service to humanitarian supply chain management is still need an efficient portal service available to the sector to improve the welfare of the community in general.
- Other researchers may employ recent models propose or use data envelopment analysis (DEA) to evaluate port efficiency in the country

References

Argbeyen, O. (2007). Public Expenditure and Economic Growth. Ibadan: University of Ibadan Press.

Barro, R., & Grilli, V. (1994). European Macroeconomics. London: Macmillan.

CHARLES MBOHWA, 2010, HUMANITARIAN LOGISTICS: REVIEW AND CASE STUDY OF ZIMBABWEAN EXPERIENCES, Department of Quality and Operations Management University of Johannesburg South Africa

Clarke, W. (2006). Capital Budgeting and Planing. In H. A. Frank, & H. Frank (Ed.), Financial Management for the Public Services (pp. 45-46). New York: CRC Press.

Cooper, D. R., & Emory, C. W. (1995). Business Research Methods: sampling design (Fifth ed.). (R. T. Hercher, Ed.) New York: Irwin/McGraw-Hill.

Devrajen, S., Swarop, V., & Zou, H. (1996). The Composition of Public Expenditure and Economic Growth. Journal of Monetary Economics.

Doig, A. (1998). The Mismanagement of Financial Resources. In J. Wilson, Financial Management for the Pblic Services (p. 149). Berkshire: Open University Press.

Donald, N., & Shanglin, L. (1993). The differential effect on economic of Government expenditure on Education, welfare and Defense. Journal of Economic Development.

F.Calderon, J., & C.Gonzales. (1993). Methods of Research and Thesis Writing. Mandaluyong: National Book Store.

Filmer, D., & Pritchett, L. (1999). The impact of public spending on health. In does money matter? Social Science and Medicine (pp. 1309–1323).

Foster, G., & Wilson, J. (1998). National Health Service Financial Management. In J. Wilson, Financial Management for the Public Services (pp. 235-236). Berkshire: OpenUniversity Press.

Gardner, D. (1998). Performance Measures. In H. A. Frank, Financial Management for the Public Services (pp. 173-175). Berkshire: Open University Press.

Gay, L.R.; Mills, G.E.; & Airasian, P. (2009). Educational Research: Competencies for Analysis and Applications (9th ed.).New Jersey: Pearson.

Glassman, A., Becke, L., & Bun, a. C. (2008). Monitoring the quality of public spending in the social sectors in developing countries: Lessons from public expenditure tracking surveys and other sources. Transparency and Accountability Project (TAP).

Gregorios, A., & Ghosh, S. (2007). The impact of Government Expenditure on Growth: Empirical Evidence from Heterogeneous panel. Journal of public economics.

Ho, A., & Coates, P. (2006). Public Participation in Local Performance Management and Budgeting. In H. A. Frank, Public Financial Management (pp. 547-548). New York: CRC Press.

Inistitute of Ports of UK. (2011, December). Supplemental Guidance. (D. D. Sikhungo Dube, Ed.) Public Sector Definition , pp. 1-8.

Korman, J., & Bramasrene, T. (2007). The relationship between Government Expenditure and Economic Growth. Journal of Economic Education.

Kothari, C.R (2008). An introduction to operational Research, New Delhi: Vikas Publishing

Kumar, R. (2011). Research Methodology: step by step guide for beginners (3rd ed.). London: SAGE Publications LTD.

Landau, D. (1983). Government Expenditure and Economic Growth: A Cross Country Study. Southern Economic Journal.

Neal, Z. P., & Neal, J. W. (2012). The Public School as a Public Good:Direc and Indrect Pathways to community Satisfaction. Journal of Urban Affairs , 1-17.

OECD. (2011). Public Social Spending. In Society at a Glance 2011:OECD Social Indicators. OECD Publishing.

PEFA Ethiopia. (2010). Oromia RegionalL Government PEFA Assessment Report. Addis Ababa: PEFA .

Pyke, C. J. (1998). Local Government Financial Management. In H. A. Frank, Financial Management for the Public Services (p. 204). Berkshire: Open University Press.

Smith, K., & Scheffel, L. (2006). The Intersection of Accounting and Local Government Performance Measurement. In H. A. Frank, Public Financial Management (pp. 587-589). New York: CRC Press.

Sundet, G. (2004). Public Expenditure and Service Delivery Monitoring in Tanzania:Some international best practices and a discussion of present and planned Tanzanian initiatives. Dareselam.

Sunil, A., & Swaroop, V. (2008). Public spending and outcomes: Does governance matter? Journal of Development Economics , 97;98;108.

U.K. Treasury. (2011, December 20). (A. Fozzard, M. Holmes, J. Klugman, & a. K. Withers, Editors) Retrieved February 21, 2013, from U.K. Treasury Web site: http//www.hm-treasury.gov.uk/Documents/Public_spending_and_services

Wilson, J. (1998). Economics of Public Service Provision. In J. Wilson, Financial Management for the Public Services (pp. 7,35-36). Berkshire: Open University Press.
World Bank. (2004). Effectveness in Pblic Sectors:Making the Poor Ownership . Washington,DC: World Bank.

Web Site Addresses

Europe country fact : ource:http://ec.europa.eu/echo/files/aid/countries/factsheets/ethiopia_en.pdf
2 Markato: http://www.2merkato.com/articles/shipping/shipping-info/70-dry-ports-in-ethiopia
USAID Ethiopia website: https://www.usaid.gov/ethiopia
Wikipedia: https://en.wikipedia.org/wiki/Humanitarian_aid