Effects of Humanitarian Supply Chain Management Practices on Organizational performance:

A Case Of Save the Children International Ethiopia

By

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A thesis submitted to Logistics and Supply Chain Management Unit, Postgraduate Program, School of Commerce, Addis Ababa University, In Partial Fulfillment of the Requirements for the Degree of Master of Art in Logistics and Supply Chain Management.

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THE SCHOOL OF GRADUATE STUDIES OF THE ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE

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Declaration

I, the undersigned declare that this thesis (Effects of Humanitarian Supply Chain Management Practices on Organizational Performance: A Case of Save the Children International Ethiopia) is my original work. It has not been submitted for a degree in any other universities and all the materials used in this study have been duly acknowledged.

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Statement of Certification

This is to certify that the thesis prepared by Kalkidan Fekadu Melesse entitled: Effects of Humanitarian Supply Chain Management Practices on Organizational Performance: A Case of Save the Children International Ethiopia, and submitted in partial fulfilment of the requirements for the degree of Master in Logistics and Supply Chain Management with the regulations of the university and meets the accepted standards with respect to originality and quality.

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Lists of Acronyms and Abbreviations

CSCM- Commercial supply chain management

GHA- Global humanitarian assistance

GIK- Gift in kind

HSC- Humanitarian supply chain

HSCM- Humanitarian supply chain management

HR- Human resource

SC- Supply chain

SCI- Save the children international

SCM- Supply chain management

SCOR- Supply chain operations reference

SNM- Supply chain network management

NFI- Non-food items

NGO- Non-governmental organization

Abstract

The goal for humanitarian supply chain management is to minimize human suffering more specifically to prevent further loss of life and harm to humans, as well as provide immediate treatment to those with injuries and illness. The study examined the effect of humanitarian supply chain management practices on performance save the children international Ethiopia. Where the specific objectives of the study were to examine the effects of Mitigation practice, Preparedness Practice, Response Practice and Recovery practice at save the children international Ethiopia. A census survey was conducted focusing on the operations department by deploying questionnaires to the supply chain and finance departments respectively. The researcher used structured questionnaires to collect data. Out of the 86 questionnaires deployed, 71 questionnaires were cleaned and fed to the SPSS data analysis tool to conduct the statistical tests. A descriptive and explanatory research design was used to examine and explain the effect of the independent variables on the dependent variables The relationships proposed in the framework were tested using Pearson correlation analysis, and the causal relations were analyzed using regression analysis. The major findings of the study showed that two of the Humanitarian Supply Chain Management Practices (Mitigation Practice and Recovery Practice) have positive and significant effect on Organizational Performance. Preparedness and response did not show a statistically significant effect on organizational performance of SCI Ethiopia. Hence in order to achieve better organizational performance the organization should work on the two constructs.

***Key Words**: Humanitarian Supply Chain Management practices, Organizational Performance*

CHAPTER ONE

INTRODUCTION

This chapter consists of the back ground of the study, statement of the problem, research questions, and objectives of the study, significance of the study, scope and limitations, definition of terms and organization of the paper.

1.1 Background of the Study

According to Tatham and Hughes (2011) the number of natural disasters has steadily been increasing since 1960. This increasing frequency is accompanied by an increased severity in terms of individuals injured or killed as well as the scale of the financial impact of these events. The global demand in lieu of humanitarian assistance, especially with concern of disaster relief, is rising and will continue to rise (Christopher and Tatham, 2011, Thomas and Kopczak, 2005).

As pointed out by Thomas and Kopczak (2005) Supply chain management is central to the disaster relief operations because it shows efficiency, effectiveness and speed in supplying beneficiaries by way of health, food, shelter, water, medicines and sanitation are essential in an event of a disaster. Furthermore the objective of the supply chain is to bring the right quantities, of the right supplies at the right time to the right location (Shepherd & Gunter, 2006).

According to Ichoua, (2010) when a major disaster strikes, a timely response is critical to saving lives and mitigating affected population sufferings. In reality, the initial 72 hours of a disaster relief effort are dire as the chance for survival past that time gap without water or

food decreases significantly. The test is to deliver the appropriate emergency supplies in sufficient amounts when and where they are essential.

Coming to humanitarian supply chain management according to Mentzer (2001) the humanitarian supply chain as the network formed through the movement of services, supplies, info and funds between beneficiaries, donors, suppliers and diverse units of humanitarian aid organizations, in order to make available physical aid to beneficiaries. As stated by Beamon and Balcik, (2008) the main goal of HSCM is to reduce human suffering precisely to avoid further loss of life and harm to humans, along with providing unforeseen treatment to those with injuries and illness.

If we have said this much about HSCM let us move to the other variable under study which is organizational performance. As identified by Gavrea, Ilies& Stegerean, (2011) the idea of organizational performance is highly common in theoretical literature, its definition is challenging for the reason that it has various meanings, thus, there isn't an internationally accepted definition of this concept, nonetheless by the words of Richard et al,(2009) organizational performance comprises of three specific areas of firms: the financial performance (profits, return on assets, return on investment, etc.); the product market performance (sales, market share, etc.); and the shareholder return. Coming to the performance of humanitarian organizations we find that some humanitarian organizations are concerned with relief, some with development, and some in both areas. In recent years, several of the larger humanitarian organizations have begun devoting greater resources to relief activities (Byman et al., 2000).In this paper, the researcher has opted to focus on the relief activities of humanitarian organizations that is specifically SCI Ethiopia.

As indicated by Lu, Goh and de Souza, (2016) the concept of performance measurement framework is well established in commercial organizations but generally lags in humanitarian

organizations. In order to measure and monitor their supply chain performances effectively, these metrics cover the key elements of quality, time, and cost in humanitarian supply chains, and assist humanitarian organizations to ration their performances in terms of agility, responsiveness, reliability and cost effectiveness beside the entire supply chain processes.

Coming to the area of study Save the Children Ethiopia is one of the largest and complex country programs of Save the Children International. SCI operates in Ethiopia in Humanitarian and emergency relief as well as in a range of longer-term development initiatives for the most vulnerable children across the country. Its annual budget is estimated to be $ 120 million in 2014. A significant part of the annual budget includes Gift in Kind (GIK) mainly for Health, Nutrition supplies as well as Non-food Items (NFIs), while the greater share of the budget for most of the programs goes to procurement and other logistics related activities.

Save the children international is one of these actively performing humanitarian organizations in Ethiopia working in more than 25 field office scattered across the country which includes 1800 employees out of which 79 are supply chain staff members. The organizations support mainly focuses on Health and nutrition, Education, Food security and livelihood, Child right and governance And child protection and migration that will have significant challenges to address the need for beneficiary, on time though the Supply chain function is corner stone for program operations. Given the above background information this study aims its focus on the operations department where it will be reasonable for the researcher to gain information.

1.2 Statement of the Problem

In any humanitarian organization supply chain function is a backbone of emergency response. Response plan, rapid assessment, proposal development and detail implementation plan without supply chain key input may not be complete, satisfy the targeted beneficiary and achieve the intended objective.

Humanitarian supply chain management has attracted a number of researchers. Torabi (2011) conducted a study on humanitarian supply chain management. The study focused on a framework for humanitarian relief in France. The study established that humanitarian supply chain management is becoming a mainstream of research among business schools in response to the growing trend of disasters around the globe. EUISS and ICRC (2012) in a joint report on urban challenges on humanitarian challenges indicate that the challenge is to focus projects on core humanitarian action knowing that it takes place in an environment characterized by larger developmental and structural shortcomings. Humanitarian logistics challenges focusing on lessons learnt from Somalia conclude that logistics of humanitarian aid are faced by many challenges and stressed the need for further knowledge and standards to help in effective and efficient humanitarian supply chains.

In contrast, Balcik and Beamon (2008) detailed that given the stakes and size of the relief industry, the study of humanitarian relief chains is an important area for supply chain management that has received little attention. Furthermore, regardless of its significance, performance measures and measurement systems have not been widely developed and systematically implemented in the relief chain due to the uniqueness and complexity of disaster relief environment. In humanitarian supply chain management literature, it is frequently perceived that HSCM is not being studied as widely as the strategic matters of a

commercial supply chain. The HSCM every so often lacks the insights into the preparedness phases (Leeuw et al., 2009).

Performance measurement is critical to NGO accountability (Beamon, 2004) and (Van Wassenhove, 2006). Lindenberg and Bryant (2001) states that as resources become tighter, NGOs face new pressures for greater accountability for program impact and quality. The amplified incidence and scale of disasters, scarce resources, funding competition, and the need for accountability require more efficient, effective and transparent relief operations. As logistics is central to relief operations and the most expensive part of any relief operation (Van Wassenhove, 2006), measuring the performance of relief chains has become essential for all organizations involved in disaster management.

Focusing on SCI Ethiopia, Save the Children International Ethiopia Country Office (CO), in support of the Government of Ethiopia (GoE), has continued to contribute to the well-being of children in development and humanitarian contexts. The organization works to provide immediate humanitarian relief and long-term sustainable development. Save the Children's response to the massive 2015/16 drought in Ethiopia has brought timely, life-saving services in food distribution, nutrition, WASH, education, and child protection to more than 1.2m people in 60 most affected districts. Causing communities ability to cope with future emergencies to increase and more than 1 million beneficiaries reached through humanitarian response, plus 250,000 refugees. (SCI, 2019)

Coming to the area of humanitarian supply chain, SCI global spent $ 2.1billon and 65% (1.5bl) of the overall spent is on humanitarian response through supply chain. In 2018, the country office budgeted $81ml and 45% (36ml) of the portfolio was spent in Supply chain. It is purely, on procurement of humanitarian supplies. Non-Food-Items (NFIs) comprises of Water and sanitation (WASH), Shelter, Health & Nutrition supplies (SCI COMB, 2019) with

regards to the information gained from informal discussions with the employees the organization doesn't measure the organizational performance directly with regards to the humanitarian supply chain practices (emergency phases).

Similarly, studies in humanitarian supply chain for nonprofit organizations operating in Ethiopia are limited and have not been widely developed. Almost no empirical research prevails regarding the effects of humanitarian supply chain management practices on organizational performance except those researches conducted on the effects of supply chain management on organizational performance in non-humanitarian aid providing organizations or generally in the private and government sectors.

Therefore, the researcher's inability to find such studies in this sector is certainly the basic reasons for conducting the study. In this study, the researcher will try to explore and fill the gap by establishing the possible relationship among humanitarian supply chain practices and the organizational performance.

1.3 Research Questions

In the research, the researcher addressed the following research questions.

- What is the effect of mitigation phase on organizational performance of SCI Ethiopia?
- How does the preparedness phase affect the organizational performance of SCI Ethiopia?
- To what extent does the response phase affect the organizational performance of SCI Ethiopia?
- What is the effect of the recovery phase on the organizational performance of SCI Ethiopia?

1.4 Research Objectives

1.4.1 General Objectives

The main objective of this study was to examine the Effects of Humanitarian Supply Chain Management on Organizational performance: A Case of Save the Children International Ethiopia.

1.4.2 Specific Objectives

The specific objectives of this study will be to

- To assess the effect of mitigation phase on organizational performance of SCI Ethiopia.
- To examine the effect of the preparedness phase on the organizational performance of SCI Ethiopia.
- To investigate how the response phase affects the organizational performance of SCI Ethiopia.
- To assess how the recovery phase affects the organizational performance of SCI Ethiopia.

1.5 Research Hypotheses

As stated by Kothari, (2004) a research hypothesis is an analytical statement, capable of being established by scientific methods, that relates an independent variables to some dependent variables. Coming to the development of the hypothesis in this study there were not many statements of hypothesis made in understanding of the effect of Humanitarian supply chain management practices and organizational performance. With regards to the above research objective the following hypotheses were tested under this study.

- Ho1: There is no significant relationship between Mitigation Practice and Organizational performance in SCI Ethiopia.
- Ha1: There is a significant relationship between Mitigation Practice and Organizational performance in SCI Ethiopia.
- Ho2: There is no significant relationship between Preparedness Practice and organizational performance in SCI Ethiopia.
- Ha2: There is a significant relationship between Preparedness Practice and organizational performance in SCI Ethiopia.
- Ho3: There is no significant relationship between Response Practice and organizational performance in SCI Ethiopia.
- Ha3: There is a significant relationship between Response Practice and organizational performance in SCI Ethiopia.
- Ho4: There is no significant relationship between Recovery practice and organizational performance in SCI Ethiopia.
- Ha4: There is a significant between Recovery practice and organizational performance in SCI Ethiopia.

1.6 Significance of the Study

This research is focused on assessing the effects of humanitarian Supply Chain Management Practices on the organizational performance of save the children international Ethiopia. Therefore the findings of this study will enable SCI Ethiopia to have a clear understanding on how the HSCM Practices affects the organizations performance. The study will also be beneficial to other organizations operating in the humanitarian sector for it will give insight on Humanitarian supply chain management practices and its effect on organizational performance. The findings shall contribute to deepening the knowledge of the humanitarian

supply chain the study area. Therefore, the outcomes of the study will provide help for policymakers in preparing future policies and strategies on HSCM, donors would gain better understanding of the environment within which humanitarian organizations operate.

Above all the study would be helpful in the areas that, it may be used to stimulate for further research, researchers and scholars advance the body of knowledge on humanitarian supply chain practices and the their effect on an organizations performance so that they can use it as a reference, concept and/or whichever way they may find fitting.

1.7 Scope of the Study

Humanitarian Supply Chain Management encompasses vast areas of managerial practices. This study specifically focuses on the humanitarian supply chain practices that are the four phases of relief operation which are mitigation, preparedness, response and recovery and the effect they have on the organizations performance such as the agility, responsiveness, reliability and cost effectiveness. Even though there are numerous researches conducted on the area of supply chain management practices on organizational performance, this research limited was limited to the non-governmental humanitarian organization Save the Children International Ethiopia country office.

1.8 Limitation of the Study

The limitations rely on the personal and external constraints. The internal ones include time management skills, finance and project management skills. The external limitations the sensitivity of humanitarian organizations in matters of data confidentiality which makes things much more difficult the availability of prior research out puts with the exact context was also a challenge.

1.9 Definition of Terms

Disaster: is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources. Though often caused by nature, disasters can have human origins. (The International Federation of Red Cross and Red Crescent Societies (IFRC), 2018)

Disaster management: is the organization, planning, and application of measures preparing for, responding to and recovering from disaster (The United Nation Office for Disaster Reduction, 2017)

Supply chain management (SCM) -It is a thunderstruck of organization with higher and lower relationship that are involve in process and activities and like presentation product and services to final customers to create value

Humanitarian supply chain: Mentzer et al. (2001) describe the humanitarian supply chain as the network created through the flow of services, supplies, information and finances between donors, beneficiaries, suppliers and different units of humanitarian organizations, in order to provide physical aid to beneficiaries.

Organizational performance: Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals (wijetunge, 2016).

1.10 Organization of the Paper

Generally the paper was organized in five chapters. The first chapter presents background followed by statement of the problem, objective of the study and research question, significance of the study, scope of the study and organization of the paper. The second chapter

deals with literature review which shows a review of related topics for the research and conceptual framework of the study with operational definition. The third chapter is a research methodology which includes research design, source population, study population, sample design, data collection instrument and administration, data management, data processing procedures and ethical consideration. The fourth chapter handles data analysis, result and discussion. The fifth chapter winds up the paper by summarizing the major findings giving conclusions, recommendation and finally suggestions for further study.

CHAPTER TWO

RELATED LITERATURE REVIEW

This chapter briefly provided a systematic literature review on the works of various scholars in the area of supply chain management, humanitarian supply chain management, humanitarian supply chain management Vs commercial supply chain management, humanitarian logistics, organizational performance and so on to understand and develop the conceptual framework for the data collection instrument and also to show the empirical review and identify the gap in literature.

2.1 Theoretical Literature Review

2.1.1 Supply Chain Management

Supply chain management is a viewpoint of an integrated approach to manage the total course of a distribution network from the supplier to the ultimate customer (Ellram & Cooper, 1990).

Different scholars have defined supply chain management for example Chopra defined it as follows a supply chain contains all parties involved, directly or indirectly, in satisfying a customer request. The supply chain encompasses not only the producer and suppliers, but also transporters, warehouses, retailers, and even clienteles. Inside each business, such as a producer, the supply chain comprises of all functions involved in getting and filling a customer request. These tasks include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service (Sunil Chopra, 2007)

2.1.2 Humanitarian Supply Chain and Logistics Management

According to Heaslip, (2012), some argue that inside the humanitarian logistics a re-labeling is taking place in that what was once logistics is now SCM. The humanitarian supply-chain management involves managing the different interrelated factors important for the effectiveness of the humanitarian operation system such as goods and materials, information, manpower, political authorities, available infrastructure & etc. to reduce the impact of a disaster for the people who are affected(Torre et al ,2011).As defined by CSCMP, (2008) logistics Management is defined as the monitoring, implementing and planning of the forward and backward flow and storing of goods, services and related info amongst the point of origin and the point of consumption with the intention of meeting customers wants efficiently and effectively.

2.1.2.1 Humanitarian Supply Chain Management

Humanitarian supply chain is the practice used by not-for-profit or donor funded organizations to plan, implement, control the efficiency, cost effective stream and storage of products and materials along with related material, from the starting point of origin to the ending point of consumption for the purpose of alleviating the suffering of the most vulnerable and most at risk people. According to Oloruntoba & Gray, (2006).

Humanitarian supply chain involves components such as procurement, transportation, warehousing, inventory management, tracing and tracking, bidding and reserve bidding, reporting and accountability to address emergency needs (Mbohwa, 2006). It contains flow of relief from the donor to the beneficiaries. There is requisite to coordinate and manage disaster supply chain to guarantee that humanitarian organizations gain from the benefits of having a supply chain scheme in place. The humanitarian supply chain would guarantee that

even at times of emergency, the humanitarian organizations have value for money in procurement of goods and services.

Humanitarian organizations that have an effective supply chain system benefit from transparency of all phases in the procurement process are fair and accurately documented. This backs the establishment of complete and reliable business relations with suppliers; accountability to donors who may require some kinds of rules to be followed when using the money they provided. This ensures that expenses incurred are accepted by the donor and no funds are disallowed; efficiency and cost effectiveness meeting the six rights of supply; right price, right time, right quantity, right quality, delivery to the proper places and from the proper source/supplier. This has an impact on the operations of the organization and on the beneficiary. Their supply chains must be both fast and agile, responding to sudden disasters. A disaster response operation involves trade-off of speed, cost and accuracy with reference to the sort of products that are delivered and therefore the quantities (Mbohwa, 2006).

As indicated by de la Torre et al., (2011) the humanitarian supply chain management involves managing the different aspects in the system to decrease the bearing for the people who are affected by the disaster. Disaster relief necessitates the activities, such as, rescue efforts, health and medical assistance, food, shelter and long term relief activities. The success of any relief activity depends heavily on the logistical operations of the resource delivery (de la Torre et al., 2011).

As stated by Twigg, J., (2004) humanitarian operation is categorized into two; the development and the emergency operations. NGOs can operate in development sector or emergency sector. On the other hand Some NGOs operate in both sectors by having a department that deals in development and one that deals in emergency. The development

sector includes activities that take place over a long period of time (more than one year) while the emergency sector mainly deals with short term activities during disasters. (Twigg, J., 2004).

Fig. 2.1 A typical humanitarian supply chain model

Source. Oloruntoba and Gray (2006)

The humanitarian supply chain comprises of donors, local bodies, NGOs, and aid recipients. The Figure above represents the typical humanitarian supply chain model which displays the actors of the supply network of the humanitarian aid which happened to be adopted from Oloruntoba and Gray (2006).

2.1.2.2 Humanitarian Logistics

Thomas and Kopczak, (2005) base their definition of humanitarian logistics on a survey in the midst of humanitarian logisticians from the center of operations of humanitarian organizations and projects conducted by the Fritz Institute. They outline their findings with the following explanation: Humanitarian logistics is defined by way of a process of planning, implementing and controlling the efficient, cost-effective movement and storage of products and materials, as well as related data, from the point of origin to the point of consumption for the purpose of alleviating the suffering of exposed people.

The ICRC writes in their profile logistician as being responsible for procurement, ensure warehouse maintenance, deal with customs formalities, monitor stock levels, draw up budgets with the delegation administrator, analyze costs, and train and supervise local personnel (International Committee of the Red Cross, 2008).

Kovács and Spens (2007) suggest humanitarian logistics as a "mixed array of operations" including disaster relief along with enduring support for developing regions, i.e. as a response to various disasters. They see the shared aims in all these operations that their objective is to assist people in their survival. They also include the scheme of the transportation of all types of material and personnel from supply points to a large number of destination nodes as well as the transfer of individuals suffering from a disaster to the health care centers. Similarly, Beamon (2004), has defined humanitarian logistics as the process of planning, implementing and controlling the efficient, cost-effective flow and storage of merchandises, materials, and equipment as well as related information, from point of origin to point of consumption for the aim of meeting the beneficiary's requirements.

Gyöngyi, K. and Karen, S. (2009) they have described the dilemma a logisticians face in giving priorities as front office and back office pressure meaning logisticians are torn between the front office media exposure of the organization, leading to the requirement to be first on site, which in its turn triggers donations to the organization and the back office logistical operation that ideally puts the needs of beneficiaries first.

According to Cozzolino (2012), in a disaster situation, logistics can be considered a critical activity that differentiates between a successful and a failed relief operation. Trunick (2005) stated logistics is the most expensive part of a relief operation that it accounted for about 80 percent of the total cost. Therefore the appropriate implementation of logistics practice will be a major contributor for efficiency and effectiveness in the relief operation. In humanitarian

supply chains, effectiveness ensures that we save time, and time saved means more lives saved; efficiency ensures that we save costs, and costs saved means more lives helped.

2.1.3 Humanitarian Supply versus Commercial Supply Chain

The ultimate goal of any supply chain is to deliver the right supplies in the right amounts to the right places at the right time. Supply chains comprise all activities and processes related to the flow and transformation of products from the staple stage through the final consumer (Shepherd and Gunter, 2006).

As stated by Veras et al. (2012) Similar to a commercial supply chain, supplies flow from end to end through the relief chain via a series of long haul and short haul shipments. Supplies flowing through the relief chain primarily consist of prepositioned stocks in warehouses, supplies procured from the suppliers, and in-kind donations. Supplies are shipped from various worldwide locations to a primary warehouse, which is typically located near a sea or airport. Next, supplies are shipped to a secondary hub (a large, permanent warehouse typically located near a larger city). At this secondary hub, supplies are stored, sorted and transferred to tertiary hubs (local distribution centers).Finally, local distribution centers deliver relief supplies to beneficiaries. Supplies acquired from local sources can also be stored at secondary and tertiary warehouses, or directly distributed to the beneficiaries.

Scholars have clearly pointed out, that in spite of similarities, there are dissimilarities between commercial supply chain and HSC network. The business supply chain network is driven with an objective to maximize supply chain surplus; on the other hand, the HSC network is driven with an objective to reduce the potential loss of human and infrastructure (pre-disaster) and provide maximum relief and ensure quick recovery during the post-disaster phase (Holguin-Veras et al., 2012). The commercial supply chain aims to generate maximum supply chain surplus without compromising service level (Pettit and Beresford 2006), whereas HSC

is driven by non-profit objectives. The aims of the HSC are to provide maximum relief to the affected victims in terms of medical aid, food, shelter and drinking water.

2.1.4 Humanitarian Actors and Parties Concerned

According to Tokman et al., (2007) the effective management of multiple relationships within a supply chain with a multiplicity of key players is an important capability of supply chain managers, including those in emergency relief chains. Different players participated in the international emergency relief chain, apart from the aid-user such as large governments and their donor agencies who fund the emergency relief chain, delivery partners such as international humanitarian NGOs who receive donor funds to procure and delivery relief goods, multilateral/international organizations and their specialized agencies, vendors of food and nonfood relief goods, transportation, shipping, freight forwarding companies, and allied support services; governmental agencies of the aid-receiving country, corporate donors and the international media. (Oloruntoba and Gray., 2009).

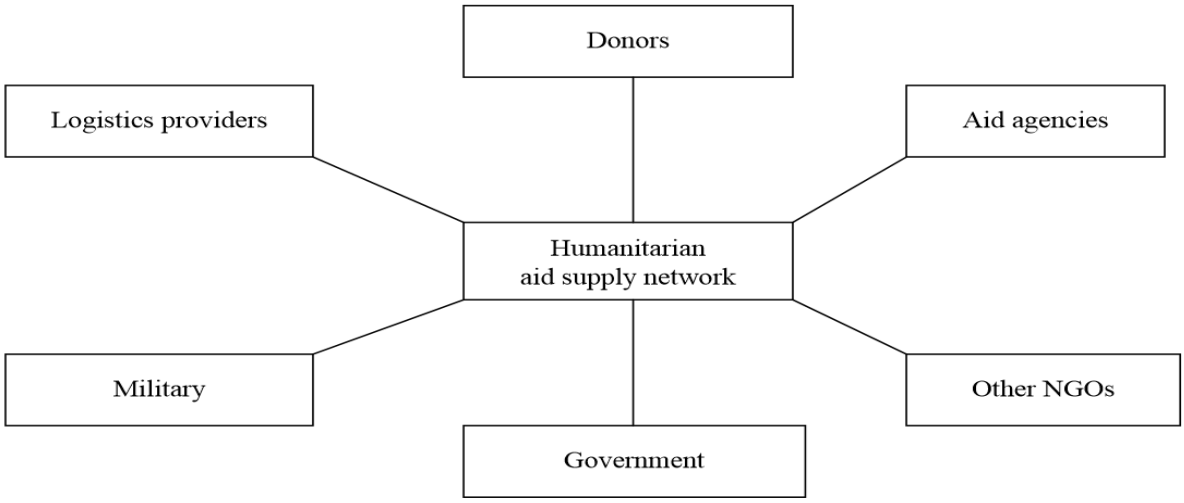


Fig. 2.2. Humanitarian aid supply network

Source: Kovacs & Spens, (2008: 223)

As stated by Schulz, S.F., (2009) when a natural disaster occurs, the dimensions and impact of the disaster defines who should handle the relief operations. If the disaster is of minor art, specialized national or local agencies, sometimes in cooperation with international organizations, handle the disaster

2.1.5 Humanitarian Supply Chain Management Practice

As defined by Department of Homeland Security (DHS) (2008), emergency management is the coordination and integration of all activities essential to build, sustain, and improve the capability to prepare for, protect against, respond to, recover from, or mitigate against threatened or authentic natural disasters, acts of terrorism, or other artificial disasters. From the definition given by the Department of Homeland Security we can look at the four phases of emergency management which are mitigate, prepare, respond and recover.

Malcolm E. Baird (2010) stated that the concept of "phases" has been used since the 1930s to help define, examine, and understand disasters and to help establish the practice of emergency management.

In a piece of writing titled Reconsidering the Phases of Disaster, David Neal cites different samples of different researchers using five, six, seven, and up to eight phases long before the four phases became the standard (Neal, 1997).

The widespread use of "mitigation, preparation, response, and recovery" to help describe "comprehensive emergency management practice" is the result of work by the National Governors' Association (NGA) in the late 1970s. The NGA formed a subcommittee on Disaster Assistance in 1977 in response to the lack of coordination of emergency management at both the federal and state levels (Malcolm E. Baird, 2010).

2.1.5. Practices of Emergency Management

Mitigation: As stated by Tay, H.L. and Chew, W.L., (2016) the mitigation phase refers to the rules and mechanisms in place to reduce social susceptibility from disasters. The majority of the responsibility in this phase is sought to be carried out by the government.

In another definition, the National Governors Association (1979) identified that mitigation activates include any activities that essentially eliminate or reduce the likelihood of occurrence of a disaster With identifying potential hazards, evaluating potential hazards, development of structure and unstructured measures (for example, arms build-up to deter enemy attack or legislation that takes the unstable double bottom tanker off the highways). It includes long-term activates designed to reduce the effects of unavoidable disasters (for example, land-use management, establishing comprehensive emergency management programs, or legislating building safety codes).

According to Baidoo, (2018) peoples' behavior and perception towards disasters established impeding free flow and easy access to disaster relief personnel and equipment to the disaster location. Another restraint identified during the mitigation phase was a lack of political will-power to execute disaster mitigation projects. Followed by a lack of effective planning, lack of common standards, lack of funding and inappropriate donations, lack of effective coordination and corporation with other disaster relief organization.

Preparedness: The preparedness phase discusses operations that arise before a disaster strike, with the purpose of avoiding the gravest consequences of a disaster. According to Cozzolino, (2012) this phase is crucial because it is the phase in which the physical network design, information and communications technology systems, and the bases for collaboration are developed to ensure successful operational responses (The preparedness phase also

incorporates efforts made between disasters in learning and adapting from past experiences to meet new possible challenges.

As described by the National Governors' Association (1979), preparedness as activities that are necessary more than the mitigation measures. Actors in the relief operations like governments, organizations, and individuals develop plans to save lives and minimize disaster damage by compiling state resource inventories, mounting training exercise, or installing warning system. Preparedness measures also seek to enhance disaster response operations by stockpiling vital food and medical supplies, through training exercise, and by mobilizing emergency personnel on a standby basis.

Based on the research done in Gahana Kovács and Spens (2009), sated the existence of a very low level of preparation. They also found out struggle in the preparedness phase with customs procedures resulting in a lack of exemptions from customs duties on imports of relief items leads to the absence of in-country warehouses. According to Baidoo (2018), major challenges faced during preparedness phase were lack of early warning systems, coordination, and collaboration among disaster relief organizations and lack of ICT facilities, lack of funding and inappropriate donations, people's behavior, perception about disasters and lack of logistics and lack of information and early warning systems.

As stated by Leeuw et al., (2009) humanitarian supply chain management usualy lacks insight into the preparedness phase. The preparedness phase of the HSCM tries to foresee the future and improvise itself to deal with the uncertainties in the future. Tomasini and Van Wassenhove (2009) supporters that the only most important factor of the humanitarian supply chain management triumph is how well it's prepared for any kind of disaster which consist of bringing together resources, restructuring supply chain, prepositioning of relief items and postponement.

Response: According to Tay, H.L. and Chew, W.L., (2016) the response phase refers to the various types of operations that are conducted after the occurrence of a disaster. Coordination and collaboration between key players are critical in this phase.in other definitions as shown by DHS - U.S. Department of Homeland Security, (2008) and FEMA – Federal Emergency Management Agency, (2006) response starts when an emergency event is about to happen or immediately after an event occurs. It encompasses of the activities that address the short term direct effects of an incident it also includes the execution of emergency operations plans (EOPs) and of incident mitigation activities designed to limit the loss of life, personal injury, property damage and unfavorable outcomes Activities such as mobilization of resources, primary procurement, and immediate assistance humanitarian aid. They have also stated that when disaster hit disaster impact analysis will be done taking in to account the nature, intensity, and scope of the disaster.

Some of the noticeable challenges In the response phase can be, poor infrastructure, lack of coordination and corporation and lack of information as well as lack of ICT facilities were identified as the main constraints inhibiting the timely response to disasters and inaccessibility of beneficiaries in different parts of the country. (Kovács and Spens, 2009).

Recovery: refers to the various operations involved in the aftermath of a disaster. This phase involves rehabilitation aspects and aims to address issues or problems from the disaster from a long-term perspective. As stated by Maon, Lindgreen and Vanhamme, (2008-2009) recovery including reconstruction, rehabilitation, and restoration to the normal way of life.

According to the National Fire Protection Association (2007), recovery activities and programs are designed to return conditions to a level that is acceptable to the entity. They are also designed to assist victims and their families, restore institutions to suitable economic growth and confidence, rebuild the destroyed property and reconstitute government

operations and service. Most of the time this activity goes beyond after the incident itself includes mitigation components designed to avoid damage from future incidents.

A challenge particularly striking during the recovery phase is that of aid dependency. This issue does not only relate to beneficiaries becoming dependent but also local authorities depending on donors and NGOs to solve issues instead of acting themselves. Generally, however, development and reconstruction projects are rare (Kovács and Spens, 2009).

2.1.6 Organizational Performance

Organizational performance is one among the foremost important variables in the management research and arguably the most important indicator of the organizational performance. Although the concept of organizational performance is common with in the academic literature, its definition is difficult due to its many meanings. For this reason, there isn't a universally accepted definition of this conception (Gavrea, Ilies& Stegerean, 2011)

Performance measurement is necessary to inform decision makers at the strategic, tactical and operational level (Gunasekaran and Kobu, 2007) but is also key to implement and realize strategic goals. It facilitates effective control and correction by reporting the current level of performance and comparing it with the desired level of performance (Melnyk et al., 2013)

When organizations are faced with various challenges, the performance of the organization may end up becoming dismal if the challenges are not adequately addressed. Supply chain challenges are among the challenges that can adversely affect the performance of an organization and may even lead to closure of an organization. Challenges can also make it impossible for an organization to realize the six rights of a supply chain i.e. right place, right product, right quality, right time, right cost and right delivery.

Tracey et al., (2005) measure performance through four separate dimensions including perceived value, customer loyalty, market performance and financial performance. Similarly, Tan et al., (2002) used six items for performance including product quality, customer service, competitive position, market share, average selling price and return on assets. Chen and Paulraj (2004a, b) used supplier performance and buyer performance to assess the financial performance of the buying firm. Vickery et al., (2003) used customer service performance followed by financial performance as the performance constructs. Jin (2006) also assessed operational supply chain role performance via three levels of performance criteria: strategic, operational and financial.

Organizational performance is the ultimate dependent variable of interest for researchers concerned with just about any area of management. This broad construct is essential in allowing researchers and managers to evaluate firms over time and compare them to rivals (Richard et al., 2009), that is, organizational performance is an indicator that measures how well an organization is achieving its goals (Ho, 2008).Coming to organizational performance measures in humanitarian supply chain management Beamon, (2004) stated that Performance measurement is critical to NGO accountability. Measuring the performance of relief chains has become vital for all organizations involved in disaster management. (Beamon and Balcik 2008).The inherently unique characteristics of the disaster relief environment make relief chain performance measurement even more challenging for NGOs. Performance metrics and measurement systems have not been developed and systematically implemented in the relief sector. However, NGOs are becoming increasingly aware of the significance and urgency of performance measurement.

As observed by Henderson et al. (2002) and Kaplan (2001), nonprofits are used to reporting input metrics such as the financial (e.g. donations, expenditures, and operating expense rations) and non-financial (e.g. hours spent) resources dedicated to specific programs.

Similarly, high-performance relief programs are also commonly associated with inputs, more specifically donations, which lead to providing more aid to beneficiaries. However, as emphasized by Kanter and summers (1987), although the success of nonprofits relies, in part, on resource attraction, the performance criteria for resource allocation might be unrelated to the criteria for resource attraction. Increasing revenues or donations does not necessarily increase the quality of services nor the capacity of the organization to deliver (Letts et al., 1999). Financial considerations can play an enabling or constraining role but will rarely be the primary objective, and success for nonprofits should be measured by how effectively and efficiently they meet the needs of their constituencies (Kaplan, 2001).And with those regards the researcher has taken the organizational performance as a dependent variable.

After comparing the differences between commercial and humanitarian organizations in areas like revenues, goals, stakeholders and performance measurement Beamon and Balcik proposed a three part framework performance measurement system that specialize in resource performance metrics, output performance metrics, and adaptability metrics.(Beamon and Balcik., 2008) in contrast Davidson., (2006) proposed a framework of four key performance indicators, namely, appeal coverage, donation to delivery time, financial efficiency, and assessment accuracy. The study by Lu, Goh, & Souza, (2016) in contrast to the previous statement by Davidson states that performance measurement in humanitarian relief/aid organizations is challenging because they're not familiar with such practices.

A study by Bölsche.D (2012) showed that the similarity between Supply Chain Operations Reference-model (SCOR) and Score Card Model as reliability and assessment accuracy, responsiveness and donation-to-delivery time, costs and financial efficiency and assets and financial efficiency. Bölsche also claims that the tool of performance measurement is to not avoid the prevalence of disasters, but to progress the purposes of humanitarian logistics with each step on a complex level and as a result; it contributes to alleviate the suffering of the affected people.

According to Larrea, O. (2013,) the key performance indicators and scorecards developed by (Davidson, 2006) could be manipulated to fit the characteristics of the site of the disaster. Different types of operations produce different values in indicators performance, according to the specific conditions of each disaster.

When developing the performance metrics, Lu, Goh, & Souza (2016) explored both performance attributes and industry logistics processes. There are five performance attributes within the original SCOR model by Davidson, (2006) includes Reliability, Responsiveness, Agility, Cost, and Asset Management.However, within the context of humanitarian logistics, all attributes apart from asset management are deemed important (Lu, Goh, & Souza, 2016). this is often because Humanitarian organizations are usally resource-light with few assets; and they rely heavily on external resources and capabilities for emergency relief operations (Oloruntoba and Kovacs, 2015).

Hence the researcher opted to adopt the frame work by Lu, Goh and de Souza, (2016) which states the metrics agility, responsiveness, reliability and cost effectiveness cover the key elements of quality, time, and cost in humanitarian supply chains, and assist humanitarian organizations to ration their performances.

2.2 Empirical Literature Review

A study by Deshpande (2012) was conducted on Supply Chain Management Dimensions, Supply Chain Performance and Organizational Performance focusing on the organizational performance aspect of the study Organizations implementing SCM have obtained improved performance. Cost savings, increased revenues, and the reduction of defects in products are some of the chief advantages of introducing supply chain management (Shin, Collier & Wilson, 2000). It has been demonstrated that business profitability is closely associated with market and business shares (Buzzel, Gale & Sultan, 1975). Based on the long- term and short-term goals of the SCM, the organizational performance measures identified were and financial and market performance and customer satisfaction.

A study by Beamon and Balcik (2008) on performance measurements in humanitarian relief chains states that Performance measurement is critical to NGO accountability Balcik (2004)Performance measurement for the relief chain is critical, in terms of securing donor funding (accountability) and improving the relief mission (saving lives and reducing human suffering). The objectives of the paper were to compare performance measurement with in the relief chain to performance measurement with in the commercial supply chain, develop performance metrics for the humanitarian relief chain, and to present a performance measurement framework for the relief chain. The suggested performance measurement outline are often used as a foundation for a performance measurement system with in the aid sector.

A study by Eyob Mengesha (2017) on "The Effect of Supply Chain Management Practices on Organizational Performance in the case of Modern Building Industries" stated that the results of the survey show that the implementation of modern SCM practices is weak in SCI ETHIOPIA. Similarly, except degree and quality of information sharing and lean practices,

even though in a weak level, no positive relationship was observed between the other SCM practices and organizational performance in this firm. It can, therefore be concluded that the firm is doing business as usual and no attention was given to modern SCM theories and practices in the firm yet. However, the existing literature advocates that the implementation of SCM practices can considerably improve organizational performance.

A study by Birhanemeskel Ayalew (2018) on the "effects of supply chain management practices on the organizational performance: in the case of Awash Wine s.c", Ethiopia stated that the findings partially support the assumption that Supply chain management practice constructs can increase Organizational Performance. In this study, the effect of five variables (Strategic Supplier Partnership, Customer Relationship, and Level of Information Sharing, quality of information Sharing and Internal lean practices) on organizational performance was investigated. According to the results obtained from the research, Internal Lean Practices has a positive and significant effect and is the most important dimension of SCMP that Awash Wine S.C should focus in order to boost their organizational performance in the long run.

A study by Mwale (2014) conducted a study on "supply chain management practices and organizational performance" of huge industrial manufacturing firms in Nairobi, Kenya. The study made a point that there is a significant relationship among supply chain management practices and the organizational performance explained by the seven independent variables strategic supplier partnership, customer relationship, level of information sharing, quality of information, extent of outsourcing, lean practices and postponement. It was also clear from the study that the seven independent variables positively impact organization performance; however, customer relationship and strategic supplier management had the greatest impact. Through the analysis of the relationship between supply chain management practices and organization performance, it was demonstrated that the practices may directly affect organization performance.

The above mentioned empirical literature are mainly in the area of supply chain management and organizational performance. Based on the lack of previous literature on the topic of the effect of humanitarian supply chain management practices on organizational performance the researcher seeks to address the topic in an extensive manner.

2.3 Conceptual Framework

According to Wilson et al, (2015) a conceptual framework may be a graphic or written product that describes the main things to be studied, concepts, or variables and therefore show the alleged relationship between them.

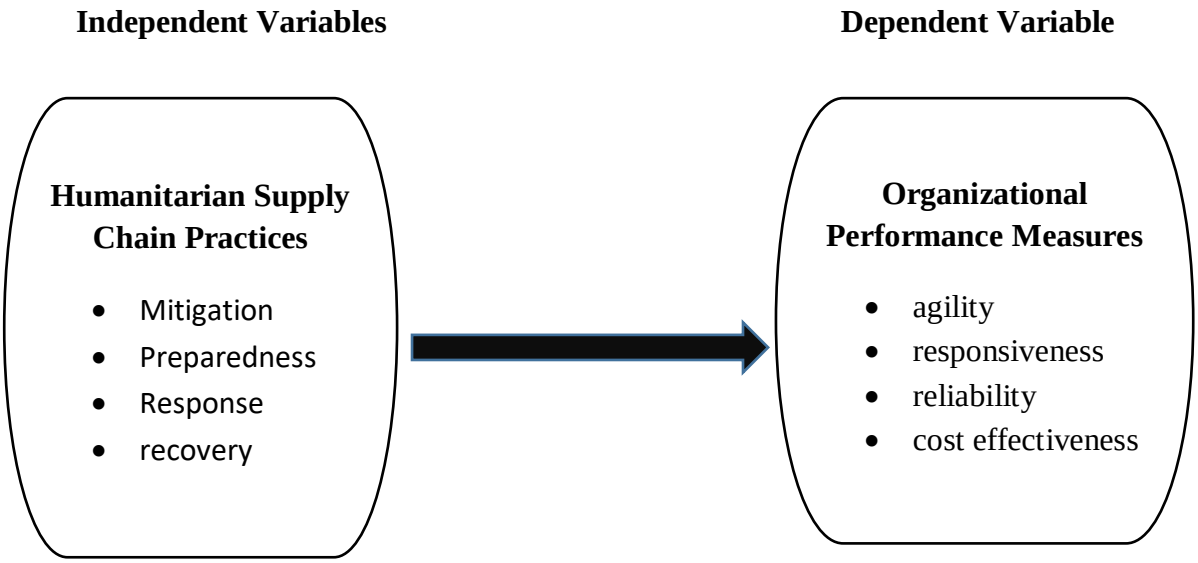


Fig 2.3. Conceptual framework

Source: Based on literature reviewed mainly adapted and modified from Assefa S. (2019) & Lu, Goh and de Souza,(2016)

The figure above illustrates the conceptual framework of this study. The focus of this study was to assess the effect of humanitarian supply chain management practices on organizational performance. This study had different independent variables that were investigated in relation to the dependent variable. The independent variables comprised of; mitigation, preparedness, response and recovery phases. The independent variables were investigated with regards to finding their effect on organizational performance of Save the Children International in Ethiopia.

2.4 Identified Literature Gap

Most of the prior research on humanitarian supply chain management were focused on the performance of the supply chain on its own rather than looking at it from an organizational performance point of view. The theoretical and the empirical literature determine that, the existing literature on the effects of humanitarian supply chain management practice on organizational performance is not extensive. It can be said with confidence that there has not been prior studies in Ethiopia relating the variables under study. Most of the literature was conducted on the commercial sector rather than the humanitarian sector. Related with humanitarian supply chain management are done abroad and in Ethiopia are rare. Overall the study tried to fill the gap as much as possible.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter includes: description of the study area, research approach, research design, population design, data source and type, data collection tools, data collection procedure, ethical considerations, method of data analysis and presentation, validity test and reliability test.

3.1 Description of the Study Area

The study on the "Effects of humanitarian supply chain management practices on organizational performance in the case of SCI Ethiopia" tried to identify the possible cause and effect relationship between the dependent and the independent variables. As indicated the research was conducted as stated on the title on Save the Children International Ethiopia one of the largest and complex country programs of Save the Children International. SCI operates in Ethiopia in Humanitarian and emergency relief and in a range of longer-term development initiatives for the most vulnerable children across the country. Its annual budget is estimated to be $ 120 million in 2014. A significant part of the annual budget includes Gift in Kind (GIK) mainly for Health, Nutrition supplies as well as Non-food Items (NFIs), while the greater share of the budget for most of the programs goes to procurement and other logistics related activities.

Save the children international is one of these actively performing humanitarian organizations in Ethiopia with the head office Located in capital city of Ethiopia Addis Ababa around the Bisrate gebriel area on Dire Bldg. Working in more than 25 field office scattered across the country which includes 1800 employees out of which 79 are supply chain staff members. The organizations support mainly focuses on Health and nutrition, Education, Food

security and livelihood, Child right and governance And child protection and migration that will have significant challenges to address the need for beneficiary, on time though the Supply chain function is corner stone for program operations.

3.2 Research Approach

Most researchers argued that the best method to use for a study depends on the purpose of the research, researcher data and the accompanying research questions. According to Kothari (2004) mixed research technique is defined as the class of research prosperity the researcher Mixed or combined quantitative and qualitative research techniques, methods, approaches, ideas or language in to a particular study.

The mixed approach is preferred mainly because it captures the best of both worlds. While the dependent variable is easier to measure quantitatively the researcher might need to deploy the qualitative methods for the independent variables this method also helped to ensure that the short comings of one type of data are balanced by métiers of the other.

3.3 Research Design

Different authors discuss three types of research design. These are exploratory (emphasizes discovery of ideas and insights), descriptive (concerned with determining the frequency with which an event occurs) and explanatory (concerned with determining the cause and effect relationships). The study assessed the effect of humanitarian supply chain management practices on organizational performance. And both the descriptive and explanatory research designs were used. The Descriptive design was used to describe the mean outputs. Since the study was carried out to determine the cause and effect relationship between variables the study also employed explanatory research design.

3.4 Population Design

A study population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications.(Pout and Hungler, 1999) In this study, the total population was made up of the whole staff members who were working in the supply chain department. And the finance department currently the organization has 79 supply chain staff members and 6 finance staff members under treasury. Therefore, census survey method was deployed to conduct the research.

3.5 Source of Data

The data for the present study was collected in April, 2020. A combination of methods was used to obtain relevant data. The researcher used both primary and secondary data. The primary data for research paper was collected from employees, directors, coordinators and managers of the target units which are the supply chain department and the finance department and the secondary data was also collected from written materials like scholar journals, organizational reports, and manuals, from books, articles and the internet.

3.6 Data Collection Tools and Procedures

In an attempt to obtain first-hand information, the data was collected from the targeted population through questionnaires the primary data was gathered using a survey questionnaire. The researcher distributed the questionnaire to the respondents. A Close-ended questionnaire has been used as the measuring instrument. The questionnaire has two sections. The first section dealt with the profile of the respondents and the organization and the second section contains information on research objectives. The questionnaire was designed in the form of a Likert scale where respondents indicated their views on a scale of 1 to 5 ranging from strongly disagree to strongly agree. The questionnaire was distributed by the researcher for the respondents via email with the kind help of the supply chain director.

To maintain the validity of the constructs and scale used in this research, most of the questionnaires were adopted from previous researches with modifications namely. Some of the questionnaires developed were based on careful review of literatures, statement of problem, literature review, conceptual framework and the research questions. Secondary data (past data that will be collected and put in tables with the use of graphs charts and reports) will be collected from, journals, books and internet.

3.7 Data Processing and Analysis

The data collected were systematically organized and reviewed for completeness after the data collection process was concluded in a manner that facilitated analysis. The next step was sorting and coding the data after the completion the data was then fed to the software Statistical Package for Social Sciences (SPSS) and analyzed. The results of two statistical techniques were employed. These are descriptive and inferential statistical analysis techniques. With regards to the descriptive analysis percentages and frequencies were calculated for the analysis, particularly for the first section of the questionnaires the general information about the respondents and their respective organizations were presented. On the other hand, inferential statistical technique was employed to analyze information related to the objectives of the study. Statistical tools were affiliated with the objectives of the research. Coming to the inferential statistics, Pearson's correlation was castoff to show the relationship and the degree as well as direction of relations between variables. The second part of the relationship between variables that of the independent variables and the dependent variables that is examined by multiple regression which involves narrative on the form of the relationships so as to find a mathematical expression that enables us to predict the score of the dependent variable from knowing the score of the other variables which is the independent variable. The results of the study were presented with the help of tables and figures.

3.8 Validity and Reliability Test

3.8.1 Reliability Test

As stated by Burns, (2008) Reliability refers to the consistency and stability of findings that enables findings to be replicated". "Cronbach's Alpha is very useful in developing attitude scales and questionnaires as the alpha level (or reliability) indicates if the items are measuring the same construct. Items that are not measuring what the rest are can be identified and deleted. Bryman and Bell, (2007) also stated that a reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations. As seen in the table below, to assess the consistency of each construct, a reliability test was conducted. The Cronbach's alpha coefficient of 71 responses is .958, signifying that the responses have high consistency. Thus, making all the variables used in the research highly reliable for data analysis.

Table. 3.1. Reliability test (summary)

	Name of Items	Number of Items	Cronbach's Alpha
1	Mitigation Phase	5	.856
2	Preparedness Phase	10	.882
3	Response phase	8	.888
4	Recovery phase	8	.884
5	Organizational Performance	4	.785
6	Over all Reliability	35	.958

Source: Own survey 2020

3.8.2 Validity Test

Validity means an instruments ability to measure what is meant to be measured (Wiedersheim Paul and Eriksson, 1991). In other literature according to Kothari, (2004), validity indicates the degree to which the instrument measures what it is supposed to measure. To confirm the face validity, the items were looked over with the help of experienced supply chain experts and academicians in the area of Humanitarian aid and literature related to humanitarian supply chain management practices and organizational performance were consulted. The humanitarian supply chain management questionnaire was standardized and adopted from Assefa S. (2019) and for the organizational performance it was adopted and modified from Lu, Goh and de Souza, (2013).

3.9 Ethical Considerations

Ethical issues were prominent throughout this research process, starts from the data collection, during the analysis, writing up of the final report and presentation. An official letter from Addis Ababa University, School of Commerce Department of Logistics and Supply Chain Management was castoff to get the consent of the respondents to collect the necessary data before deploying the questionnaire. The respondents were assured that the information they provide will not be used against and that their identities will not be disclosed and any information obtained will not be conveyed to any other third party or used for any purpose other than academia.

CHAPTER FOUR

RESULTS, DISCUSSION AND INTERPRETATION

This chapter presents analysis, interpretation of results and discussion of the study as indicated in the research methodology. The data was gathered exclusively from questionnaire as an instrument. The questionnaire was designed in line with the objectives of the study. To enhance quality of data obtained, the respondents itemized the extent to which the variables were practiced in a five point Likert scale. Descriptive statistics were then used to analyze the demographic factors and HSCM Practices. The study also conducted Correlation analysis, specifically Pearson correlation to measure the relationship between different variables under consideration. Regression analysis was also used to test the effect of the independent and dependent variables.

4.1. Response Rate

A total of 85 questionnaires were deployed. Out of which 75 questionnaires were returned after duly checking for any inconsistencies 4 questionnaires were found to be incomplete and were therefore disregarded making the complete filled out questionnaires 71. A response rate of 50% is adequate, a rate of 60% is good, and a response rate of 70% and above is very good.(Mugenda and Mugenda, 2003), Rogelberg and Stanton (2007) and Saunders et al, (2007)). As mentioned above. This study presented a response rate of 83%, which happens to be valid and used for analysis (Fowler, 2002). The data were presented and analyzed using SPSS a statistical software.

4.2 Demographic Information of the Respondents

The researcher first tried to determine the general information on the employees of SCI Ethiopia taking part in the study with regards to the age, gender, position, department, marital status, level of education &working experiences in the organization, The general information uncovers the respondents' suitability in answering the questions on the humanitarian supply chain practices and their effect on the organizations performance.

4.2.1 Respondents Age range

As shown on the table below with regards to the age group of respondents, the highest portion of the respondents that is 25.4% with where respondents were in the age range of 36-40, the second highest age range being 41-45 with a 21.1%. With an 18.3% response rate the age ranges of 31-35 and 46-50 come with equal frequency. The age range of 51-55 and 55 and more also have an equal amount of response rate which falls in the 7% within an age range of 26-30 the remaining respondents cover 2.8% of the survey.

Table 4.1: Age Range

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-30	2	2.8	2.8	2.8
	31-35	13	18.3	18.3	21.1
	36-40	18	25.4	25.4	46.5
	41-45	15	21.1	21.1	67.6
	46-50	13	18.3	18.3	85.9
	51-55	5	7.0	7.0	93.0
	55>	5	7.0	7.0	100.0
	Total	71	100.0	100.0	

Source: Own survey (2020)

4.2.2 Respondents Gender

As the table portrays the gender distribution of respondents at SCI Ethiopia covers 76.1 % of males and 23.9% of females respectively. This implies that the gender distribution of SCI Ethiopia's operations department and mainly the respondents dominated by male employees.

Table 4.2 Gender of respondents

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	54	76.1	76.1	76.1
	Female	17	23.9	23.9	100.0
	Total	71	100.0	100.0	

Source: Own survey (2020)

4.2.3 Respondents Department

Table 4.3 shows that 93% of the respondents were from the supply chain department, leaving the rest 7% from Finance department. This implies that the insight of the finance department with regards to the effect of HSCM practices on organizational performance will be a good outlook on top of the expert opinion of the supply chain department.

Table 4.3 Departments of respondents

Department

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Supply Chain	66	93.0	93.0	93.0
	Finance	5	7.0	7.0	100.0
	Total	71	100.0	100.0	

Source: Own survey (2020)

4.2.4 Respondents Level of Education

As seen from the Table below, most of respondents' educational level is above degree level with 57.7% having 1st degrees and 29.6% having masters' degrees. Implies that most of (87.3%) the respondents have above degree level and they are qualified personnel and they could easily understand and fill out the questionnaire.

Table 4.4 Level of education of respondents

Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School Complete	1	1.4	1.4	1.4
	Diploma	8	11.3	11.3	12.7
	Degree	41	57.7	57.7	70.4
	Masters	21	29.6	29.6	100.0
	Total	71	100.0	100.0	

Source: Own survey (2020)

4.2.5 Respondents Work Experience in the Organization

As the result shows in the table below 38% of the respondents have2-4 years of experience at the organization, 25.4% have 5-10 years of experience, with a 22.5% response respondents have more than 15 years of experience at the organization. Taking up just 2.8% of the responses only 2 respondents have less than 2 years of experience. This implies that most of the respondents have enough experience at the organization and that they can provide concrete information about it.

Table 4.5 Work experience in the organization of the respondents

Work Service in Years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 2 years	2	2.8	2.8	2.8
	2-4 years	27	38.0	38.0	40.8
	5-10 years	18	25.4	25.4	66.2
	11-15 years	8	11.3	11.3	77.5
	More than 15 years	16	22.5	22.5	100.0
	Total	71	100.0	100.0	

Source: Own survey (2020)

4.3 Descriptive Analysis

In this part, the findings of the four HSCM practices and organizational performance were discussed. The respondents were asked to indicate the HSCM practice of their organization and also the organizational performance. Accordingly, primary data were collected about the HSCM Practices (mitigation, preparedness, response and recovery) and the organizational performance. Based on this, respondents answered using five scale Likert responses namely: strongly disagree, disagree, neutral, agree and strongly agree.

According to Field, (2009) The calculated mean value that ranges from 1 to 1.80 implies strong disagreement, a mean range from 1.81 to 2.6, from 2.61 to 3.4, from 3.41 to 4.2 and from 4.21 to 5.00 represented respondents' perceptions of somewhat disagree, neutral, somewhat agree and strongly agree respectively. The 0.8 served as a boundary for each elements of the measurement in the questionnaire. Coming to the standard deviation of the

variables Small variance indicates that data are close to the mean whereas a large variance indicates that the points are distant from the Mean. Standard deviation is a measure of how well the mean represents the data. In other words Standard deviation shows how different the responses of respondents are for a given idea. High Standard Deviation means that the data is wide spread, which means that respondents give variety of opinion and low standard deviation means that respondents had almost similar opinion.

4.3.1Mean and Standard Deviation of Responses on Mitigation Practice

As shown on the table above the mitigation plan of action for eliminating or reducing the probability of occurrence of rapid onset disaster has a mean value of 3.23 with standard deviation of 1.16. The results demonstrated the organization has practice regarding a plan of action for eliminating or reducing the probability of occurrence of rapid onset disaster. According to Yigezu, T (2016), the existence of a plan of action before the occurrence of any disaster the organization conducts an initial and all-inclusive assessment.

As indicated in the table the plan of action for eliminating or reducing the probability of occurrence of rapid onset disaster has a mean of 3.46 and a standard deviation of 1.19 implies that most of the respondents agree with the existence of a plan for action set in their organization. This is supported by the statement made by Assefa. S (2019) having a plan of action to mitigate disaster will further prepare in tackling disaster before occurrence.

The mean for adequate human resources available for disaster management was 2.95 with a standard deviation of 1.01 which indicates that the organization doesn't seem to have adequate human resources during the mitigation phase of the relief operation. Coming to if the organization has a plan of action to create awareness of disaster risk factors at the community level and public information projects the mean value was 3.21 with a standard deviation of 1.14. The results established that the organization has a plan of action to create

awareness at the community level will fully prepare and equip the community to avoid disaster before happening.

Table 4.6 Descriptive Statistics of Mitigation Practice

Descriptive Statistics

	N	Mean	Std. Deviation
There is plan of action for eliminating or reducing the probability of occurrence of rapid onset disaster	71	3.2394	1.16453
There is a process for developing a plan of action to mitigate disaster	71	3.4648	1.19321
There is adequate human resources available for disaster management	71	2.9577	1.22401
There is a plan of action to create awareness of disaster risk factors at the community level and public information projects	71	3.2113	1.14537
There is budget allocated for mitigation for rapid onset relief operation	71	3.0282	1.23024
Valid N (list wise)	71		

Source: Own survey (2020)

Finally the budget allocated for mitigation for rapid onset relief operation the mean value was 3.02 with standard deviation value of 1.23 which imply the organization has a practice of allocating budget for rapid onset relief operation in mitigation phase in other words having

budget allocated during mitigation will increase the chance of avoiding loss in life since budget plays a big part in the success of relief operation which will result on the disaster being mitigated rather than go through preparedness, response and recovery which have higher costs. (Assefa. S, 2019)

4.3.2 Mean and Standard Deviation of Response on Preparedness Practice

The training for response personnel/professional has (M=3.30, SD 1.03) which indicates the organization has a practice for training response personnel/professional during preparedness stage. The respondents have stayed neutral as indicated in the finding This shows that though having trained personnel will standardize and will be a stepping stone in achieving success in a given relief operation most respondents did not find SCI's training plan sufficient.

For personnel preparedness, focuses on preparing equipment and procedures for use when rapid disaster occurs was (M=3.18, SD 1.13) indicating the existence of practice of personnel preparedness, focusing on preparing equipment and procedures for use when rapid disaster occurs which shows having a procedure for preparedness on both personnel and equipment is being one step closer to giving effective response for a disaster. And as seen on the findings most of the respondents agree with the statement. Concerning whether the organization has a plan of action for disaster management in relief operation (M=3.50, SD 1.04) which indicates the organization is practicing a plan of action for disaster management in the relief operation. Again the most respondents seem to agree with the above stated facts.

The assumption that there is an evacuating plan of action for disaster threatened populations is (M=3.05, SD 1.02) suggests that the organization has a practice plan of action for evacuating disaster threatened populations. Coming to programs and procedures for mutual assistance between different humanitarian actors (M=3.46, SD 1.16) suggests that the organization practices programs and procedures for mutual assistance between different

humanitarian actors. Collaboration and coordination between various players in the humanitarian relief operation with (M=3.50, SD 1.15) suggests that the organization practices collaboration and coordination between various players in the humanitarian relief operation.

On the procurement of relief items to achieve effectiveness and efficiency (M=3.10, SD 1.19) suggests the organization practices procurement of relief items locally to achieve effectiveness and efficiency. The existence of good inventory/Stock management processes was given (M=3.33, SD 1.22) suggesting that the organization practices good inventory/stock management processes. As seen in the results the respondents agree mostly agree with the above mentioned statement.

Finally from the table below the practice of well-established processes for handling, sorting and packaging relief items for storage or distribution to beneficiaries (M=3.29, SD 1.18) This suggests that the respondents mostly agree with the existence of well-established processes for handling, sorting and packaging relief items for storage or distribution to beneficiaries' practice.

Table 4.9 Descriptive Statistics of Preparedness Practice

Descriptive Statistics

	N	Mean	Std. Deviation
There exist training for response personnel/professional	71	3.3099	1.03636
There exist personal preparedness, focuses on preparing equipment and procedures for use when rapid disaster occurs	71	3.1831	1.13779
There exists a plan of action for disaster management in relief operation	71	3.5070	1.04024
There is procurement of relief items before the occurrence of a disaster	71	3.0423	1.03422
There exist evacuating plan of action for disaster threatened populations	71	3.0563	1.02661
There exist a programs and procedures for mutual assistance between different humanitarian actors	71	3.4648	1.16902
There exist collaboration and coordination between various players in humanitarian relief operation	71	3.5070	1.15725
The procurement of relief items is done locally to achieve effectiveness and efficiency	71	3.4085	1.19017
There is a good inventory/ stock management processes	71	3.3380	1.22991
There is a well-established processes for handling, sorting and packaging relief items for storage or distribution to beneficiaries	71	3.2958	1.18797
Valid N (list wise)	71		

Source: Own survey (2020)

4.3.3Mean and Standard Deviation of Responses on Response Practice

Table 4.10 Descriptive Statistics of Response Practice

Descriptive Statistics

	N	Mean	Std. Deviation
There exist initial assessments for a relief operation	71	3.2254	.98846
There exist comprehensive assessments for a relief operation	71	3.6901	.96498
Within 72 hours after rapid onset disaster occurrence, initial assessment teams reached to the disaster location and logistics information are collected and communicated to the head office	71	3.3944	1.10167
There is action plan to provide the exact items requested to those who truly need them at minimum cost as quickly as possible	71	3.4507	1.16850
Within 72 hours response are given to the affected community	71	3.2958	.99131
There exist a plan of action for activating the emergency operations center within 72 hours of the occurrence of a disaster	71	3.4930	.80841
There exist emergency rescue and search plan	71	3.7042	.86840
There exist increasing security operations during the occurrence of rapid onset disaster	71	3.6056	.80141
Valid N (list wise)	71		

Source: Own survey (2020)

Starting with the initial assessments for a relief operation the response was (M=3.22, SD .98) suggesting the existence of initial assessments practice for a relief operation organization. This shows that initial assessments are required to be conducted immediately after the disaster unfolds in order to determine the general needs of the affected population. The comprehensive assessments for a relief operation with (M=3.69, SD .96) suggests a detailed comprehensive assessments for relief operation is carried out in the organization.

When it comes to the organizations response within 72 hours after rapid onset disaster occurrence, initial assessment teams reach the disaster location and logistics information are collected and communicated to the head office with(M=3.39, SD 1.10) suggests the respondents remain mostly neutral in responding to the statement that the organization is practicing response within 72 hours after rapid onset disaster occurrence, initial assessment teams reach the disaster location and logistics information are collected and communicated to the head office.

The action plan to provide the exact items requested to those who truly need them at minimum cost as quickly as possible (M=3.45, SD 1.16)implies that the organizations practice action plan to provide the exact items requested to those who truly need them at minimum cost as quickly as possible. This shows that efficiency and effectiveness are being seen. The response given within 72 hours to the affected community (M=3.29, SD .99) implies that somehow the organization has a practice of giving a response to the affected community within 72 hours mentioned.

Concerning a plan of action for activating the emergency operations center within 72 hours of the occurrence of a disaster (M=3.49, SD .80) suggest that the organization practice a plan of action for activating the emergency operations center within 72 hours of the occurrence of

a disaster. Looking at the response for the emergency rescue and search plan, a(M=3.70, SD .86) suggest that the organization seems to practice emergency rescue and search plan.

Finally increasing security operations during the occurrence of rapid onset disaster (M=3.60, SD .80) suggest the organization practices increasing security operations during the occurrence of rapid onset disaster.

4.3.4Mean and Standard Deviation of Responses on Recovery Practice

Table 4.11 Descriptive Statistics of Recovery Practice

Descriptive Statistics

	N	Mean	Std. Deviation
There exist plans to identify needs and define resources.	71	3.5634	1.07879
There exist plans provide housing, restore security, amend infrastructure and promote community restoration	71	3.1831	1.11240
There is a plan of action to incorporate mitigation measures and techniques	71	3.6056	1.17691
There is a procedure of keeping records of past or pervious disasters	71	3.9437	1.05407
There exist plan to evaluate the relief operation and to identify lessons learned.	71	3.6056	1.04852
There is a plan to develop initiatives to mitigate the effects of future incidents	71	3.6479	1.04333
There is a good inventory(stock) management processes	71	3.5493	1.20462
There is budget allocated for recovery, reconstruction and rehabilitation	71	3.3662	1.13691
Valid N (list wise)	71		

Source: Own survey (2020)

When it comes to plans to identify needs and define resources has a mean of 3.56 and a standard deviation of 1.07 signifying that there is the existence of plans to identify needs and define resources. The plans to provide housing, restore security, amend infrastructure and promote community restoration with a mean of 3.18 and a standard deviation of 1.11 suggests that the respondents are neutral when it comes to the existence of plans to provide housing, restore security, amend infrastructure and promote community restoration in their organization. Looking at whether the organization has a plan of action to incorporate mitigation measures and techniques with a mean of 3.60 and standard deviation, 1.17suggesting the organization is practicing a plan of action to incorporate mitigation measures and techniques. The procedure of keeping records of past or previous disasters with a mean of 3.94 and standard deviation value of 1.05 suggests that the organization has a practice procedure of keeping records of past disasters and is organized enough to keep records of any possible future events.

Coming to the plan to evaluate the relief operation and to identify lessons learned with a mean of 3.60and a standard deviation of 1.04 suggests that the organization has the plan to evaluate the relief operation and to identify lessons learned. the plan to develop initiatives to mitigate the effects of future incidents with a mean of 3.64and a standard deviation of 1.20suggesting that the organization has an existing plan of action to develop initiatives to mitigate the effects of future occurrences.

For the good inventory management processes the mean was 3.54with a standard deviation of 1.20implying that the organization practices good inventory (stock) management processes. This also implies that there is good receiving, storing, dispatching, and distributing system in place. Finally the budget allocated for recovery, reconstruction, and rehabilitation the mean value was 3.36 with the standard deviation of 1.13 which implies the existence of practice in allocating budget for recovery, reconstruction, and rehabilitation.

4.3.4Mean and Standard Deviation of Responses on Organizational Performance

Table 4.12 Descriptive Statistics of Organizational Performance

Descriptive Statistics

	N	Mean	Std. Deviation
The sum of time to place a purchase order and supplier lead times gives an overall cycle time from purchase request, to procurement, and finally to goods receipt in the organization is sufficient.	71	3.7887	.89308
The average response time to an external risk event from the onset of the event, including detection lags is sufficient in the organization.	71	3.5915	1.08992
SCI Sources with documented contingency plans and sourced items with alternate or redundant sources.	71	3.5775	1.26109
The total cost associated with assessing supply chain performance, including cost associated to the monitoring of both internal and external players such as suppliers and shippers in SCI Ethiopia can be considered effective.	71	3.8169	1.15028
Valid N (listwise)	71		

Source: Own survey (2020)

Based on the findings shown on the table when it comes to the assumption that the sum of time to place a purchase order and supplier lead times. It gives an overall cycle time from purchase request, to procurement, and finally to goods receipt in the organization is sufficient with a mean of 3.78 and a standard deviation of .89 the responses imply that he sum of time to place an order and supplier lead time is sufficient.

Looking at whether the average response time in days to an external risk event from the onset of the event, including detection lags is sufficient in the organization shows a mean of 3.59 and standard deviation of 1.08 implies that the average response time in days is sufficient in the organization. Coming to sourcing with documented contingency plans and sourced items with alternate or redundant sources. A simpler approach is to measure sourced items with alternate sources. With a mean value of 3.57and a standard deviation of 1.26 most respondents agree that the simpler approach is to measure sourced items with alternate sources.

Finally the total cost associated with assessing supply chain performance, including cost associated to the monitoring of both internal and external players such as suppliers and shippers in SCI Ethiopia can be considered effective. With a mean of 3.81 and standard deviation of 1.15 the most of responses were in agreement with the statement.

4.4 Humanitarian Supply Chain Management Practice and Organizational Performance

This segment contains correlation and regression analysis. The segment was meant to achieve both general and specific objectives in establishing the relationship that exists between the variables.

4.4.1Correlation Analysis

Correlation analysis was carried out to achieve the specific study objectives, to establish the effect of mitigation practice, preparedness practice, response practice and recovery practice on organizational performance at SCI Ethiopia. As indicated by Beldjazia and Alatou, (2016) A correlation coefficient has a value stretching from -1 to 1. Values that are nearer to the absolute value of 1 show that there is a strong relationship between the variables being correlated while values closer to 0 shows that there is slight or no linear relationship. The strong point of correlation can be labeled using the guide that Evans (1996) proposed for the

absolute value of r as cited in If "r = 0.00-0.19 - very weak, r= 0.20-0.39 - weak, r = 0.40-0.59 - moderate, r = 0.60-0.79 - strong and r = 0.80-1.0 - very strong". Pearson correlation coefficients were determined with the goal to obtain evidence about the relationships between the dependent and independent variables.

As seen on the table, Mitigation has a positive and significance influence on organizational performance of SCI Ethiopia. r (71) =.647, $p \leq 0.01$.As stated by Evans (1996)this shows the extent of correlation, the relationship between the two variables is strong.

Preparedness with a significance measure of r (71) = .515, $p \leq 0.01$ has a positive and significant relationship with the dependent variable which is the organizational performance. This finding according to Evans (1996) shows the extent of correlation and the relationship between the two variables is moderate. With a significance level of r (71) = .463, $p \leq 0.01$ response has a positive and significant relationship with the organizational performance in this case the relationship between them is moderate.

Finally with a significance level of r (71) =.709 recovery has a positive and significant relationship with organizational performance. The relationship between the two variables is considered strong. In General, the correlation analysis presented a positive and significant relationship between humanitarian supply chain management practices and organizational performance of SCI Ethiopia.

Table 4.13: Correlation matrix between Humanitarian supply chain practice and organizational performance

Correlations

		Mitigation	Preparedness	Response	Recovery	Organizational Performance
Mitigation	Pearson Correlation	1	.732**	.601**	.793**	.647**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	71	71	71	71	71
Preparedness	Pearson Correlation	.732**	1	.552**	.810**	.515**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	71	71	71	71	71
Response	Pearson Correlation	.601**	.552**	1	.725**	.463**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	71	71	71	71	71
Recovery	Pearson Correlation	.793**	.810**	.725**	1	.709**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	71	71	71	71	71
Organizational Performance	Pearson Correlation	.647**	.515**	.463**	.709**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	71	71	71	71	71

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

Source: Own survey (2020)

4.4.2 Regression Analysis

As described by R.Burns & B.Burns, (2008) the practice of regression allows researchers to make predictions of the likely values of the dependent variable from known values of independent variable in a simple linear regression or multiple linear regression. The study will bear a multiple linear regression because it has more than two independent variables. The regression analysis in the study was conducted to find out how much the independent variable (Mitigation, Preparedness, Response and Recovery) affect the dependent variable (Organizational Performance).

4.4.2.1 Testing Regression Analysis

A. Normality Distribution Test

This Multiple regression analysis requires the independent variables to be normally distributed. As defined by Smith and Wells (2006), kurtosis is defined as "property of a distribution that describes the width of the tails. The width of the tail comes from the quantity of tallies falling at the extremes relative to the normal distribution. And Skewness is a measure of symmetry. A data set is symmetric if it's equivalent to the left and right of the middle point. The skewness and kurtosis test results of the data is within the acceptable range is (-1.0 to +1.0) and it can be determined that the data is normally distributed.

Table. 4.14. Normality distribution test

Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Mitigation	71	-.440	.285	-.244	.563
Preparedness	71	-.363	.285	-.266	.563
Response	71	-.165	.285	-.361	.563
Recovery	71	-.745	.285	-.291	.563
OrganizationalPerformance	71	-.364	.285	-.450	.563
Valid N (listwise)	71				

Source: Own survey (2020)

As seen on the table the result of kurtosis skewness is between -1.0 to +1.0, which is acceptable.

B. Multicollinearity Test

Multicollinearity refers to the situation in which the independent/predictor variables are highly correlated. As stated by (Menard, 1995) Tolerance should be more than 0.2 and VIF should be less than 10 (Myers, 1990).so the result obtained confirmed this one and acceptable. According to Field,(2009)a perfect collinearity exists when at least one predictor is a perfect linear combination of the others. If there is perfect collinearity between predictor it becomes impossible to obtain unique estimates of regression coefficients because there are an infinite number of combination of coefficient that would work equally well. The regression coefficients become less reliable as the degree of correlation between the independent variables increases. If there is a high degree of correlation between independent variables, there is a problem of multicollinearity.

Table. 4.15 Multicollinearity Test

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Mitigation	.345	2.899
	Preparedness	.318	3.140
	Response	.468	2.138
	Recovery	.294	3.399

a. Dependent Variable:

OrganizationalPerformance

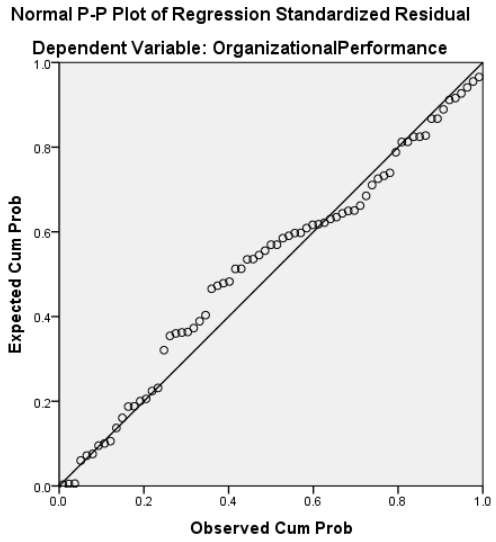
Source: Own survey (2020)

As seen on the table above Variance inflation factor Value ranges from 2.138 to 3.399. Where the Tolerance value ranges from 0.294-0.468. These values of Tolerance and VIF indicate that there is no serious multi collinearity problem.

C. Linearity Test

The Linearity test was conducted by producing scatterplots of the relationship between each independent and dependent variable. According to Balance, (2004) Linearity defines the dependent variable as a linear function of the predictor (independent) variable.

Fig. 4.1. P.P Plot



Source: Own survey (2020)

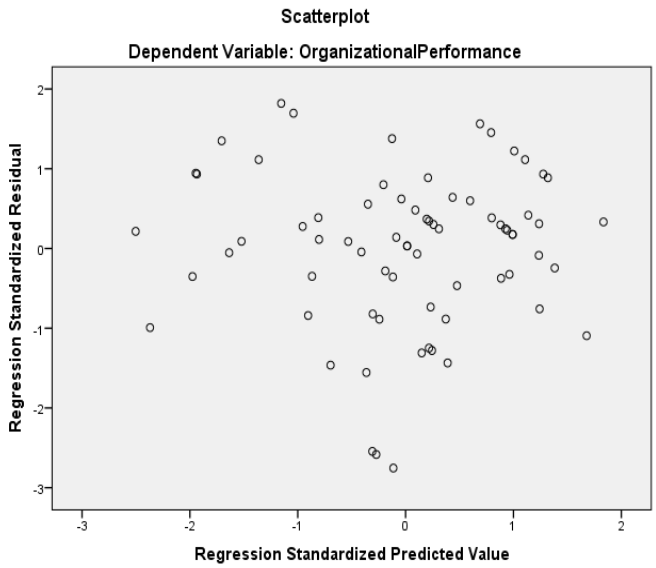
By looking at the above figure we can say that the dots relatively follow the line though there seems to be some tiny deviation we can say that the relationship between the independent and dependent variables looks to be linear.

D. Homoscedasticity Test

As stated by Field, (2005) the residuals at each level of the independent variable should have the same variance (homoscedasticity); when the variance are very unequal there is said to be homoscedasticity. In other words the homoscedasticity test refers to equal variance of errors across all levels of the independent variables. This means that errors are spread out consistently between the variables. This is apparent when the variance around the regression line is identical for all values of the independent variable.

Homoscedasticity can be checked by visual examination of a plot of the standardized residuals by the regression standardized predicted value. As seen in the below figure, though the residuals are scattered we can say that there is consistency since the residuals are not that far apart.

Fig 4.2. Scatter Plot



Source: Own survey (2020)

E. Durbin-Watson coefficient Assumption

The auto correlation assumption is an assumption used to test correlation between errors. According to Garson, (2012) the Durbin-Watson measurements should be between 1.5 and 2.5 for independent observations. As shown on the model summary table 4.16 below, the Durbin-Watson value is 1.833. Therefore, the auto-correlation assumption is clearly met, since it falls between 1.5 and 2.5.

4.4.3 Regression Model

As seen on the table below regression analysis was used to express the relationship between the independent and dependent variables. The dependent variable, Organizational Performance and the independent variables were the mitigation, preparedness, response and recovery. The ability of independent variables to illuminate the changes in dependent variables was measured by adjusted R-square which happened to be 52% meaning that other factors not overseen in this research contribute around 48% of the effects on organizational performance.

Table. 4.16. Model summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimat	Durbin-Watson
1	.742[a]	.551	.524	1.88151	1.833

a. Predictors: (Constant), Recovery, Response, Mitigation, Preparedness

b. Dependent Variable: OrganizationalPerformance

Source: Own survey (2020)

In the model summary table above the coefficient R, indicates a strong correlation of .742 between humanitarian supply chain practices and Organizational performance. The R^2 (coefficient of determination), with a value of .551(55.1%) suggests relative contribution of humanitarian supply chain practices in construing the organizational performance, the remaining 44.9% of the changes can be credited to other factors. The adjusted R2 is .524, which implies that humanitarian supply chain practices can account for 52.4% of the difference in organizational performance. Though there might be numerous factors that explain the variable on organizational performance, nearly 54.6% of it is explained by lean supply chain practices. This means that the remaining 45.4% of the variation in Organizational Performance cannot be explained by the indicated humanitarian supply chain practices.

4.4.4 ANOVA and Beta Coefficient

As seen on below table 4.16, the significance value (p-value) = 0.000 in the study is less than 0.05 and the F value calculated from the ANOVA table as seen below is 20.250, thus the model is statistically significant in predicting how the effect of independent variables on organizational performance in SCI Ethiopia.

Table 4.17 ANOVA Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	286.743	4	71.686	20.250	.000[b]
	Residual	233.644	66	3.540		
	Total	520.387	70			

a. Dependent Variable: OrganizationalPerformance

b. Predictors: (Constant), Recovery, Response, Mitigation, Preparedness

Source: Own data 2020

4.4.5 Regression Coefficient

Table. 4.18. Coefficients of Humanitarian supply chain practices

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.880	1.169		4.175	.000
	Mitigation	.204	.094	.304	2.162	.034
	Preparedness	-.101	.056	-.265	-1.815	.074
	Response	-.073	.062	-.143	-1.188	.239
	Recovery	.359	.085	.787	4.230	.000

a. Dependent Variable: OrganizationalPerformance

Source: Own data 2020

As stated by Harvey, K.L., (2009) the P value is less than .05 (.01, .0001, etc.), then the variable is making a significant unique contribution to the prediction of the dependent variable. If greater than .05, then you can conclude that that variable is not making a significant unique contribution to the prediction of your dependent variable. This may be due to overlap with other independent variables in the model.

Since the researcher is concerned with comparing the contribution of each independent variable seen on the table below the constant of the model was 4.880 which was statistically significant (p-value= 0.000). The highest statistically significant coefficient was 0.359 which belonged to the Recovery Practice with (P.value= 0.000). This was followed by Mitigation Practice, with coefficient of 0.204 with (p-value=0.034), 0.180(0.40). The coefficients for Preparedness and Response variables were (-101 & -073) respectively however they turned

out to be statistically insignificant with the coefficients of (p-value= 0.074 and 0.239) respectively.

From this data seen above it can be concluded that the humanitarian supply chain management practices that had a significant and unique influence on organizational performance were the mitigation and recovery practices

Unstandardized beta coefficient (β)

The unstandardized coefficients (X1 up to X4) are coefficients of the assessed regression model. Hence, together with the error term (ε), the model for organizational performance can be written as;$y = \beta 0 + \beta 1x1 + \beta 2x2 + \beta 3x3 + \beta 4x4 + \varepsilon$,

Where; Y = Organizational performance β0 = Constant factor

X1 = Mitigation β1 = Coefficient of Mitigation

X2 = Preparedness β2 = Coefficient of Preparedness

X3 = Response β3 = Coefficient of Response

X4 = Recovery β4= Coefficient of Recovery

ε= Error term

Y = 4.88 + .204X1 + (-0.1) X2 + (-0.7) X3 + .359X4 + ϵ

The constant value (β0 = .4.88) suggests that organizational performance of SCI Ethiopia would be 4.88 if other variables of the model happened to be zero. Moreover, a beta coefficient of .204 indicates that a change in mitigation leads to a change in the organizational performance of SCI Ethiopia by .204. On the other hand the Error term (ϵ) estimate was assumed to be zero. Also a beta coefficient of .359 indicates that a change in response leads to a change in the organizational performance of SCI Ethiopia by .359. On the other hand the Error term (ϵ) estimate was assumed to be zero

Finally the regression coefficient outcomes show that two out of the four variables are statistically significant in predicting the organizational performance of Save the Children International Ethiopia. The statistically significant variables are Mitigation and recovery as shown by their P-values ($P<0.05$). This point toward as an increase in these variables results in an increase in the organizational performance of SCI Ethiopia.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Summary of Findings

The whole purpose of the study was to examine the effect of Humanitarian supply chain management Practices on organizational performance in SCI Ethiopia. Where the specific objectives were to investigate the effect of mitigation practice, to explore the effects of preparedness practice, to investigate the effects of response practice and to analyze the effects of recovery practices on the organizational performance of SCI Ethiopia. The results were seen above on chapter four and based on those results the summary of major findings are presented as follows.

The study found out that out of 71 respondents the majority of the respondents are male most of which are from the supply chain department with an experience range of the majority of the respondents laying of around 2-10 years of work experience in the organization. The findings also show that most of them have higher education and they mostly have better experiences.

- The first objective of the study was to investigate the effects of the Mitigation practice on organizational performance. From descriptive analysis it can be concluded that their mean score is less than 3.5 meaning the respondents are mostly neutral and disagreeing with the statements of the mitigation practice. Under correlation analysis the result from the study shows that there is significantly strong correlation between Mitigation and organizational Performance, with correlation coefficient of 0.647 (r=0.647) with

significance value less than 0.01.The output from regression analysis indicated that it is one of the strong predictors of the dependent variable which is organizational performance with beta coefficient of .204 at significance level .034.

- The second Objective of the study was to explore the effect of Preparedness practice on organizational performance. Accordingly, from the descriptive analysis, it can be concluded that their mean score is lower than 3.5 meaning some of them are neutral but some agree with the statement and under the correlation analysis it showed a moderate correlation between the Preparedness practice and organizational performance with correlation coefficient of 0.515 (r=0.515) with significance value 0.01 and it is statistically insignificant predictor of organizational performance with beta coefficient of -.101 at significance level of .074.
- The third objective of the study was to examine the effects of Response practice on organizational performance. From descriptive analysis it can be concluded that their mean score is mostly around 3.5 meaning the respondents agree with the statement. Under correlation analysis the results show that there is significantly moderate correlation between response practice and organizational Performance, with correlation coefficient of 0.463 (r=0.463) with significance value less than -.071 and statistically insignificant predictor of organizational performance since it shows a significance level of .239,
- The fourth research objective of the study was to assess the effects of customer response on organizational performance under descriptive analysis mean scores greater than 3.5, except two questions asked under customer response scored less than 3.5, which imply the respondents agreed to the idea raised under each variable. From correlation analysis revealed that customer response has significant correlation with coefficient of 0.709 (r=0.709) with significance value less than 0.01. It is a statistically significant predictor

of organizational performance since its beta coefficient is .0359 at significance level of .000.

- Finally the outcome of the regression analysis showed that two of the humanitarian supply chain practices have a relevant effect on organizational performance. These are Mitigation practice and recovery practice. In additional means, the effect of Humanitarian supply chain practices on organizational performance and it is answered by the regression model summery, R2 = .551 which revealed that the model accounts for 55.1% of the variation in organizational performance is explained by the linear coSCI Ethiopianation of all the independent variables of humanitarian supply chain practices. The ANOVA test result showed that R and R2 found from the model summary was statistically significant at (F=20.250),P<0.001)

5.2 Conclusion

Based on previous theories and researches conducted in the areas of Supply Chain Management mainly humanitarian supply chain management practices and its outcomes, this study shows clear links between Humanitarian Supply Chain Management Practice and Organizational Performance, which helps understand their relationship. The findings partly support the assumption that humanitarian supply chain management practice concepts can increase Organizational Performance.

Based on the result of the descriptive statistical analysis on the humanitarian supply chain practices, we can conclude that the humanitarian supply chain practices were being practices in save the children Ethiopia to some extent.

- Mitigation practice and the organizational performance of SCI Ethiopia are positively related. However, Mitigation Practice has a significant effect on organizational performance.

- According to the results of this study, it can be concluded that Preparedness Practice and the organizational performance of SCI Ethiopia are positively related. In addition, Preparedness Practice is not statistically significant to influence organizational performance
- According to the results of this study, it can be concluded that Response Practice and the organizational performance of SCI Ethiopia are positively related. In addition, Level of Response Practice has a significant effect on organizational performance, but it has a negative effect organizational performance

Coming to the relationship between humanitarian supply chain management practices and the organizational performance it can be concluded that humanitarian supply chain management practices and organizational performance have a positive and significant relationship. Moreover the humanitarian supply chain practices Mitigation and Recovery showed a strong relationship with the organizational performance and the practices Preparedness and Response show a moderate relationship with the organizational performance of SCI Ethiopia.

When it comes to the predicting power of independent variables, the study concluded that the independent variables of mitigation and recovery practices had predicting power on organizational performance of SCI Ethiopia. While preparedness and recovery practices did not have effect on the organizational performance of SCI Ethiopia. In spite of the fact that most literature outlining them as major areas of humanitarian supply chain practices, it can be concluded that SCI Ethiopia is not addressing these practices properly.

5.3 Recommendation

Built on the findings of the study, the following are recommendations given under each objective:

The study it has recognized that Mitigation practice positively forecasts the performance of Organizational performance. The study therefor recommends that managers and all those concerned bodies of SCI Ethiopia should consider strengthening the relationship between different actors mainly the government and the community of the affected area they should also try to raise awareness and work towards getting funds from any concerned body. They should also work towards having qualified personnel working towards achieving the goal of the mitigation practice.

The study recognized that Preparedness practice has a statistically insignificant effect on the performance of organization. Though the literature contradicts this finding an organization should be able to invest on the preparedness practice. It is therefore recommended in this study that manages and concerned body of SCI Ethiopia should include Preparedness practice in strategic plan to further improve the practice. They should work on building the capacity of the personnel, it is also important to collaborate with other humanitarian supply chain actors.

The study established that Response practice has a statistically insignificant effect on the performance of organization. It is therefore recommended in this study that managers and concerned body of SCI Ethiopia should work better on coordination and collaboration with other relief organizations to better the existence of the recovery practice in SCI Ethiopia.

This study established a significant positive relationship between Recovery practice and Organizational performance, the study therefore recommends the inclusion of Recovery

practice in the strategic plans of organization. The researcher recommends that the organization should focus on bettering the interaction with other humanitarian supply chain actors by doing so they should also update or upgrade any inquiries on getting enhanced funding from donors, IT, get a better security advisory , modernize their warehousing system and most of all they it is recommended that they work on improving man power. Since the effect the recovery practice has on organizational performance in SCI Ethiopia is evident.

5.4 Areas for Further Study

This study tried to focus on humanitarian supply chain management practices and its effect on organizational Performance in save the children international Ethiopia. This research can be further explored by looking at humanitarian Supply chain management dimensions and activities and others that could influence Organizational Performance. The study also molded a basis for further research in finding out the challenges of these humanitarian supply chain practices and factors affecting them. The findings also push future researchers in carrying out a study on the effects of humanitarian supply chain management practices on the humanitarian sector further length could be seen in the government and non-governmental organizations.

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Appendix I: Questionnaire

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERECE

DEPARETMENT OF LOGISTICS & SUPPLY CHAIN MANAGEMENT

School of Graduate Studies,

The Purpose of the Questionnaires

The Questionnaire is prepared to be distributed and collect primary data to do research on the Effect of Humanitarian Supply chain management on organizational performance in the case of SCI Ethiopia
for the partial fulfilment for the attainment of a **MASTER'S DEGREE IN LOGISTICS & SUPPLY CHAIN MANAGEMENT (LSCM)** from **AAUSC**
Permanent employees of the organization are to fill the questionnaire. The focus of all the questions are on the Effect of Humanitarian Supply chain management on organizational performance in the case of SCI Ethiopia.

The Questionnaire is intended to assess demographic of the respondents, the humanitarian supply chain management of organization and performances of the organization.

The Information in this questionnaire will be used only for the thesis. None of the responses will be used against the organizations, or the Employees.

Genuine responses are appreciated as they make the analysis more realistic

NAMES OF THE RESPONDENTS ARE NOT REQUIRED.
The questionnaire shall be returned within a few days as much as possible.

Further communication is well-come through cell phone#: 092 949 4959 and E-mail: kalfekadu97@gmail.com

THANK YOU FOR YOUR WILLINGNESS!!!
Kalkidan Fekadu Melesse

DIRECTIONS TO FILL THE QUESTIONARRIES

- Please put a "**X**" mark on the boxes provided for each question
- Please provide only one answer for one question.

Part One: Demographic Data

1. Age

20-25	☐	26-30	☐	31-35	☐	36-40	☐
41-45	☐	46-50	☐	51-55	☐	>55	☐

2. Gender: Male ☐ Female: ☐

3. Department:

Supply Chain ☐ Finance ☐

4. Level of Education:

High School Complete ☐ **Diploma** ☐ **Degree** ☐ **Masters** ☐ **PhD-** ☐

5. Work Service years (in SCI only):

Less than 2 years ☐ **2-4 years** ☐ **5-10 years** ☐

11-15 years ☐ **More than 15 years** ☐

Part Two: Humanitarian Supply Chain Management Practices

The following questions are about how your organization has been implementing the humanitarian supply chain management Practices.(**The questions below are specific to your organization**) Please provide a mark (**X**) as indicated on the guideline to indicate the extent to which you agree or disagree with each the following statement based on your experience working in this organization. The item scales are five-point Likert type scales with (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

NO	Mitigation	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	There is plan of action for eliminating or reducing the probability of occurrence of rapid onset disaster					
2	There is a process for developing a plan of action to mitigate disaster					
3	There is adequate human resources available for disaster management					
4	There is a plan of action to create awareness of disaster risk factors at the community level and public information projects					
5	There is budget allocated for mitigation for rapid onset relief operation					
NO	Preparedness	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	There exist training for response personnel/professional					
2	There exist personal preparedness, focuses on preparing equipment and procedures for use when rapid disaster occurs					

3	There exists a plan of action for disaster management in relief operation					
4	There is procurement of relief items before the occurrence of a disaster					
5	There exist evacuating plan of action for disaster threatened populations					
6	There exist a programs and procedures for mutual assistance between different humanitarian actors					
7	There exist collaboration and coordination between various players in humanitarian relief operation					
8	The procurement of relief items is done locally to achieve effectiveness and efficiency					
9	There is a good inventory/ stock management processes					
10	There is a well-established processes for handling, sorting and packaging relief items for storage or distribution to beneficiaries					

NO	Response	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	There exist initial assessments for a relief operation					
2	There exist comprehensive assessments for a relief operation					
3	Within 72 hours after rapid onset disaster occurrence, initial assessment teams reached to the disaster location and logistics information are collected and communicated to the head office					
4	There is action plan to provide the exact items requested to those who truly need them at minimum cost as quickly as possible					
5	Within 72 hours response are given to the affected community					

6	There exist a plan of action for activating the emergency operations center within 72 hours of the occurrence of a disaster					
7	There exist emergency rescue and search plan					
8	There exist increasing security operations during the occurrence of rapid onset disaster					
NO	Recovery	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	There exist plans to identify needs and define resources. .					
2	There exist plans provide housing, restore security, amend infrastructure and promote community restoration					
3	There is a plan of action to incorporate mitigation measures and techniques					
4	There is a procedure of keeping records of past or pervious disasters					
5	There exist plan to evaluate the relief operation and to identify lessons learned.					
6	There is a plan to develop initiatives to mitigate the effects of future incidents					
7	There is a good inventory(stock) management processes					
8	There is budget allocated for recovery, reconstruction and rehabilitation					

Part 3: Organizational Performance

The following questions are about how your organization has measuring the organizational performance with regards to Agility, Reliability, Responsiveness and Cost Effectiveness. Please provide a mark (**X**) as indicated on the guideline to indicate the extent to which you agree or disagree with each the following statements based on your experience working in this organization. The item scales are five-point Likert type scales with (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

No:	Organizational performance	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	The sum of time to place a purchase order and supplier lead times gives an overall cycle time from purchase request, to procurement, and finally to goods receipt in the organization is sufficient.					
2	The average response time to an external risk event from the onset of the event, including detection lags is sufficient in the organization.					
3	SCI Sources with documented contingency plans and sourced items with alternate or redundant sources.					
4	The total cost associated with assessing supply chain performance, including cost associated to the monitoring of both internal and external players such as suppliers and shippers in SCI Ethiopia can be considered effective.					

My deepest gratitude goes out for your kind cooperation!