



THE EFFECT OF HUMANITARIAN SUPPLY CHAIN MANAGEMENT PRACTICES ON THE PERFORMANCE OF SELECTED UN ORGANIZATIONS' EMERGENCY RESPONSE PROGRAMS OPERATING IN ETHIOPIA

BY

ZEWDI YOHANNES

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE OF BUSINESS AND ECONOMICS, SCHOOL OF COMMERCE FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS OF ART IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

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DECLARATION

I, Zewdi Yohannes, hereby declare that this thesis entitled “*The effect of humanitarian supply chain management practices on the performance of selected UN Organizations*” emergency response programs operating in Ethiopia”, has been carried out by me for the partial fulfillment of the requirement for the degree of Masters of Arts in Logistics and Supply Chain Management from the Addis Ababa University. This thesis is original and has not been submitted for any other university for any diploma or fellowship.

Zewdi Yohannes

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Date: _____

CERTIFICATION

This is to certify that the thesis entitled “*The effect of humanitarian supply chain management practices on the performance of selected UN Organizations*” submitted to Addis Ababa University School of Commerce for the award of the Degree of Master of Arts in Logistics and Supply Chain Management has been carried out by Zewdi Yohannes under my guidance and supervision.

Advisor: Shiferaw Mitiku (PhD)

Signature: _____

Date: _____

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The Researcher

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Abbreviations and Acronyms

UN – United Nations

HSCM – Humanitarian Supply Chain Management

HO – Humanitarian Organization

WFP - World Food Program

WHO - World Health Organization

IOM - International Organization for Migration

UNICEF – United Nations International Children's Emergency Fund

SCOR – Supply Chain Operation Reference

ERP – Emergency Response Programs

CSCMP – Council of Supply Chain Management Professionals

SCC – Supply Chain Council

KPI – Key Performance Indicator

SPSS - Statistical Package for Social Science

Abstract

The main purpose of this study was to investigate the effect of supply chain management practice on performance of humanitarian organization's emergency response programs of UN organizations operating in Ethiopia. The study adopted Explanatory (Correlation and regression) and descriptive (mean, frequency distribution, and simple percentage scores) research designs to explain and analyze the collected data with the help of Statistical Program for Social Sciences (SPSS) tool. Target populations of the study were Employees of the twenty eight UN agencies in Ethiopia while the Source population was accordingly the individual employees from selected four UN organizations operational in Ethiopia. The study used two staged sampling method, where purposive sampling was used at the first stage to select the four UN agencies matching the inclusion criteria while a stratified sampling method was used at the second stage to select the respective respondents (employees) from the selected agencies. The study further used analytical approach of sample size determination with study's sample size of 247. With doing so, the researcher, used an online data gathering tool (Survey Legend) and collected data. The result of the research analysis presents the existence of positive relationship between supply chain management practices and performance of emergency response programs. The studied agencies have high practice in both of their Humanitarian Supply Chain Management and performance practices in the Emergency Response Program. The study also showed that Humanitarian Supply Chain Management practices have an effect on the performance of Emergency Response Programs, except warehouse management. Future directives to additionally investigate the effect of determinants of supply chain management and performance determinants is forwarded by the researcher

Key words: supply chain management, procurement, transportation, warehouse, distribution, Responsiveness, reliability, agility and performance

CHAPTER ONE

INTRODUCTION

This chapter covers the background of the study, research problem, objectives of the study, research question, scope of the study, delimitation of the study, limitation of the study, definition of terms and organization of the study. The study aims to investigate the effect of humanitarian supply chain management practices on the performance of selected United Nation UN Organizations operating in Ethiopia.

1.1 BACKGROUND OF THE STUDY

Quick response to the ones who are in need of it is at its most importance for Humanitarian Organizations (HO) as it is their biggest motive. Considering the current situation Ethiopia is in, the need for an increased timely humanitarian assistance has initiated in. It is believed that studying the practices of Humanitarian Supply Chain Management (HSCM) & their effect on performance of emergency programs will have a great significance in a better understanding and in providing the effective achievement of overall program goals and plans of UN organizations. This study is inspired by the current situation in Ethiopia and the aid by relief organizations on emergency cases.

There are various kinds of serious disasters either natural occurring (e.g. earthquake, typhoons, floods, drought) or man-made (e.g. the event in the USA) around the world, such as the tsunami in the Indian Ocean (2004), the Katrina Hurricane in the US (2005), as well as the Sichuan earthquake in China (2008). These disasters have caused severe damage to our world (Ergonul S. 2005 & Chandre, 2007).

Natural & manmade public health emergencies are common in Ethiopia. These are epidemics of communicable diseases, earthquake, flood, drought, volcanic-eruptions (Ethiopian health and nutrition institute, 2012). In order to support rescue operation after disasters, the urgent relief service must be delivered to the affected areas as quickly as possible, i.e., the quick-responsive emergency logistics system is needed for the relief service operations.

The emergency logistics is a process of planning, managing and controlling the efficient flows of urgent relief information and services from the origin point to the destination points to meet the urgent needs of the affected areas under emergency conditions (Jiuh-Biing Sheu, 2007).

Researches have been done in time on the subjected study in the intent to understand the humanitarian logistics. Study results like Assessment of humanitarian logistics performance of the case of ERCS (Selamawit Gebreyesus, 2020) & Practice, challenges and performance of humanitarian logistics management in Plan International Ethiopia (Wolde Wodaje, 2019). Their results were positive as HSCM is central to humanitarian aids. But these studies have left a research gap on emergency case, which needs to be bridged to ensure that humanitarian supply chains are managed on emergency responses.

Relating to the above researched facts and the identified gaps regarding the specific research topic, this study is thought very important in discerning the supply chain with the humanitarian organization's performance on emergency cases in the UN organizations. As a major study motive, the study will carry out the investigation of selected UN organizations operating in Ethiopia namely WFP, WHO, IOM and UNICEF.

1.2 BACKGROUND OF THE ORGANIZATIONS

4 out of 28 UN organizations were selected for this study with an inclusion criterion of: Agencies that have direct contact with beneficiaries, agencies with emergency implementation programs and agencies that have purchase relief goods or supply of relief items by themselves. Relief aid given by the donor country is then transferred to an international organisation such as the World Bank or the United Nations Agencies (Multilateral aid) like UNDP, UNICEF and UNAID. Such organizations are not considered in this study. UN agencies that focus on development aid give aid to governments or other agencies to support the economic, environmental, social, and political development of developing countries. Such UN agencies are not included in this study. The United Nation organizations in Ethiopia employ several thousand Ethiopians and foreigners who are responsible for the fulfillment of its engagement. List of 28 agencies is annexed.

WFP

The World Food Programme (WFP) is the food-assistance branch of the United Nations. It is the world's largest humanitarian organization which focuses on hunger and food security and the largest provider of school meals. Founded in 1961, it is headquartered in Rome and has offices in

80 countries. As of 2019, it served 97 million people in 88 countries, the largest since 2012, with two-thirds of its activities conducted in conflict zones (WFP, 2018).

WHO

The World Health Organization (WHO) is a specialized agency of the United Nations responsible for international public health. The WHO constitution, which establishes the agency's governing structure and principles, states its main objective as "the attainment by all peoples of the highest possible health". It is headquartered in Geneva, Switzerland, with six semi-autonomous regional offices and 150 field offices worldwide (WHO, 2018).

IOM

International Organization for Migration (IOM) was first known as the Provisional Intergovernmental Committee for the Movement of Migrants from Europe (PICMME). It was born in 1951 out of the chaos and displacement of Western Europe following the Second World War. Mandated to help European governments to identify resettlement countries for the estimated 11 million people uprooted by the war, it arranged transport for nearly a million migrants during the 1950s (IOM, 2020).

UNICEF

United Nations International Children's Emergency Fund (UNICEF) was established in 1946 to provide relief to children in countries devastated by World War II. After 1950 the fund directed its efforts towards general programs for the improvement of children's welfare, particularly in less-developed countries and in various emergency situations (UNICEF, 2020).

1.3 STATEMENT OF THE PROBLEM

Despite recent economic growth and development, Ethiopia remains one of the poorest countries in the globe that, to a certain extent, depends on foreign Aid to implement humanitarian programs. Ethiopia is vulnerable to climate change induced disasters such as drought, epidemics, flood, conflict, earthquake, pests, wildfire and landslide, amongst others. These different hazards occur with varying frequency and severity. In summary, climate change leading to global warming and reduced rainfall, coupled with population pressure, deforestation and change in land use are all major factors in the increasing risk of drought in Ethiopia (Mercy Corps, 2019).

60 to 80 percent of humanitarian aid is utilized by the Humanitarian Supply Chain Management (Van Wassenhove, 2006). Humanitarian Organizations must be efficient in order to meet the

needs of the beneficiaries. Performance measurement is essential in order to improve humanitarian aid operations and meet its fundamental goals. Performance measurement helps decision makers in all levels (strategical, tactical and operational level) to make high quality services during humanitarian operations relief (Gunasekaran and Kobu 2007; Long 1997).

Even though there are researches undertaken on humanitarian supply chain performance, still there exists literature gap specifically in Emergency Response Program of UN operating in Ethiopia. This paper determines how the Supply Chain Operations Reference model and its associated performance attributes can be adapted to the humanitarian supply chain management practices in emergency responses suggested by Bolsche (2013). Therefore, it is believed by the researcher studying the practices of the HSCM and their effect towards the performance in ERP would enhance the performance of Humanitarian Organizations. In this study it is attempted to address those practices of HSCM and performance of HO in relief interventions. Coming to the specific study area of this study, the study therefore is believed that it will greatly be helpful in closely studying and analyzing the facts regarding HSCM practice and their effects on Emergency Response Performance (ERP) in selected UN organizations operating in Ethiopia. In addition to its direct worth in clarifying the activities with resultant recommendations, the study will also be vital in calling attention to the subject matter and also acts as a reference for possible ensuing researches on the same subject.

1.4 RESEARCH OBJECTIVE

1.4.1 GENERAL OBJECTIVE

The general objective of this study is to identify the effect of humanitarian supply chain management practices on the performance of WFP, WHO, UNICEF and IOM

1.4.2 SPECIFIC OBJECTIVES

1. To assess the humanitarian supply chain management practices of emergency response programs.
2. To measure the performance of humanitarian organization's emergency response programs.
3. To analyze the effect of humanitarian supply chain management practice on the performance of emergency response programs.

4. To explain the relationship between humanitarian supply chain management practices and performance of emergency response programs.

1.5 RESEARCH QUESTIONS

1. How is the humanitarian supply chain management being practiced in the emergency response programs?

2. How is the performance of humanitarian organization's emergency response programs measured?

3. What is the effect of humanitarian supply chain management practice on the performance of emergency response programs?

4. How are the humanitarian supply chain management practices related to the performance of emergency response programs?

1.6 SCOPE OF THE STUDY

The specific study area of this study is international organizations operating in Ethiopia with a clear focus on selected UN Organizations operating in the country. The study will further focus only on local staffs with direct involvement in the humanitarian aid implementation activities. It has a conceptual scope that deals only with SCM practice and relief program's performance. The forthcoming study result analysis and presentation covers the present time of study with possible recommendation.

1.7 LIMITATION OF THE STUDY

The first limitation this study has is that it only considered four determinants of supply chain management and it only studied three determinants of performance of emergency programs. this is due to the time limitation.

The second limitation is that it doesn't consider all the 28 UN organizations. It only engages with the mentioned four agencies.

1.8 SIGNIFICANCE OF THE STUDY

The significance of the study is that it fulfills the academic requirement. The other significance is that it provides an insight on the SCM practices and their effects on emergency response programs performance in relation to the SCOR model.

It is also thought that this study will greatly help the researcher acquire advanced knowledge and practical experience in understanding the existing facts on the chosen specific area of study and will further become an initial source document and a stepping stone for possible future researches and researchers who would want to carry out further study on the subject matter.

1.9 DEFINITION OF TERMS

Supply Chain Management: SCM is the handling of the entire production flow of a good or service starting from the raw components all the way to delivering the final product to the consumer (Thomas and Kopczak, 2005).

Humanitarian Organizations: HOs are organizations that help to ensure that there is an efficient humanitarian assistance available when disasters strike (Kovács & Spens, 2007).

Emergency Response Programs (ERPs): ERPs are events that represent a critical threat to the health, safety, security or wellbeing of a community or other large group of people, usually over a wide area (Fredrich *et al.*, 2000).

Performance of Humanitarian Organizations' (HO): HO performance is the effective shared performance of a complex system of different humanitarian members, that engage in saving lives, alleviating suffering and maintaining human dignity both during and in the outcome of man-made crises and natural disasters, along with working to prevent and strengthen preparedness for the occurrence of such situations (Bölsche, 2013).

Supply Chain Operation Reference (SCOR) model: SCOR is an international cross industry, best practice benchmarking standard and framework established by the Supply Chain Council in 1997 (Georgise *et al.*, 2012) and has now merged with APICS (formerly known as the American Production and Inventory Control Society) in 2014. SCOR is a comprehensive standard that is aligned with modeling and mapping flows within a supply chain such as materials, infrastructure and financial (Long, 2014).

1.10 ORGANIZATION OF THE STUDY

The study is organized in five major chapters. The first chapter basically be the introduction section which deals with the background of the study and that of the organization, the statement of the problem, research objectives, research question, significance of the study and scope, delimitation and limitations of the study, definition of terms. The review of related current and prior literatures mainly constitute the second chapter of the study with proper weight on both theoretical and empirical literatures to better provide conceptual frameworks that serves as the basis and guide in supporting the basic questions this study wants to analyze. The third chapter of the study briefly presents the study design and methodology. With this, the researcher elucidates the study design used, source of data and data collection techniques, sampling technique and target population, and finally method of data analysis and presentation. In concluding this study, the fourth chapter focuses on data analysis and presentation of results and the fifth chapter presents summary conclusion and recommendation on the study finding.

Auxiliary to the above mentioned five major sections, the study also includes Abstract, Acknowledgement, Table of contents, and List of tables and figures at the preface of the paper while References and necessary annexes follow the last chapter.

CHAPTER TWO

2. RELATED LITERATURE REVIEW

This chapter concisely introduces and gives a literature review on the works of various scholars in the area of performance of UN organizations in emergency response programs performance. It embraces definition. Grounded on the literature review, this thesis tries to combine and evaluate those research questions and identifies measurement variables which will be used for answering those research questions in order to analyze the emergency response programs performance of humanitarian organizations being specifically on UN organizations operating in Ethiopia. And the variables will be used to support the conceptual framework.

2.1. THEORETICAL LITERATURE REVIEW

2.1.1 SUPPLY CHAIN MANAGEMENT

SCM is the interaction of different companies, each one performing its value-added activities, in an attempt to make a final product (Makris *et al.* 2008). A company's supply chain involves geographically dispersed facilities, where raw materials, intermediate products, or finished products are acquired, transformed, stored, or sold and the transportation links that connect facilities along which the products flow (Makris *et al.* 2011). This chain is traditionally characterized by the flow of materials and information both within and between business entities. Within this flow and network, the following processes are taking place: purchasing from suppliers, supplier delivery, reception of the raw materials and semi-finished products and their storage, production, storage of the finished goods, delivery through distribution network to the final customer and reverse logistics (Stefanovic and Stefanovic 2008).

SCM involves the planning and management of all activities linked to material, information and financial flows in supply chain operation (Karen M. Spens, 2012). The succeeding most frequently used definition of SCM is given by the Council of SCM Professionals (CSCMP)

SCM embraces the planning and management of all activities included in sourcing and procurement, conversion, and all Logistics Management activities. It also includes coordination and collaboration with channel partners that can be suppliers, intermediaries, third-party service providers, and customers. SCM integrates supply and demand management within and across companies (CSCMP, 2014).

The main elements of SCM are the upstream parties, the downstream parties and the integration of all the organizations included, together with the internal function of an organization itself (Handfield and Nichols, 1999). It is further stated that the upstream parties contains of an organization's functions, processes and network of suppliers whereas the downstream function on the other hand deals with the distribution channels, processes and functions where the product passes through to the end customer.

An organization's supply chain is comprised of geographically disseminated facilities where raw materials, intermediate products, or finished products are acquired, transformed, stored, or sold and transportation links connecting facilities along which products flow. Consequently, supply chain management requires suitable planning and control of materials. As pointed out by (Cooper *et al.*, 1997), the planning and control of materials and information flows as well as logistics activities in supply chain management not only involve the internally activities within a company, but also the external activities among companies. Therefore, due to the increasing number of players and forces, a supply chain may grow into a supply network which will need a more complex and complicated management system.

As said by Thomas and Kopczak (2005), SCM is central to humanitarian aid and disaster relief for three reasons: SCM is one of the most costly parts of a relief effort because of inventory and transportation, SCM plays a very essential role in response for major humanitarian Programs, such as food, water, shelter, and sanitation and SCM is the origin of data that can be analyzed to provide post event learning in that the logistics department is liable to tracking goods through the chain.

Thus, SCM is significant to the performance of both current and future operations and programs. An efficient and flexible humanitarian relief supply chains is the crucial subject in disaster relief, discussed from academics as well as practitioners (Kovacs & Spens, 2007).

2.1.2 HUMANITARIAN ORGANIZATIONS EMERGENCY RELIEEFS

HOs are agencies whose main objective is to save lives, sooth human suffering and of course maintain human dignity during & aftermath of a disaster (Huber, 1981).

As to Beamon & Balcik (2008), agencies offer humanitarian assistance either in emergency relief aid or development aid. Relief aid involves providing aid and assistance when disaster strikes

whereas development aid focuses on long term visions. Emergency relief could be serviced by using closely located stockpiles to avoid expensive express shipments over long distances. Emergency operations aim to reach the beneficiaries as fast as possible. Development activities are in charge of bringing self-sufficiency and sustainability. Development aid uses un-consigned stock to avoid long lead times from distant suppliers. Development aid activities can be creating self-sufficiency and sustainability, technological support, rural development, livelihood support projects, establishing permanent and reliable transportation and healthcare centers. This study focuses on the emergency relief programs only.

After the happening of a disaster, there starts to occur victims' request. A process or a way of responding to victims is the same though disasters are of different. An assessment of determining the needed items is the first step in humanitarian actions. Donations and procurement processes are organized to meet those requests. Trained staff is allocated to receive and distribute the supplies, whereas specialized teams carry out the services (e.g., medical, telecommunications, water and sanitation (Jane k., 2013).

Emergency relief services are delivered to beneficiaries in an aim of addressing immediate basic need in times of crisis. Emergency relief supports people experiencing financial distress or hardship and who have limited means or resources to help them through their crisis. Emergency relief societies can be the first point of contact for an individual with complex needs. This early intervention can lead to better outcomes and future self-sufficiency for individuals and families. The type of assistance offered by emergency relief societies may include the followings such as: food, medicine, shelter, cloths or budgeting assistance (Schulz, 2008).

2.1.3 SUPPLY CHAIN MANAGEMENT PRACTICE

Anisya and Kopczak (2005) said that Humanitarian supply chain management (HSCM) planning, executing and monitoring the efficient, cost-effective flow as well as storage of things from the point of origin to the point it reaches beneficiaries. Most of the aid comes from richest countries and is given to places where disaster occurs. This is done by humanitarian supply chain acting as a bridge between the two countries.

Humanitarian aid process is highly influenced by the humanitarian supply chain management. HSCM has an impact on both the speed and quality of humanitarian relief. Improvement in the

supply chain has a positive influence on beneficiaries. The better supply chain readiness, the better and on time reply provided to the ones in need of it (Kovacs and Spen, 2007).

As stated by Blacik and Beaamon (2008), the core components of the humanitarian relief supply chain are: (i). Procurement, (ii). Transport, (iii). Warehousing management and (iv). Distribution

i. Procurement

As to Blecken and Hellingrath (2008), relief items have to reach to beneficiaries in a timely manner and also in a satisfactory amount so as to accomplish the goal of saving lives. Procurement in humanitarian supply chain fulfills the necessary relief items asked by recipients. There occur different procurement decisions made by humanitarian organizations in order to bring better transport, storage and distribution of relief items. As to the estimation, 65 percent of the total expenses in disaster relief logistics accounts for the procurement process. Procurement activities can either happen during the disaster or before it strikes. Relief goods are collected to nearby places to disaster prone areas to be offered to beneficiaries during the early days of disaster when procurement is done before the happening of disaster.

But according to Balcik and Beaamon (2008), humanitarian agencies engage in procurement of relief goods after the occurrence of a disaster. A small percentage of the total relief supply is procured from the pre-positioned items. It is not economical to store relief items and the stored items are often not sufficient for the relief acts. Hence disaster's nature of being random, unpredictable and severity of a disaster, relief organizations prefer after disaster happens. Beneficiary requests are achieved either by special supply contracts set by some suppliers at pre-disaster or in-kind aids. In the supply contracts enormous humanitarian agencies make long-term agreements with suppliers. In-kind aids are usually not known and are most likely to increase after the disaster.

ii. Transport

Transportation is portion of logistics which is about arrival of relief aid items to where they are needed. The items to be transported can be from abroad or with in the country. These items are to be given safe and timely. The followings must be considered transportation. These are alternative means, methods and routes (Van Wassenhove, 2006).

Performance of logistics is significantly affected by transportation which is a key element of logistic cost (Ballou, 2004).

According to Beamon and Balcik and (2008), for humanitarian activities transportation has a major focus since these organizations meet hardships in post disaster transportation. These hardships arise due to damaged infrastructure, limited transportation resources and large amounts of items to be transported.

Kumar and Havey (2013) stated in their study, in order to establish an effective disaster relief activities there should be effective way of transportation of goods and procurement. They also suggested approaches for validity of infrastructure.

iii. Warehousing management

Stock and Lambert (2001) warehousing is loading of items between the time they are collected and the time they are provided to victims. Warehousing is governed by human resources and needed facilities and equipment prices.

Warehouse is a place used for storing items till they reach to beneficiaries. Warehouse's primary use is to manage and safeguard humanitarian items. Reserving of supplies for forthcoming use and unanticipated needs must be taken in to account (Balcik and Beamon, 2008).

Tuzkaya and Onut (2009) performance of a supply chain in an organization is highly affected by the performance of a warehouse. Inappropriate warehouse choice or management results in loss of lives (Pazour and Carlo, 2015).

Humanitarian items will be kept in the warehouse when bought ahead of the happening of a disaster. This is highly influenced by level of funding sources, uncertainty of disaster incidences and high operational costs related with managing distribution centers. This approach is not followed by all humanitarian organizations. Pre-positioning of items in the warehouse can be of global or regional. Commonly used places for storage are at airports and seaports (Balcik *et al.*, 2010).

iv. Distribution

The flow of goods from a warehouse to the areas that are affected is called distribution. Relieves can be of the form food, medicines, shelters and other related relief materials to wounded people.

There must be an efficient planning as there is uncertainty in the post-disaster situation (Afshar and Haighani, 2012).

Afshar and Haighani (2012) offered a mathematical model that is used to govern flow of relief commodities from the source to beneficiaries. Some scholars have worked on resource allocation, the resources being vehicles, commodities, or equipment (Holguín-Veraset *et al.*, 2013), Zhang *et al.*, 2012 and Fiedrich *et al.* 2000). Resource allocation deals with assigning the resources without bearing in mind of the flow. When demand increases resource allocation becomes tougher. Brown and Vassilou (1993) proposed a resource allocation model for disasters. Later Fiedrich *et al.*, (2000) presented a better disaster allocation model.

2.1.4 PERFORMANCE MEASUREMENT IN HUMANITARIAN ORGANIZATIONS

Measuring performance motivates organizations to advance their performance (Ferreira *et al.*, 2012). Performance measurement can be described as a process, the process of gathering data, analyzing it, and reporting over a certain point decided in advance (Behn, 2003). Performance measurement also includes the process of quantifying the effectiveness and efficiency of the past actions (Neely *et al.*, 2002) and the evaluation of how well organizations manage and deliver their value to the stakeholders and customers (Moulin, 2007). Performance measurement targets to give the understanding that all organizations are measuring performance and that the measure is used for setting a goal (Behn, 2003). For example, the target of HOs measuring performance in humanitarian operations is to create value by relieving the occurred disaster (Moulin, 2007).

Performance measurement has other purposes such as to evaluate, control, budget, motivate, promote, celebrate, learn, and improve some targeted processes (Behn, 2003). As to Wedera and Hellingrath (2011), Performance measurement is a promising way to increase the organization's value and to obtain the organizations' target and the organizations need to set key performance indicators (KPIs) which have weighted importance for the overall performance. KPIs are numeric information that is related to organizations' objective when creating performance measurement to prevent isolated views and misinterpretation. It includes different aspects in terms of classification, notation, definitions, calculations, and applications which supports the development of performance measurements. Nevertheless, performance measurement and its KPIs are more flourished in the commercial supply chain rather than humanitarian supply chain

due to humanitarian supply chain needing a higher degree of complexity when managing its logistic processes (Blecken, 2010).

Humanitarian performance is the cumulative performance of international, national and locally-based organizations' system whose goal is to save lives alleviate suffering and maintain human dignity both during and in the aftermath effects of man-made crises and natural disaster, also working to prevent and build up strong enough preparation for the occurrence of such conditions (Ramalingam and Mitchell, 2009).

There are five performance attributes in accordance to the SCOR model regarding to the performance of a logistics function. These traits are reliability or delivery reliability, responsiveness, flexibility, cost and asset management efficiency. Delivery reliability, flexibility and responsiveness performance attributes are those that focus on customers whereas cost and asset management efficiency focus on the organization (Supply Chain Council, 2012).

Delivery reliability is performance of the logistics function that brings the right product to the right recipient at the right time and right quantity. Responsiveness deals with the speed at which the logistics function provides goods or items to the receivers. Flexibility or agility is the capability of responding to varying demands in terms of both in variety and volume. Cost refers for the costs related to running the logistics function. Asset management efficiency is the efficiency in managing assets in order to satisfy beneficiaries' request (Supply Chain Council, 2012).

2.1.5 SUPPLY CHAIN OPERATIONS REFERENCE (SCOR) MODEL

2.1.5.1 SCOR STRUCTURE

The Supply-Chain Operations Reference (SCOR) is a process reference model developed by the Supply Chain Council (SCC) to assist firms in increasing the effectiveness of their supply chains, and to provide a process-based approach to SCM (Lockamy III and McCormack, 2004). SCOR model helps as a tool for assessing activities and performances in the supply chain. It gives a way that connects process, practice and technology to enhance communication among bodies in the supply chain also to increase the supply chain management's effectiveness and associated improvement in the activities of the supply chain (SCC, 2012).

The SCC released the first version of the SCOR model. It included Plan, Make, Source, and Deliver as the stages of the supply chain in addition to metrics, best practices, and technology (Phelps, 2006; Galazzo, N. 2006; Magnusson, 2010). Version 4 was the first to include the Return stage of the supply chain. Currently, Version 10.0 of the SCOR-model is the twelfth revision since the Model's introduction in 1996. Revisions of the Model are made when it is determined by Council members that changes should be made to facilitate the use of the Model in practice. The SCOR model (version 10.0) consists of four major components:

A) Performance: Standard metrics to describe process performance and define strategic goals.

B) Processes: Standard descriptions of management processes and process relationships.

C) Practices: Management practices that produce significant better process performance.

D) People: Standard definitions for skills required to perform supply chain processes.

The SCOR model helps as an indicator of how effective a firm uses assets in a plan to create customer value. It engages with performance expectation on both input and output sides of supply chain activities. The Performance attributes are features of the supply chain that are used to analyze and evaluate supply chains against competing plans. Performance attributes are grouped as customer focused and internal focused. Reliability, responsiveness and agility are considered as customer focused. And the rest cost and asset management are considered internal focused. Here the study only takes reliability, responsiveness & agility only in to account as they focus on the beneficiaries (Mehmet *et al.*, 2011).

Table: 2.1 SCOR Performance Attributes

Performance Attribute	Definition
Reliability	The ability to perform tasks as expected. Reliability focuses on predictability of the outcome of a process. Typical metrics for the reliability of attribute include: On time, the right quantity, the right quality
Responsiveness	The speed at which tasks are performed. The speed at which a supply chain provides products to the customer. Examples include: Cycle time metrics.

Agility	The ability to respond to external influence, the ability to respond to marketplace changes to gain or maintain competitive advantage. SCOR agility metrics include: Flexibility and Adaptability.
Cost	The cost of operating the supply chain processes. This includes: Labor costs, material costs, management and transportation costs. A typical cost metrics is Cost of Goods Sold.
Asset Management Efficiency (Assets)	The ability to efficiently utilize assets. Asset management strategies in a supply chain include inventory reduction and in-sourcing vs. outsourcing. Asset management efficiency metrics include: Inventory days of Supply and capacity utilization.

Source: SCC, 2012

2.2 EMPIRICAL LITERATURE REVIEW

2.2.1 PRACTICES OF SUPPLY CHAIN MANAGEMENT

This section focuses on reviews of various previous studies that have been made on the area of humanitarian supply chain management and performance of humanitarian aid organizations.

Munguti R. (2013), studied humanitarian supply chain management practice in disaster works in Kenya. The study was of a descriptive type and studied 27 humanitarian agencies. The study resulted that practices of humanitarian logistics enhanced the betterment of humanitarian organization goal.

Another study made by Mohamed H. (2012), indicated the connections between practices of humanitarian supply chain management & performance of humanitarian agencies in Kenya. It was a descriptive type of study made on 28 humanitarian agencies. Results concluded some prevalent practices among humanitarian agencies in Kenya. These are: effective and efficient internal action, flexible production procedures, good supplier relationship, inter-organization incorporations and ease in internal operations, continuous enhancement and use of technology to accelerate humanitarian operations.

2.2.2 HUMANITARIAN ORGANIZATION'S PERFORMANCE

As to O'Neill and Young (1988), relief performances are highly influenced by the effectiveness and efficiency of the relief supply chain. But performance measurement in relief chain hasn't got abundant attention in the literature.

It was studied by Qing *et al.* (2016), how the SCOR model's performances attributes could be used in the humanitarian supply chain. They mapped the standard supply chain processes of humanitarian agencies and brought a set of twenty-four KPIs for HOs in order to measure and control their supply chain performances effectively. It measures the performance in terms of agility, responsiveness, reliability, and cost effectiveness along the whole supply chain processes.

According to Jane Kieinde Kinyua (2013), who researched the factors affecting humanitarian supply chain performance in Kenya, a descriptive type of study was made with organizational factors, socio-economic factors, environmental factors, supply chain Decisions, funding status, and government situational factors variables. Performance was demonstrated with supply chain responsiveness, meeting deadlines, flexibility and reliability. It was concluded that financial limitations, government bureaucracy, infrastructure trials, procurement delays had significant relationship with supply chain performance.

2.3 CONCEPTUAL FRAMEWORK OF THE STUDY

As it is said in the previous chapter of this paper, the aim of the study is to investigate if the practices of the SCM have an effect on the performances of humanitarian organization in their ERP. Accordingly, the study analyzes the relationship and possible effect of SCM practices (independent variable) on the ERP performance (dependent variable) of selected UN organizations. The following conceptual framework illustrates the above statements.

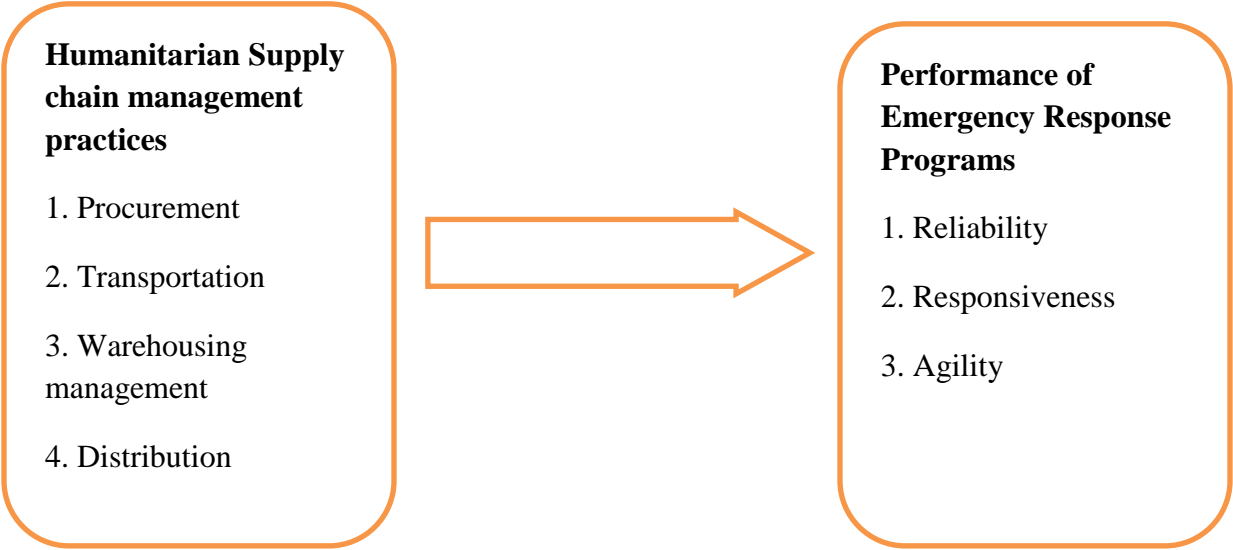


Figure 2.1 Conceptual Framework of the Study

CHAPTER THREE

3. METHODS OF THE STUDY

This chapter deals with the methodology used by the study: that is the research design, research approach, population & sample design, data source & type. Data collection procedure, method of data analysis & presentation, validity & reliability test & ethical consideration.

3.1 DESCRIPTION OF THE STUDY AREA

The study was conducted on selected UN organizations operating in Ethiopia. The mission of these organizations is to prevent and alleviate human sufferings through appropriate and timely humanitarian aid in Ethiopia and around the world. The SCM practices were evaluated & their cumulative effect was studied with respect to ERPs performance.

3.2 RESEARCH APPROACH

The research approach this study followed was quantitative and qualitative approach. Data was collected from local staffs with the help of a questionnaire which was of close ended questions, and then analysis & generalization of those results was done with SPSS (Statistical Package for the Social Sciences) version 26.

3.3 RESEARCH DESIGN

The study used descriptive & explanatory type of research designs to assess, explore and further analyze the humanitarian supply chain management practices & their effect on the performance of emergency response programs more specifically in the selected UN organizations operating in Ethiopia. Furthermore, relationship between the HSCM practices with ERPs performance with the help of the SCOR model was studied.

Descriptive analysis precisely engages with mean, frequency distribution, and simple percentage scores aided in analyzing the responses with regard to the variables. Correlation and regression, using statistical analyses, was used under explanatory design to describe the effect and relationship between variables.

3.4 POPULATION & SAMPLE DESIGN

Target populations of this study were the 28 UN agencies in the country while the Source populations were the selected 4 UN organizations operational in Ethiopia. The selection method used two staged sampling method, where purposive sampling was used at the first stage to select the 4 UN agencies matching the inclusion criteria which was stated in the scope of the study in chapter one. With this as a base, the study has selected WFP, WHO, IOM and UNICEF. These are purposely selected to include all organizational schemes of the UN System as they represent agencies, programs and organizations. In the second stage of sampling, a stratified sampling method was used to select the respective respondents (employees) from the selected agencies with proportional allocation of agency's respondents' number basing the total employee number in the respective organizations and study sample size. In doing so, the study specifically chose the local staffs only who have an involvement in delivering aid to people with humanitarian crisis. The respondents belong to varying strata in terms gender, age, level of education and work experience.

3.5 SAMPLE SIZE DETERMINATION

The below formula was selected in calculating the total sample size of the study. The total number of employees working in the selected 4 UN agencies in Ethiopia was found to be 694 which are accordingly used as the population size (N). These 694 employees work in performance, transportation, warehouse management and distribution. Therefore, using the below formula and total population number, the sample size for the study is found to be 247. The respective number of respondents in the particular agency is accordingly assigned as per the percentage proportion of the individual agency's population from the total population size of the 4 organizations (N=694).

$$n = \frac{Z^2 PqN}{e^2} = 666.52$$

$$\frac{n}{e^2 (N-1) + Z^2 Pq} = 2.69$$

$$666.52 / 2.69 = 247$$

n= sample size

N= population size (694)

Z=abscissa corresponding to the horizontal axis in the normal distribution curve (1.96)

P= prevalence (0.5)

q= (p-1) =0.5

e= desired margin of error =0.05

	No. of National staff	Percentage	N0. Of Employees for the questionnaire
WFP	120	120/694=0.17	247*0.17=42
WHO	192	192/694=0.28	247*0.28=69
IOM	264	264/694=0.38	247*0.38=94
UNICEF	118	118/694=0.17	247*0.17=42
Σ	694	1	247

Table 3.1 Selected Agencies with respective number of participants for the questionnaire

3.6 DATA SOURCE & TYPE

Primary & secondary sources of data were used in order to accomplish the objectives of the research. The data source that the study used was primary data from selected UN organizations' employees pursuant to acceptance by the respective organizations employees while secondary data was collected from already available publications and from different articles & books. Primary sources of data for this study are the questionnaires. They are mainly chosen for the study since they provide firsthand information from respondents which were very crucial in reaching at the intended study result.

The type of data the study comprised was quantitative data from primary sources of data. Quantitative data was collected through prepared questionnaire disseminated to willing respondents via an online data collection tool called Survey Legend.

3.7 DATA COLLECTION INSTRUMENT

Self-administered & structured questionnaire was used by the study. The researcher used a survey development online tool to gather the needed data. The ultimate goal of the questionnaire is mainly to get a firsthand data by providing a close ended question which can be easily answered through scaling method. This Likert scale assistances respondents to indicate their views on a scale of 1 up to 5. Accordingly, indicators representing variables in research framework were captured using a 5-point Likert scales, ranging from strongly disagree to strongly agree.

It is thought by the researcher this easy & convenient to answer questionnaire allows primary data collection which at the same time can describe the intended outcome. Based on literature review findings, a combination of work of Wolde (2019) & Yaregal (2019) was adopted with thoughtful amendment and re-arrangement of the questions to fit the specific purpose.

The questionnaire was structured in three majorly divided sections of questions that aim at gathering evidence on the SCM practice and their effect in selected UN organizations ERP performance. The questionnaire was divided in to four sections The first section: (1) dealt with general information or profile of respondents, the second section (2) was about SCM practice of selected UN organizations, the third section (3) emphasized on questions about ERP performance of selected UN organizations in emergency programs.

3.8 DATA COLLECTION PROCEDURE

In order to get permission for the commencement of the data collection, the data collection process primarily started with briefing the overall research intention and data collection procedure to the management of the selected UN organizations and operating in Ethiopia. Employees working in Addis Ababa who have direct involvement with humanitarian aid actions were requested to fill the questionnaire. Based on the information received from human resource department, identified respondents directly participated in the filling of the survey questionnaire through an introductory email. This introductory email outlined the purpose of the survey and also the importance of their honest inputs. It also stated that it assures the anonymity & confidentiality of the collected information. Respondents were informed that the filling of the questionnaire was entirely voluntary & only those who had self-willingness can confirm availability when replying to the participation request email. Collection of the filled questionnaires was done from the

electronically made data tool platform & further organized to make it ready for the data analysis process.

3.9 METHOD OF DATA ANALYSIS & PRESENTATION

Comprehensive analysis of the study problem was believed to be done after the collection of quantitative data. Descriptive statistics such as mean, frequency, standard deviation and simple percentage was used to measure, compare and define the responses. Inferential statistics namely correlation and regression analysis with the help of SPSS software were used to analyze the data and determine the existence of a significant correlation between SCM practice and ERP performance.

3.10 VALIDITY & RELIABILITY TEST

As said by Kirk & Miller (1986), there exist two different concepts when it comes to the collection of information. These are names as Validity and Reliability. No matter which method is applied by the researcher when aiming to collect information, the researcher always has to check how valid & reliable it is.

Validity deals with truthfulness of conclusions that are generated by a study (Silverman, 1999). The subjective judgment on data collection and its analysis is the main concern. As a result, this study is looking to contribute with stimulating ideas that can further be studied and examined by new studies.

Validity of this study was verified by the advisor of this research who decides on the relevance of questions as well as the scales of measurement. Peer discussion with other researchers and logisticians has been done as it is another way of checking the appropriateness of questions.

A research's reliability is majorly concerned with the question of whether the results of the study are repeatable. In other term, reliability evaluates the degree in which same findings can be obtained if the specific research is to be developed once again (Silverman, 1997). Taking this fact in to consideration, the researcher gave a superior emphasis to the proper planning and structuring of the overall data collection processes to confirming the subsequent result is reliable. Moreover; a more practical field-tested questionnaire was adopted to minimize the potentials of creating any possible doubt, blurred or confusing understanding from the respondent side.

The study used Cronbach's Alpha (α), which is the most common measure of scale reliability to carry out the reliability analysis. Reliability coefficient of Cronbach's alpha is between 0 and 1. The closer the coefficient gets to 1, the greater the internal consistency of the items in the scale. Accordingly, the acceptable values of alpha, greater than or equals to 0.70 Cronbach's alpha are acceptable values as stated by Cronbach (1951). As illustrated in table 3.2, the Cronbach's alpha coefficients of all dependent and independent variables are greater than 0.70 confirming the fact that the instrument for this research is reliable.

Table 3.2 Reliability Statistics

No.	Variables	No. of items	Cronbach's Alpha Coefficient	(α) reliability ranges
1	Procurement	6	0.868	Good
2	Transportation	5	0.894	Good
3	Warehouse Management	3	0.887	Good
4	Distribution Management	5	0.852	Good
5	Reliability	8	0.928	Excellent
6	Responsiveness	4	0.852	Good
7	Agility	2	0.82	Good
Over all			0.871	Good

Source: SPSS output of survey, 2021

3.11 ETHICAL CONSIDERATIONS

The successful completion of this study was achieved by the willingness of individuals to disclose the necessary information. For this reason the researcher makes sure in treating both the respondents and the information they provide with honesty and respect. Confidentiality and anonymity were given supreme importance in conducting the study. Willing respondents were distributed questionnaire along a brief description of aim of the study before starting the collection of data. The respondents were well informed about the purpose of the study along with their full right not to be part of the study. They were well acquainted with the fact that their response & their identity would be kept confidential.

CHAPTER FOUR

4. DATA ANALYSIS, RESULT, DISCUSSION AND INTERPRETATION

INTRODUCTION

The main objective of this study was to analyze the effects of HSCM practices on the performance of ERP of the selected UN organizations. This chapter presents the results and findings of the study, interpretation and discussion of the results.

4.1 RESPONDENT'S DEMOGRAPHY

This section analyses results of demographic data such as gender, age, level of education and work experience.

Table 4.1 Demography of respondents

ITEM	CATEGORY	FREQUENCY	PERCENTAGE
Gender	Male	156	66.4%
	Female	79	33.6%
Age	18 – 25 years	4	1.7%
	26 – 35 years	109	46.4%
	36 – 45 years	73	31.1%
	Above 45 years	49	20.9%
Level of education	Diploma	28	11.9%
	Degree	142	60.4%
	Masters and above	65	27.7%
Work experience	0 -5 years	119	50.6%
	6 – 10 years	91	38.7%
	More than 10 years	25	10.6%

Source : Research data, 2021

247 questionnaires were addressed to individuals and 235 responses were received through the survey legend online tool. This indicates that 95.14% of the questionnaire was received while the 4.86% were not returned. Mugenda and Mugenda (1999), if a questionnaire has 50% of response percentage, then it is suitable for analysis. In addition, 60% of response is assumed to be good while 70% and more is classified as excellent. As a deduction, the rate of response of this particular study

is considered as representative and sufficient to undertake analysis. SPSS (Version 26) was used for analysis.

Regarding the gender composition of the respondents, 156 (66.4 %) are male while 79 (33.6%) are female. The age segregation further shows that about 113 (48.1%) of the respondents are less or equal to the age of 35 and 122 (52%) are above the age of 36. The overall educational level frequency distribution shows that most of the respondents are degree and master’s holders; 60.4% and 27.7% respectively. The data relating to the working experience of respondents further shows that 119 (50.6) of the respondents have worked for 5 or less years and 91 (38.7%) of the respondents have worked in their current organization between 6-10 years while those who worked for more than 10 years are 25 (10.6%).

4.2 HUMANITARIAN SUPPLY CHAIN MANAGEMENT PRACTICES

Primary data was collected from respondents about the Supply Chain Management practices in their organizations under procurement, transportation, warehouse management and distribution categories. Respondents gave responses by using the five point Likert scale. The findings will be discussed below.

4.2.1 DESCRIPTIVE ANALYSIS OF HUMANITARIAN SUPPLY CHAIN MANAGEMENT PRACTICES

Table 4.2 mean and standard deviation of responses for procurement, transportation, warehouse management and distribution practice.

Procurement related questions	Mean	Std. Deviation
procurement system results in speedy acquisition of items	3.60	1.217
relief items are properly managed in the procurement department	3.91	1.009
emergency items are procured based on requests of staff of the org.	4.02	1.123
procurement of items match vol. & type of item demanded by the program	4.02	0.958
on time delivery with no delay of supply of item is made by the program	3.15	1.151
there is sufficient personnel with required skills in the procurement team	3.66	1.039
Grand	3.73	1.08

Transportation related questions	Mean	Std. Deviation
the org. uses all kinds of transportation modes to transport people & items	3.91	1.202
the org. outsources transportation of items & people to third party transportation firms	4.11	0.975
emergency items are effectively & efficiently supplied	4.09	0.822
the org. supports transportation firms that deliver the transportation of supplies	3.96	0.969
there is a pre-selected list of transportation firms to choose for an emergency	4.04	0.990
Grand	4.02	0.99
Warehouse management related questions	Mean	Std. Deviation
the agency has sufficient and suitable warehouses	3.91	1.071
field warehouses location is convenient and accessible for item distribution	3.98	1.002
field warehouses are suitable for direct distribution of relief goods when needed	3.81	1.087
Grand	3.90	1.053
Distribution related questions	Mean	Std. Deviation
field Distribution centers of the org. are convenient for distribution and reduce operational cost	3.87	1.067
field distribution team is familiar with the system & procedures of org. distribution	3.96	.900
the distribution group knows urgency of the condition	4.15	.852
distribution team is properly structured to enable on the spot situational decisions	3.89	.907
regular training is given by the org. to enhance individual capacity & for better performance	3.55	1.050
Grand	3.88	0.95

SPSS output survey, 2021

Moidunny, K. (2009) stated that mean score that is between 1.00 - 1.80 is considered as very low, 1.81 - 2.60 as low, 2.61 - 3.20 as medium, 3.21 - 4.2 as high and 4.21 - 5.00 as very high.

4.2.1.1 DESCRIPTIVE ANALYSIS FOR PROCUREMENT PRACTICE

As indicated in table 4.2, the first question which asks about the speedy acquisition of items has a mean and standard deviation of 3.6 and 1.217 respectively. The second question that engages with the proper management of relief item has a mean value of 3.91 and a standard deviation of 1.009. For the third question that asks if emergency items are procured based on the employee's requirement has a mean and standard deviation of 4.02 and 1.123 respectively. The fourth question which asks if procured items match volume and type of demanded items has 4.02 mean value and 0.958 value of standard deviation. The fifth question is about on time delivery of items and has mean and standard deviation of 3.15 and 1.152 respectively. The last question is about if there exists skilled personnel in the procurement team and has 3.66 mean value and 1.039 value of standard deviation. The overall mean for the procurement practice is 3.73 and 1.08 for that of the standard deviation. Therefore it can be said that procurement is highly practiced in the studied organizations.

4.2.1.2 DESCRIPTIVE ANALYSIS FOR TRANSPORTATION PRACTICE

As shown in table 4.3, the first question is about if the organization utilizes all kinds of modes of transportation has a mean value of 3.91 and 1.202 standard deviation. Accordingly, the second question is about if the organization outsources transportation of supplies and people has a mean and standard deviation value of 4.11 and 0.975 respectively. Coming to the third question, it deals with effective and efficient supply of emergency items and has 4.09 mean value and 0.822 standard deviation value. Proceeding to the fourth question, which asks whether, the agency supports transportation firms that deliver supply of emergency items has 3.96 mean value and 0.969 standard deviation value. The last question which asks if there is a pre-selected list of transportation firms to choose for the execution of emergency aid has 4.04 mean value and 0.99 standard deviation. The overall mean for the transportation practice is 4.02 and 0.99 for that of the standard deviation. Therefore it is possible to say that transportation is highly practiced in the studied agencies.

4.2.1.3 DESCRIPTIVE ANALYSIS FOR WAREHOUSE MANAGEMENT PRACTICE

The above table 4.4 illustrates the first question which deals with the organization's warehouse being sufficient and suitable is of 3.91 mean value and that of 1.071 standard deviation. Going to the second question, it asks about the convenience and accessibility of warehouse, it has 3.98 mean value and 1.002 standard deviation value. The last question deals with the suitability of the warehouse for direct distribution of items has mean and standard deviation value of 3.81 and 1.087 respectively. The overall mean for the warehouse management practice is 3.9 and 1.053 for that of the standard deviation. As a result, it can be concluded that warehouse is highly practiced in the studied organizations.

4.2.1.4 DESCRIPTIVE ANALYSIS FOR DISTRIBUTION PRACTICE

As table 4.5 shows, the first question regarding distribution is, if field distribution centers of the agency are convenient for distribution of items is of 3.87 mean value and 1.067 standard deviation. Going to the second question, it asks if the field distribution team is familiar with the agency's distribution system, this has mean and standard deviation of 3.96 and 0.9 respectively. On the third question, it asks if the distribution team understands the urgency of emergency case has 4.15 mean and 0.852 standard deviation. The fourth question deals with the structure of the distribution team to make on spot situational decisions has 3.89 mean value and 0.907 standard deviation value. The last question asks if regular trainings are given by the agency so as to enhance the individual capacity and to make the performance better is of 3.55 mean value and 1.05 standard deviation. The overall mean for the distribution practice is 3.88 and 0.955 for that of the standard deviation. In conclusion, it can be said that distribution is highly practiced in the studied agencies.

4.2.2 SUMMARY OF HUMANITARIAN SUPPLY CHAIN MANAGEMENT PRACTICES

The four recognized practices: procurement has a grand mean of 3.73 while transportation practice has 4.02 grand mean value. Warehouse management practice has 3.9 grand mean whereas distribution practice has a grand mean value of 3.88. The below table 4.3 shows the Grand of Grand mean value of HSCM as 3.88. This mean value stands in the highly exercised zone. Consequently, it can be said that the HSCM practices are highly practiced in the studied agencies.

Table 4.3 summary of HSCM practices' mean value evaluation

SCM practices	N	Grand Mean	St. deviation
Procurement	235	3.73	1.08
Transportation	235	4.02	0.99
Warehouse management	235	3.90	1.053
Distribution	235	3.88	0.955
HSCM practices		3.88	1.02

4.2.3 DISSCUSSION ON HSCM PRACTICES (EMPIRICAL EVIDENCE)

As per the study's result, which is shown in the previous table 4.3 as 3.88 it is possible to say Humanitarian Supply Chain Management practices, are highly practiced in the studied organizations.

The result stated above agrees with the findings of Selamawit Gebreyesus (2020) on Analysis of humanitarian logistics practices on performance of ERCS. The study's findings showed that the humanitarian logistics practices are important in the performance of the ERCS. It also showed that there is a positive correlation between the two variables. It also coincides with study results of Wolde Wodaje (2019), Practice, challenges and performance of humanitarian logistics management in Plan International Ethiopia. The results were positive as HSCM is fundamental to humanitarian aids performance.

4.3 HUMANITARIN ORGANIZATION'S PERFORMANCE ON EMERGENCY RESPONSE PROGRAMS

Here the selected Performance parameters namely: reliability, responsiveness and agility are analyzed as follows.

4.3.1 DESCRIPTIVE ANALYSIS OF PERFORMANCE ON EMERGENCY RESPONSE PROGRAMS

Table 4.4 mean and standard deviation of responses for reliability, responsiveness and agility practice.

Reliability related questions	Mean	Std. Deviation
items are accurately delivered to beneficiaries	4.09	0.769
emergency goods are supplied in the demanded quantity	3.87	1.005

the agency attains commit date of emergency supplies	3.96	0.800
the agency provides victims' request to the correct location and recipients	4.04	0.800
the suppliers complete correct and readily accessible required documentations	4.00	0.877
the suppliers complete correct and readily accessible shipping documentations	4.09	0.848
the agency provides faultless operation in delivering of relief items	3.70	0.990
the organization delivers emergency deliveries in a damage free state	3.79	0.946
Grand	3.94	0.879
Responsiveness related questions	Mean	Std. Deviation
the agency authorizes supplier payment cycle time	3.81	0.868
the organization selects suppliers and negotiates cycle time	3.89	0.833
the agency receives and verifies products by customer cycle time	3.81	0.843
the organization selects transporters and rates shipments cycle time	3.87	0.868
Grand	3.85	0.853
Agility related questions	Mean	Std. Deviation
unplanned demanded items are easily fulfilled by the organization	3.32	1.036
the agency easily entertains altered volume requests from initial assessments	3.51	1.111
Grand	3.42	1.073

SPSS output survey, 2021

4.3.1.1 DESCRIPTIVE ANALYSIS FOR RELIABILITY PRACTICE

Table 4.4 illustrates accurate delivery of items to victims in mean result of 4.09 and standard deviation of 0.769. Continuing to the second parameter, i.e. supply of emergency items in the demanded quantity results in 3.87 mean and 1.005 standard deviation. Attainment of the organization to commit date of emergency items has mean and standard deviation of 3.96 and 0.8

respectively. The fourth question is about if the agency delivers the requests to correct location and recipients has 4.04 mean and 0.8 standard deviation. The fifth parameter is if suppliers complete correct and readily accessible required documentations has a mean value of 4.0 and 0.877 standard deviation. The question that deals with suppliers shipping documentation has mean and standard deviation of 4.09 and 0.848 correspondingly. The parameter of the agency's faultless operation in delivery of items has 3.7 mean value and 0.99 standard deviation. The last question which engages in the delivery of damage free emergency goods has 3.79 mean and 0.946 standard deviation. The overall mean for the reliability is 3.942 and 0.879 for that of the standard deviation. Therefore it can be said that reliability is highly practiced in the studied agencies.

4.3.1.2 DESCRIPTIVE ANALYSIS FOR RESPONSIVENESS PRACTICE

As put in the above table, the question for authorization of the agency of supplier cycle time has 3.81 and 0.686 standard deviation. The second parameter is if the organization selects suppliers and negotiates cycle time is of 3.89 mean result and 0.833 standard deviation. Coming to the third question, i.e. the agency verifies products by customer cycle time has mean and standard deviation of 3.81 and 0.843 respectively. The fourth question is about the agency's selection for transporters and if rates shipments cycle time has 3.87 mean and 0.868 standard deviation. The overall mean for the responsibility is 3.845 and 0.853 for that of the standard deviation. Accordingly, it can be said that responsiveness is highly practiced in the studied organizations.

4.3.1.3 DESCRIPTIVE ANALYSIS FOR AGILITY PRACTICE

The above table indicates the agency's fulfillment of unplanned demanded items with 3.32 mean result and 1.036 standard deviation. The second question engages if the agency easily can come up with altered volume requests compared to initial requests has mean and standard deviation of 3.51 and 1.111 correspondingly. The overall mean for the agility is 3.415 and 1.073 for that of the standard deviation. It is possible to deduct that agility is highly practiced in the agencies.

4.3.2 SUMMARY OF HUMANITARIN ORGANIZATIONS' PERFORMANCE ON EMERGENCY RESPONSE PROGRAMS

SCOR model is composed of five performance features and these attributes need to be taken in to consideration while performing the performance. The features consist of reliability, responsiveness, agility, cost and asset management. The first 3 elements deal with the beneficiaries whereas the last two are about the organization. As a study motive, the paper only deals with

reliability, responsiveness and agility. The grand mean result of reliability is 3.94 and 3.85 for responsiveness. Agility has a grand mean of 3.42 result. The below table 4.5 illustrates that Performance practices have a grand of grand mean result as 3.74. Consequently, Performance practices of Emergency Response Programs are said to be highly practiced in the studied agencies.

Table 4.5 summary of Performance practices’ mean value evaluation

Performance attributes	N	Grand Mean	St. deviation
Reliability	235	3.94	0.879
Responsiveness	235	3.85	0.853
Agility	235	3.42	1.073
Performance practices		3.74	0.9

Source: SPSS output survey, 2021

4.3.3 DISSCUSSION ON HSCM PRACTICES (EMPIRICAL EVIDENCE)

This study result agrees with Selamawit G. (2020) and Wolde W. (2019). It indicates that performance is highly exercised in their studies.

4.4 VARIABLE RELATIONSHIP ANALYSIS

4.4.1 CORRELATION ANALYSIS

Correlation analysis is used in this study to measure the strength of the relationship between the dependent and independent variables (Kothari, 2004). Here Pearson correlation coefficient is used to help to show the closeness among variables (Field, 2006). As a result, a Pearson correlation coefficient value falls between -1 and 1. A -1 result means there is a strong negative correlation and +1 means that there is a strong positive correlation. A 0 result means that there is no correlation in between (this is also called zero correlation). Pearson correlation coefficient factors deduct the following. If the value lies between 0.0-0.19 is taken as very weak, 0.2-0.39 as weak, 0.4-0.59 as moderate, 0.6-0.79 as strong and 0.8-1 as very strong. Accordingly, the below Table 4.11 describes the correlation between the independent variable (HSCM practices) and dependent variable (ERP performance indicators).

Table 4.6 Correlation between humanitarian supply chain management practices and emergency response programs performance

		Correlations				
		Procurement	Transportation	Warehouse	Distribution	Performance
Performance	Pearson Correlation	.798**	.793**	.780**	.838**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	235	235	235	235	235

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

Source: SPSS output survey, 2021

The above table illustrates there is a very strong positive correlation between procurement and ERP performance with Pearson correlation coefficient of 0.798. Transportation has a strong positive correlation between procurement and ERP performance with Pearson correlation coefficient of 0.793. Warehouse management has a strong positive correlation between procurement and ERP performance with Pearson correlation coefficient of 0.78. Distribution has a very strong positive correlation between procurement and ERP performance with Pearson correlation coefficient of 0.838. Here we can conclude that ERP performance is positively affected by procurement, transportation, warehouse management and distribution.

4.4.2 ASSUMPTIONS OF MULTIPLE LINEAR REGRESSION

Multiple regression analysis is a statistical method used to predict the impact of dependent (outcome) variable on independent (predictor) variables (Robert, 2006). The study used multiple regression analysis since the independent variable consists of more than one variable. In order to do the multiple regressions, the researcher has made assumption tests. These are: normality of the distribution, linearity of the relationship between independent and dependent variables and absence of multi-collinearity tests on the variables of the study.

4.4.2.1 NORMALITY OF THE DISTRIBUTION

This assumption is made so as to check if the data are normally distributed or not. Normality of distribution can be checked with a graphical (histogram and dot plot) method of tests. In the

histogram, a bell shaped symmetrical curve is observed by having maximum scores in the middle and lesser at the edges. The researcher used normal probability plot (NPP) in order to check the normality assumption. If the line in the NPP has a shape of approximately a straight line, then it can be deduced that the variables are normally distributed (Gujarati, 2004). The histogram and normal probability plot (NPP) of the dependent variable are given annexed in appendix B as figure 4.1 and figure 4.2 respectively.

4.4.2.2 LINEARITY TEST / HOMOSCEDASTICITY

This test is conducted to see if there is a linear relationship between independent and dependent variable. This indicates that the relationship between the independent Variables and the dependent Variable could be molded by a straight line suggesting that the relationship between these variables is linear. Linearity assumes that correlation between variables is linear. This test checks if residuals are equally distributed, or if they tend to bunch together at some values, or spread far apart entailing heteroscedasticity. The figures show that the data used for this research is homoscedastic confirming the randomly distribution of data and are annexed in appendix B as figure 4.3 for procurement, figure 4.4 for transportation, figure 4.5 for warehouse management and figure 4.6 for distribution.

4.4.2.3 MULTI-COLLINEARITY TEST

Multi-collinearity is a situation in which predictor variables are highly correlated or interrelated (Ramadan et al., 2017). Raykov and Marculides (2006) said the presence of multi-collinearity in a regression analysis indicate the use of redundant information which as a result can lead to unstable regression coefficient estimates.

Absence of multi-collinearity can be checked in two ways. The first way is done by checking the value of correlation coefficients of predictor variables and check for coefficients with magnitudes of 0.80 or higher which indicates multi-collinearity since tolerance values must be between 0.1 - 1. The second way of checking for absence of multi-collinearity is by analyzing the variance inflation factor (VIF). If the VIF value lies between 1-10, then there is no multicollinearity (Sekaran & Bougie, 2013).

Table 4.7 Multi-collinearity analysis

Predictor variables	Collinearity Statistics	
	Tolerance	VIF
Procurement	0.371	2.694
Transportation	0.508	1.968
Warehouse management	0.291	3.442
Distribution	0.390	2.561

Source: SPSS output survey, 2021

As values of table 4.7 show, all the values of tolerance of the four independent variables are greater than 0.1. This tells that the four variables do not influence one another ensuring the appropriateness of performing the regression analysis. Accordingly, the value of all variable's VIF value is less than 10. It can be concluded as the problem of multi-collinearity is not a concern in the model

4.4.3 MULTIPLE REGRESSION ON THE EFFECT OF SUPPLY CHAIN MANAGEMENT PRACTICE ON EMERGENCY RESPONSE PROGRAMS PERFORMANCE

Following the above assumptions, the study carried out a multiple regression analysis to show if the variables in the independent variable explain a statistically significant amount of variance in the dependent variable

As shown in table 4.8 below, the R² (percent of variance) for this model is 0.863. This value indicates that all independent variables contribute about 86.3% to the dependent variable (performance) while the rest 13.7% of the variance in performance is to be explained by other factors which are not included in this study. This shows a strong relationship between performance and its determinants. Here the value of adjusted R square is higher than the benchmark of 0.5 which is sufficiently explainable enough for the regression model. High value of adjusted R square means that the study's independent variables have considerable influence on the dependent variable. R's value (0.929 or 92.9%) implies that that independent variable is 93% correlated with the dependent variable.

Table 4.8 Multiple Regression: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.929 ^a	0.863	0.860	3.14186

a. Predictors: (Constant), distribution, transportation, procurement and warehouse

Source: SPSS output survey, 2021

4.4.4 REGRESSION COEFFICIENTS

A standardized beta coefficient helps to compare the strength of the effect of each individual variable in the independent variable to the dependent variable. The higher the absolute value of the beta coefficient, the stronger the effect.

Table 4.9 Regression coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.075	1.132		3.601	0.000
	Procurement	0.424	0.067	0.255	6.355	0.000
	Transportation	0.704	0.069	0.351	10.232	0.000
	Warehouse	0.190	0.133	0.065	1.426	0.155
	Distribution	0.816	0.080	0.399	10.201	0.000

a. Dependent Variable: Performance

Source: SPSS output survey, 2021

The result revealed that the coefficient of the constant term (4.075) was positive. This indicated that positive association existed between dependent variable and independent variables. A standardized beta coefficient compares the strength of the effect of each individual independent variable to the dependent variable. In table 4.9, it is shown that distribution has the first positive significant effect ($\beta = 0.399$ or 39.9%), being followed by transportation ($\beta = 0.351$ or 35.1%), procurement stands on the third place ($\beta = 0.255$ or 25.5%) finally, warehouse has the least significant effect on the dependent variable ($\beta = 0.065$ or 6.5%).

In addition, the p-value for procurement, transportation and distribution is 0.00, warehouse management has 0.155 p-value which is not statistically significant. This points out that the independent variables (procurement, transportation and distribution) are statistically significant except for warehouse management with p value greater than 0.05, specifying that changes made in these independent variables are associated with changes in the dependent variable except for warehouse management. Warehouse management adds no contribution.

Using table 4.9 as a base, the researcher has developed the following regression equation.

$$Y = c + 0.255(p) + 0.351(t) + 0.399(d) + 0.05 \epsilon$$

Where Y = dependent variable (Performance)

c= constant (4.075)

p= procurement

t= transportation

d= distribution

ϵ = error

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

INTRODUCTION

This chapter discusses the summary of findings of the study. Conclusions are given based on the findings and recommendations are made by the researcher made from the findings and also for future research.

5.1 SUMMARY

This study is intended to evaluate the humanitarian supply chain management practices and performance of emergency response programs and to assess the effect of these practices on emergency responses programs performance of the selected UN agencies operating in Ethiopia.

The study accordingly focused on analyzing the practices and effect of four determinants of Humanitarian Supply Chain Management attributes (procurement, transportation, warehouse management and distribution) and performance of Emergency Response Programs in selected UN employees in Ethiopia. Accordingly, the result of the study entailed an existence of a strong positive relationship between supply chain management practices with the performance of emergency programs. Furthermore, the result also presented the fact that HSCM practices affect the Emergency Response Programs in the selected UN agencies.

The first research question was how the humanitarian supply chain management is being practiced in the emergency response programs and the study's result showed that the humanitarian supply chain management practices have grand of grand mean value of 3.88 which implies that these practices are highly practiced in the studied organizations.

The second research question was how the performance of emergency response programs is measured and the findings revealed that performance of Emergency Response Programs have grand of grand mean result of 3.74 this value stands in the highly exercised zone. Therefore, the performance of Emergency Response Programs are said to be highly practiced in the selected organizations.

The third research question was what effect humanitarian supply chain management practices have

on the performance of emergency response programs. Regression tests were used to test cause-and-effect relationships. They look for the effect of one or more continuous variables on another variable. Regression analysis is a reliable method of identifying which variables have impact on the topic of interest. The study used findings of Multiple linear regression analysis to investigate the effect of Humanitarian Supply Chain Management practices on Emergency Response Programs performance. Procurement has $\beta = 0.255$ or 25.5% effect, Transportation has $\beta = 0.351$ or 35.1% effect, warehouse has $\beta = 0.065$ or 6.5% effect and distribution has $\beta = 0.399$ or 39.9% effect on the performance.

Furthermore, it can be said that distribution has the highest effect followed by transportation, procurement and warehouse on the performance of Emergency Response Programs. Warehouse management's effect can be dropped because it has *p*-value greater than 0.05.

The fourth research question was how the Humanitarian Supply Chain Management practices are related to the performance of emergency response programs. The study results showed that Correlation quantifies the degree and direction to which two variables are related. It tells how much one variable tends to change when the other one does. A positive correlation indicates the extent to which those variables increase or decrease in parallel; a negative correlation indicates the extent to which one variable increases as the other decreases. The stronger the relationship, the closer the value is to 1.

All determinants of SCM practices have a positive correlation between ERP performance. Procurement has a very strong Pearson Correlation coefficient of 0.798. Transportation has a strong positive correlation between procurement and ERP performance with Pearson Correlation coefficient of 0.793. Warehouse management has a strong positive correlation between procurement and ERP performance with Pearson Correlation coefficient of 0.78. Distribution has a very strong positive correlation between procurement and ERP performance with Pearson Correlation coefficient of 0.838. It can be concluded that ERP performance is positively affected by procurement, transportation, warehouse management and distribution. The independent variable is 92.9% correlated with the dependent variable. When using simple regression analysis, if there is a strong correlation between the independent and dependent variable, then it can be concluded that an increase in the value of the independent variable causes an increase in the value of the dependent variable.

5.2 CONCLUSION

Based on the analysis made, the following conclusions are drawn:

All factors in the independent variables affect ERP performance. The study results in general have confirmed that there is a strong positive relationship between HSCM practices and ERP performance for UN employees in Ethiopia.

From the analyzed data, it can be concluded that there is a significant positive relationship between HSCM practices and ERP performance. Among the four HSCM dimensions, distribution and procurement are the most correlated variables with performance.

The end results from the multiple regression analysis specified that the four practices of the HSCM explain 86.3% of the variance in ERP performance. This suggests that there exist other factors and constructs that influence the performance which are not included in this study.

The output of the multiple regression showed that HSCM practices affect the performance of Emergency Response Programs. Distribution has the highest effect followed by transportation, procurement and warehouse on the performance of Emergency Response Programs.

5.3 RECCOMENDATION

On the basis of the finding and the conclusion reached, the following recommendations are made. The studied agencies have highly practiced the Humanitarian Supply Chain Management and the performance of Emergency Response Programs. Hence, the organizations should conduct such researches by in house crew periodically so as to sustain these highly exercised practices

Regular trainings to employees enhance individual capacity and encourage better performance and devotion. This allows creating Supply Chain professionals. Therefore, this helps to keep the personnel determined on what he does.

It is also helpful to keep records of preceding practices as it helps to learn lessons from it.

5.4 FUTURE RESEARCH DIRECTION

It is believed to serve as a prior study on the relationship between supply chain management practices and performance of emergency response programs between UN employees working in Ethiopia.

Due to the constraint of time, this study is unquestionably limited to the followings:

The first limitation is that it only considered four variables of supply chain management practices

which are procurement, transportation, warehouse management and distribution.

The second is it only studied the three attributes performance among the five. These five attributes are: reliability, responsiveness, agility, cost and asset management. the study only considered the first three which area related with the victims.

Based on the limitation of the study the below future research directions are suggested

This study as a base can further be extended by covering more agencies and humanitarian actors found in the supply chain (i.e. transport firms, host government, victims and third party logistics service providers and contributors or donors).

Since the study doesn't include the five performance attributes, it is recommended that other studies include cost and asset management too.

The other recommendation is that the value of R square covers about 86.3% to the dependent variable (performance) while the rest 13.7% of the variance in performance is to be explained by other factors which are not included in this study. This study invites researchers to assess the ones that are not covered.

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Appendix-A Questionnaire

To be fulfilled by respondents

Dear Sir/ Madam

This is a kind invitation to participate in a research study on “The effect of supply chain management practices on humanitarian organization’s emergency response programs performance: The case of selected UN organizations operating in Ethiopia”.

As a participant of this study, you will be asked to complete the questionnaire with three major sections, which will take about very few minutes of your time. I kindly ask you to spare few minutes from your schedule since your participation is highly valued for the successful completion of the study.

There will be no name request and the results will be reported as a group.

Please note that participation is completely voluntary & all responses are Confidential.

The questionnaire consists of three sections.

Section 1 is about General information.

Section 2 contains humanitarian supply chain practices of selected UN organizations

Section 3 contains performance of selected UN organizations

For more information about this study, please contact the researcher; Zewdi Yohannes. Master’s Degree Program Candidate. yohanneszewdi@gmail.com

This study is reviewed and approved by the Post graduate program office of Addis Ababa University, School of Commerce.

JUNE, 2021

Self-administered Questionnaire

Section 1 Respondents' general information

The following questions are about the respondent's information in the organization. Kindly indicate the appropriate characteristics of the respondent's information using a tick mark (√) on the check box.

1.1. SEX - Male Female

1.2. AGE -

18-25 years 26-35 years 36-45 years above 45 years

1.3. Education Status

Below diploma Diploma Degree Masters and above

1.4 Number of Years with your Current Organization

0-5 years 6-10 years > 10 years

1.5. Current Position in the organization

Procurement staff Transportation staff

Warehouse management staff Program staff

1.6. Number of years with the current position

0-3 years 4-6 years > 6 years

Section 2 Supply chain practices of selected UN organizations

Please answer the below questions of the supply chain practice variables considering the UN agency you are currently working for as a base study with:

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

variables	item	scale				
		1	2	3	4	5
Procurement	The agency's procurement system results in speedy acquisition of items in emergency operations.					
	Emergency relief supplies (donated & procured) are properly managed in the agency's procurement department.					
	Emergency items procured or supplied are based on requests made by staffs of the organization.					
	Procurement of emergency items match with item type & volume demanded by the program.					
	Procurement group in the organization makes on time delivery of demanded items with no delay.					
	The procurement team in the organization consists of sufficient personnel with required skills.					
Transport	The organization uses all kinds of transportation for transportation of items & people.					
	Third party transportation firms are outsourced with the organization in moving of items & people to the requested areas in the time of emergency.					
	Emergency aid supplies are effectively and efficiently supplied to places where they are requested.					
	The organization engages to support transportation firms that deliver the transportation in its emergency actions.					
	There is a pre-selected list of transportation firms to choose in the time of emergency.					
Warehousing management	The agency has sufficient and suitable warehouses for emergency supplies.					
	Filed warehouses location is convenient and easily accessible for the distribution of relief items					

	Field warehouses are suitable for direct distribution of relief goods when needed.					
Distribution	Field Distribution centers established by the agency are convenient for distribution and reduce operational cost.					
	Field distribution team is well acquainted of the organization's distribution system and procedures					
	The distribution group recognizes urgency of the emergency condition.					
	Distribution team is properly structured to enable on the spot situational decisions.					
	The organization gives regular trainings to distribution team to enhance individual capacity and encourage better performance and devotion.					

Section 3 Please answer the below questions of the SCOR performance variables with:

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

SCOR code	statement	scale				
		1	2	3	4	5
RELIABILITY (RL)						
RL.1.1 - Perfect Order Fulfillment						
RL.2.1 Percentage of orders delivered in full						
RL.3.33	Emergency items are accurately delivered to the beneficiaries during emergency relief interventions.					
RL.3.35	The agency supplies emergency goods in the demanded quantity.					
RL.2.2 Delivery performance to customer commit date						
RL.3.32	The agency attains commit date of emergency supplies to beneficiaries.					

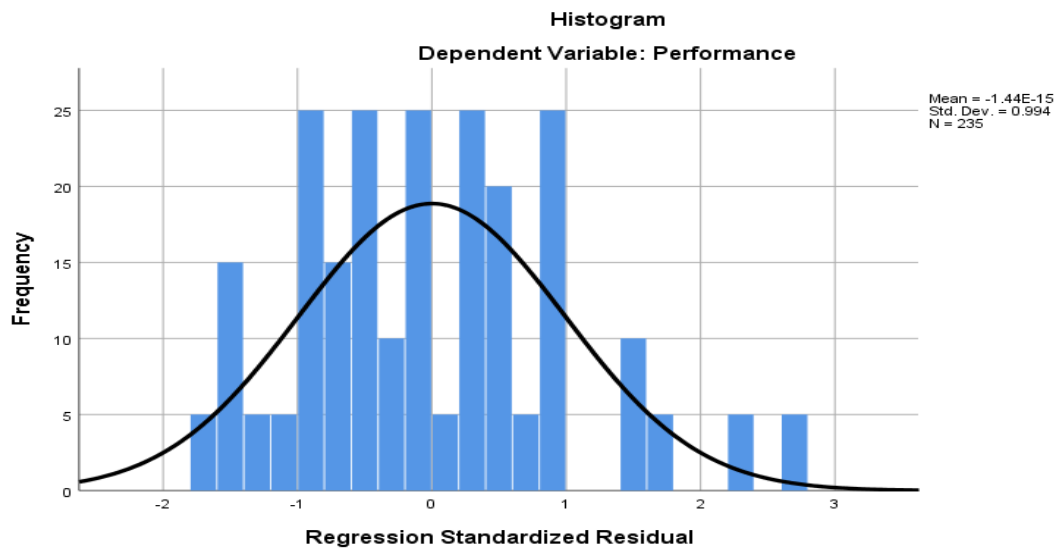
RL.3.34	The agency provides victims' request to the correct location and recipients.					
RL.2.3 Documentation accuracy						
RL.3.43	The suppliers complete correct and readily accessible required documentations (quality certificate).					
RL.3.50	The suppliers complete correct and readily accessible shipping documentations (shipment note, bill of loading and packing list).					
RL.2.4 Perfect condition						
RL.3.12	The agency provides faultless operation in delivering of relief items.					
RL.3.41	The organization delivers emergency deliveries in a damage free state.					
RESPONSIVENESS (RS)						
RS.1.1 - Order Fulfillment Cycle Time						
RS 2.1 Source cycle time						
RS.3.8	The agency authorizes supplier payment cycle time.					
RS.3.125	The organization selects suppliers and negotiates cycle time.					
RS.2.3 Deliver cycle time						
RS.3.102	The agency receives and verifies products by customer cycle time.					
RS.3.124	The organization selects transporters and rates shipments cycle time.					
Agility (AG)						
AG.1.1 Supply Chain Flexibility						
AG.2.1	Unplanned demanded items are easily satisfied by the organization during emergency responses.					
AG.2.3	The agency easily entertains altered volume requests					

	from initial assessments during emergency interventions.					
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THANK YOU FOR YOUR PARTICIPATION!

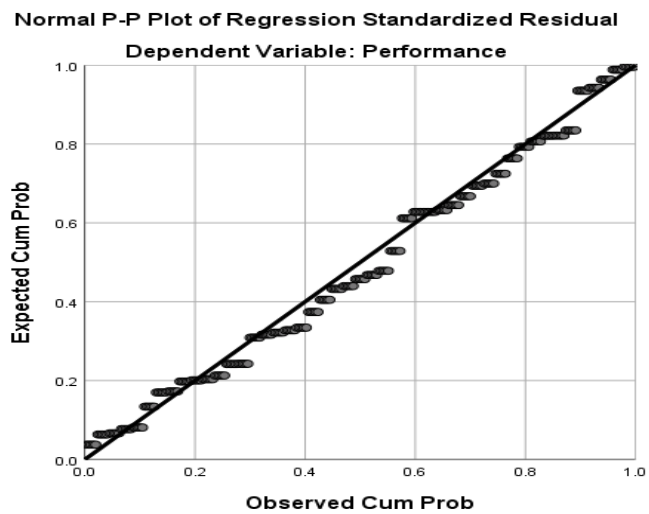
Appendix-B Normality test

Figure 4.1 – Histogram to check normality



Source: SPSS output survey, 2021

Figure 4.2 – Normal P-P Plot



Source: SPSS output survey, 2021

Appendix C: SPSS out puts for Linearity test

Figure 4.3 – linearity test for procurement

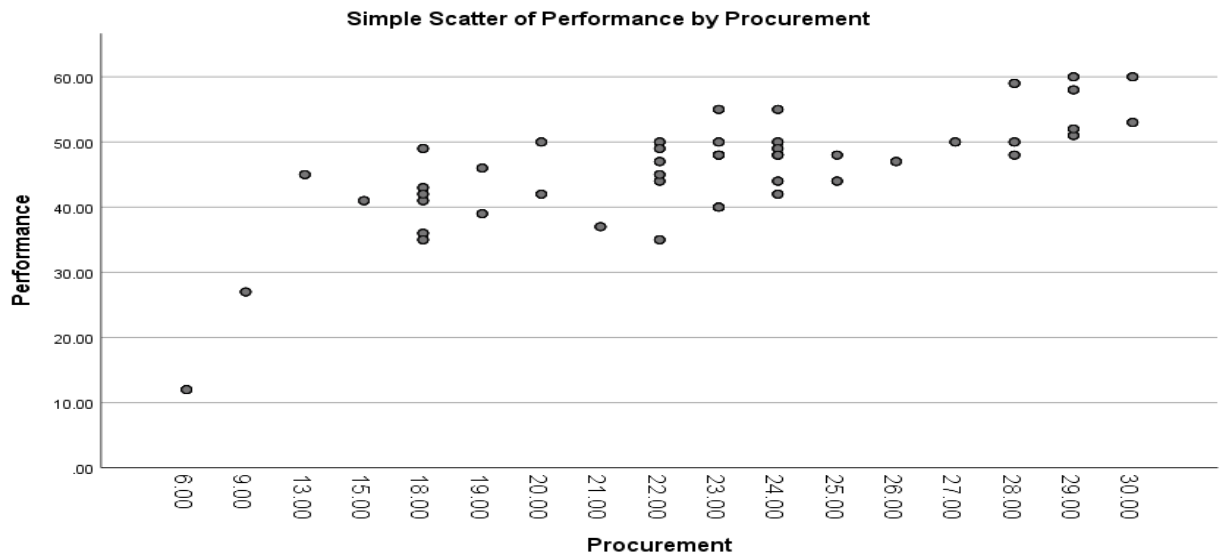


Figure 4.4 – linearity test for transportation

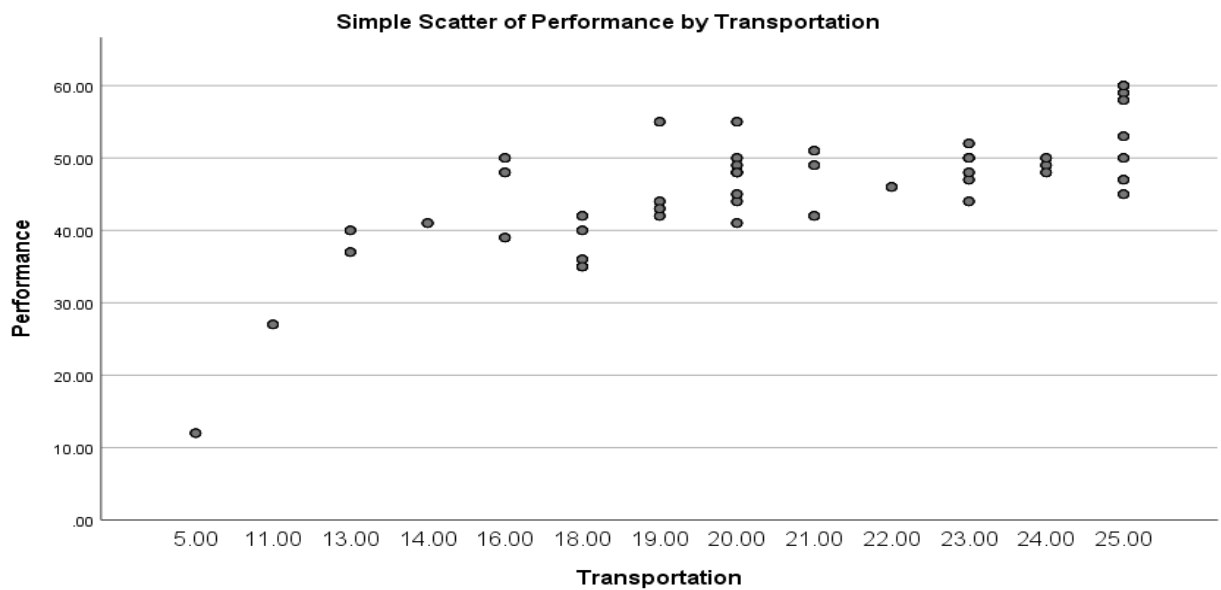


Figure 4.5 – linearity test for warehouse management

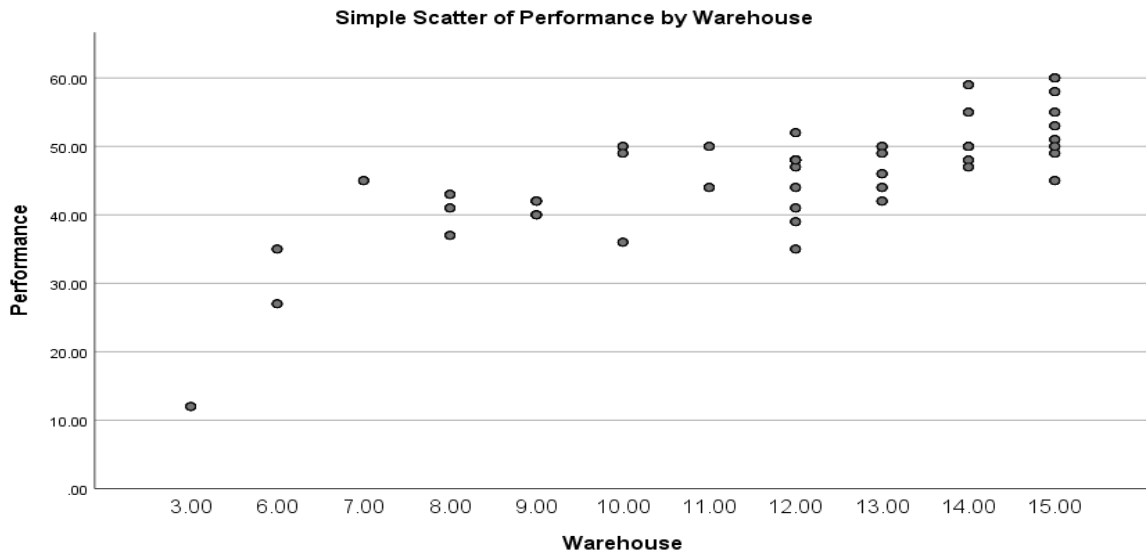
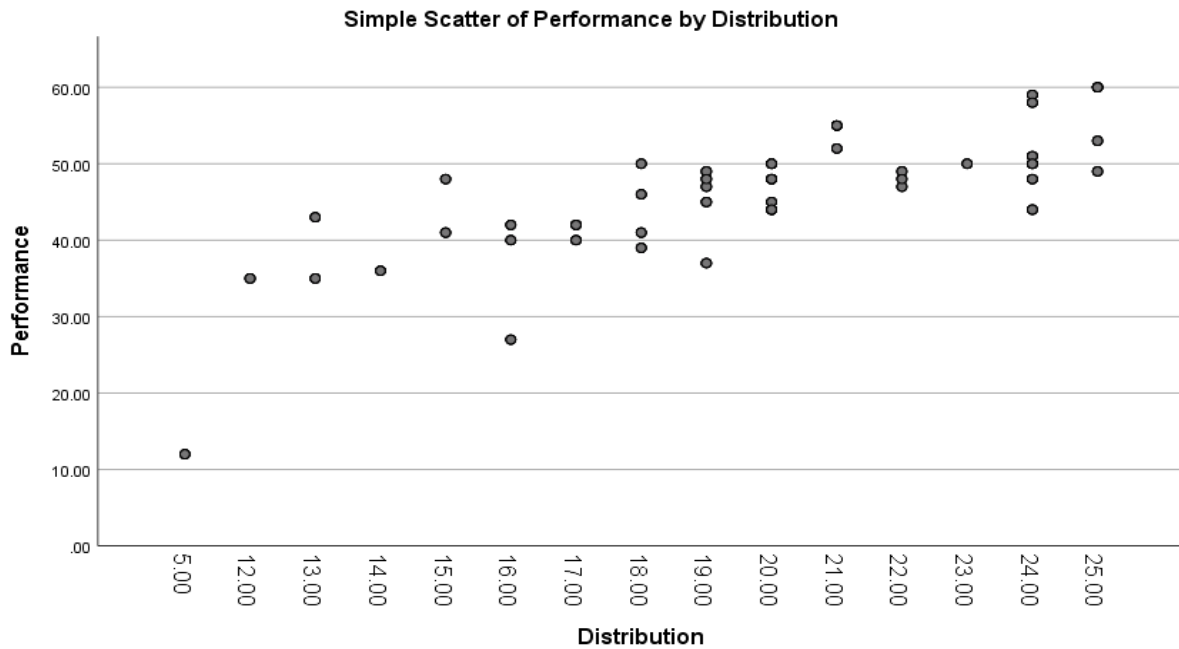


Figure 4.6 – linearity test for distribution



Appendix-D List of UN agencies

28 UN Agencies Operational in Ethiopia

1. FAO – Food and Agricultural Organization
2. ILO – International Labor Organization
3. IOM - International Organization for Migration
4. ITU – International telecommunication Cooperation
5. UN Aids- Joint UN Programme on HIV Aids
6. IFAD – International fund for Agricultural Development
7. UN habitat - United Nations Human Settlements Programme
8. UNODC- UN Office on Drugs and Crime
9. UNICEF- United Nations Children’s Fund
10. UNDSS – United Nations Department of Safety and Security
11. UNDP – United Nations Development Program
12. UNECA – United Nations Economic Commission for Africa
13. UNESCO - United Nations Educational, Scientific and Cultural Organization
14. UN Women -Entity for Gender equality and the Empowerment of Women
15. UNEP – United Nations Environment Programme
16. UNHCR – United Nations High Commission for Refugees
17. UNIDO – United Nations Industrial Development Organization
18. UNOPS – United Nation Office of Project Services
19. UNOCHA – Office of the High Commissioner for Human Rights
20. UNOAU- United Nations Office to the African Union
21. UNFPA – United Nations Population Fund
22. WFP- World Food Programme
23. WHO – World Health Organization
24. OHCHR – United Nations Office of the High Commissioner for Human Rights
25. UNCDF – United Nations Capital Development Fund
26. ILRI – International Livestock Research Institute

27. IMF – International Monetary Funds

28. World Bank