



**DETERMINANTS OF SUPPLY CHAIN INTEGRATION IN  
HUMANITARIAN ORGANIZATION: IN THE CASE OF GOAL  
ETHIOPIA**

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## APPROVAL SHEET

This is to certify that the thesis entitled “**Determinants of Supply Chain Integration In Humanitarian Organization: In The Case of Goal Ethiopia** ” done by; **Yared Mekonen** has been submitted in partial fulfilment of the requirements for the award of the degree of masters of Arts (MA) in department of Logistic and Supply Chain Management from the School of Commerce of Addis Ababa University complies with the regulations of the university and meets the accepted standards with respect to originality and quality with our approval as University supervisors.

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**DECLARATION PAGE**

I declare that the work included in this final research titled “**Determinants of Supply Chain Integration in Humanitarian Organization: In The Case of Goal Ethiopia** “is my own work carried out by me under the guidance of my advisor. This research has not been submitted for any other purpose to any other higher education institution for the award of any Diploma or fellowship.

I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in a final research submission and the sources used are duly acknowledged. I understand that any violation of academic integrity causes for disciplinary action by the University.

**Declared by**

Yared Mekonen

..... / .....

Date/Signature



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# TABLE OF CONTENTS

<u>Contents</u>	<u>Pages</u>
APPROVAL SHEET .....	i
CERTIFICATION PAGE.....	iii
ACKNOWLEDGEMENTS .....	iv
TABLE OF CONTENTS.....	v
ACRONYMS .....	viii
<i>ABSTRACT</i> .....	ix
CHAPTER ONE.....	2
1. INTRODUCTION.....	2
1.1. Background of the Study .....	2
1.2. Statement of the problem .....	3
1.3. Research Questions .....	5
1.4. Objective of the study .....	5
1.4.1. General Objective .....	5
1.4.2. Specific Objectives .....	5
1.5. Significance of the Study .....	6
1.6. Scope of the study .....	6
1.6. Limitation of the Study .....	7
1.7. Definition of basic terms.....	7
1.8. Organization of the Study .....	8
CHAPTER TWO .....	9
2. REVIEW OF RELATED LITERATURE.....	9
2.1. Theoretical Review of Literature .....	9
2.1.1. Supply chain Integration Practices.....	9
2.2. Empirical Review.....	12
2.2.1. Supply chain integration practices .....	12
2.2.2. Determinants of Humanitarian supply chain Integration Practice .....	12
2.1. Conceptual framework.....	15
CHAPTER THREE .....	15

3.	RESEARCH METHODOLOGY .....	15
3.1.	Research Approach .....	15
3.2.	Research Design.....	15
3.3.	Types and Sources of Data.....	16
3.4.	Methods of Data Collection .....	16
3.5.	Total Population and Sampling Unit of the study.....	17
3.6.	Sampling Techniques and Procedures .....	18
3.7.	Sample size determination .....	18
3.8.	Methods of Data Analysis.....	19
3.9.	Data Validity and Reliability .....	19
3.9.1.	Validity .....	19
3.9.2.	Reliability.....	20
3.10.	Ethical Consideration.....	21
	CHAPTER FOUR.....	22
4.	DATA PRESENTATION, ANALYSIS AND INTERPRETATION.....	22
4.1.	Response Rate.....	22
4.2.	The Demographic Background of respondents.....	22
4.2.1.	Gender of respondents .....	24
4.2.2.	Age of respondents .....	24
4.2.3.	Educational qualification of respondents .....	24
4.2.4.	Level of your position currently working in Goal Ethiopia.....	24
4.2.5.	Work experience in Goal Ethiopia’s supply chain.....	25
4.2.6.	Position in the organization .....	25
4.2.7.	Place of Filed Office .....	25
4.3.	Descriptive Analysis of “Extent of Supply Chain Integration” .....	26
	For this descriptive analysis the researcher uses weighted averages for 5-point Likert scales ....	26
4.3.1.	Descriptive Analysis of the “External Integration” .....	29
4.3.3.	Descriptive Analysis of the “Supplier Integration” .....	30
4.3.4.	Descriptive Analysis of the “Measurement Integration” .....	31
4.4.	Descriptive Analysis of “Determinants of supply chain integration” .....	31

4.4.1.	Descriptive Analysis on the determination “Level of Organization Procedure” on SCI.....	32
4.4.2.	Descriptive Analysis on the determination “Level of Organizational culture” on SCI	33
4.4.3.	Descriptive Analysis on the determination “Level of Inter-departmental communication” on SCI .....	34
4.4.4.	Descriptive Analysis on the determination “Level of Supply Chain Trust” on SCI	36
4.4.5.	Descriptive Analysis on the determination “Level of Information sharing among supply chain members” on SCI .....	37
CHAPTER FIVE .....		44
5.	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .....	44
5.1.	Summary of the findings.....	44
5.1.1.	Descriptive Analysis Summary for the “Demographic Background of respondents”	44
5.1.2.	Descriptive Analysis Summary.....	45
5.1.3.	Regression Analysis Summary .....	45
5.3.	Recommendations.....	47
5.4.	Recommendations for future research.....	47
APPENDIXES: .....		53
Appendix-I: Research Questionnaires .....		53

## **ACRONYMS**

**AAU:** Addis Ababa University

**APARS:** American Psychological Association referencing system

**LSCM:** Logistic and Supply Chain Management

**GE:** Goal Ethiopia

**HO:** Humanitarian Organization

**SCI:** Supply Chain Integration

**SC:** School of Commerce

**SPSS:** Statistical Package for Social Sciences

## **ABSTRACT**

*Supply Chain integration is one of the ways through which humanitarian organizations can be more competitive to attain their objectives and thus better perform. This research targeted at “Determinants of supply chain integration in humanitarian organization: the case of Goal Ethiopia”. Now a day humanitarian supply chains, challenges are progressively increasing in number of complexities in the environment which they function, tend to be unstable, uncertain, less responsive, incompetent, and ineffective. Despite the purpose of the study descriptive and explanatory research design is used to investigate the Cause-and-effect relationship; to realize variation in the variable that expected reason to the change in the other variable and then measure the changes in the other variable using statistical methods. However, sample population were drawn from Oromia, Amhara, Gambela, Afar and Addis Ababa regional office staffs of Goal Ethiopia Program which accounts a total of 104 respondents. Both primary and secondary data sources of data were samples drawn using stratified sampling design as staff were classified based on their. Both qualitative and quantitative research approach is used and data were collected using questionnaires and analyzed with the help of SPSS Version 24.*

*Results further concluded that both customer and supplier integration partially mediate the relationship between internal integration and Supply chain performance. This reiterates the fact that there is not only the need to ensure the optimum level of internal integration to exploit the output of the organization but such efforts also need to be linked with integration practices with customers and suppliers as well for enhancing the output i.e. performance of the supply chain.*

**Key words:** *Supply Chain Integration, Humanitarian Organization and Goal Ethiopia College*

# CHAPTER ONE

## 1. INTRODUCTION

This chapter is cover and discuss about background of the study, statement of the problem, research questions, objectives of the study, significance of the study, scope of the study, definition of the term and finally, explain the structure of the study.

### 1.1. Background of the Study

The humanitarian supply chain (HSC) is an evolving field and has gained importance in the recent past. It is basic to provide sufficient humanitarian aid to affected peoples once a natural or manmade disaster occurs. In a humanitarian-supply-chain system, the fundamental value and central motive is to assist and deliver aid for the community who needs help in the form of goods and services. Affected communities are very delicate after natural-hazards induced disaster because they suffer from a lack of drinking water, medication, food, shelter, and psychological support as well. A real humanitarian supply chain delivers the right materials to the right place at the right time to people in need of aid assistance. However, the circumstances in which humanitarian organizations work is very challenging regarding unpredictable demand (in terms of timing, location, type, and size), unexpected occurrences of large demands with short lead times for different goods, the importance of timeliness in deliveries and a lack of resources (material, human, technology and financial) Vallencourt, (2016).

Now a day, due to the magnitude and redundancies of global disaster challenges become high budget demanded, more time sensitive and more life costing, Global Humanitarian outlook report, revealing that 339 million people are in urgent need of aid, it is the highest caseload (Oxfam 30 December 2022).

The Humanitarian Supply Chain contains the following activities: preparation, planning, procurement, transportation, storage, tracking and customs clearance so, the humanitarian supply chain needs to integrated and able to respond rapidly to unpredictable events effectively and efficiently under heavy budget limitations. Supply chain integration is the most significant aspects Source for the success of any organizations those join in operational activities. Because it drives the sector process for successful attainment of their goals. Due to different limitation humanitarian organization would not succeed as the demand on the ground, but some of the

limitations are not financial or they are more related to organizational capacity, mode of operation, structure of the organization, working culture and technological advancement and so on.

Thus, like most other humanitarian organizations, since 1984 Goal Ethiopia has put its footsteps in Ethiopian humanitarian soil by engaging in Humanitarian Respond Program (HRP) and Rural Development Program (RDP). So far it works on different project in different parts of the country for those who affected by different natural and man-made disaster and to improve the livelihood of the poor of the poorest. With all these service years it (Goal Ethiopia) is striving to respond as swiftly as possible to alleviate suffer of the victims and minimize the death (damage's) that exist after the disaster. To do so it works integrated with both internal (inter departmental) and external (among partners). But still the researcher observes some integration gaps among different departments (Logistics procurement program and transport) that lead to overall delaines, inappropriate budget distribution through all budget period

Due to supply chain integration performance-improving approach that develops seamless connections among the actors, levels, and functions within a supply chain to optimize customer service. Therefore, the aim of this study is to assess the determinants of supply chain integration in Goal Ethiopia based on different functional unit or departments mainly procurement, transportation, warehouse, and distribution or Program unit

## **1.2. Statement of the problem**

According OCHA report released in 2017 people required humanitarian assistance has escalated by 200 percent than it was a decade ago in the world. (OCHA 2017). The horn of Africa is facing its worst drought in more than four decades with catastrophically consequences (OCHA 2022), especially in sub-Saharan country there is a high vulnerability due to civil war and the massive drought has happened in the region.

United Nation has declared that the threat of the famine is very real in Somalia and South Sudan Accordingly it needs an urgent action to avoid catastrophe (UN 2022) in addition, the reports put Ethiopian comparably, as it will continue to suffer from the devastating drought affecting the Horn of Africa. Thus, the coming time was very challenging for both humanitarian organization as well as donors. Besides they predict that the drought situation will continue to drive high

humanitarian needs in to 2023, with a high probability of a sixth rain season failed in (March-May 2023).

The existing drought and other disaster need an immediate humanitarian aid based on the type of onset disasters. But there are different challenges of humanitarian supply chain management application on readiness, assessment and appeal, resource organization, procurement, transport execution, tracking and tracing, warehousing, and delivery. Based on different research papers and academics 70 up to 80 percent of the disaster prevention budget would spend on supply chain. (*Helen S.Y. Chen, Luk Van Wassenhove, and T.C.E. Cheng*), (*Yosef Negero 2018*). (*Muhammad Shafiq, Kullapa Soratana (2019)*) (*Claudia Paciarotti, Wojciech D. Piotrowicz and George Fenton, 2021*), (*Amsalu Sisayl, Mezgebu Liku2022*), it meant, failing in supply chain is most likely led failing in all.

Thus, unlike other business organization humanitarian supply chains are liable for life saving activities or services in emergencies during disasters by availing food, shelter, medicine, water, and sanitation materials. So, it is more time sensitive other than any business so to meet this responsibility by keeping short lead time all actors need to work integrated with both internally and externally.

However, over all supply chain activities have the largest total of expenses in relief processes (coordination to relieve the sufferings by many actors) humanitarian organization still repeatedly fails to recognize its strategic significance Schulz, & Blecken, (2010). Tomasini and Van Wassenhove (2009) need that it is necessary to accept an integrated supply chain management system, that goes beyond mere logistics, in order to work together with partners and actors by sharing processes and distribution channels, coordinate inter-agency performance, eliminate redundancies, and increase efficiencies in the humanitarian area as well as the business sector. Thus, humanitarian supply chain management (HSCM) is the process that comprises people, resources, skills, and knowledge mobilization to help vulnerable people affected by disasters Van Wassenhove, (2006).

However, there is lack of empirical studies that conducted on humanitarian supply chain integration determining factor. But recently some researchers have studied the impact of integration on performance; accordingly (Zelalem Gebreyesus 2019) research concluded that

supply chain integration is a critical element for improving firms' performance. However, the research has its limitation regarding portion coverage or by covered only wash sector of organizational performance, so it has a gap in assessing the other programs.

Birhanu Akele (2020) in his study also found that SCM integration is very important in improving the performance of international humanitarian organizations (INGO) even though he focused more on the role of the integration instead of identifying the factors and its extent. Besides Most of the studies inclined to have focused on measuring performance of commercial sector organizations therefore, a gap can identify within in humanitarian sector.

This study, therefore, attempted to bridge or fill the gap that not well address in the previous research papers. Regarding which are the main for supply chain integration and to what extent do they influence the humanitarian activity? The above-mentioned gaps by examining the determinant of supply chain integration on humanitarian organization in Goal, Ethiopia program.

### **1.3. Research Questions**

Regarding, the above-mentioned research gaps this research try to bridge it up and also answer the following research questions;

- How supply chain integration is being practiced at Goal Ethiopia? (in terms of relationship integration, measurement integration, technology/planning integration, material and service supplier integration, internal operation, and customer integration)
- What are the major determinants of supply chain integration at Goal Ethiopia?
- To what extent does supply chain integration determine the Supply chain performance at Goal Ethiopia?

### **1.4. Objective of the study**

#### **1.4.1. General Objective**

The general objective of the research was to identify the determinants of supply chain integration in Humanitarian Organization in the case of Goal Ethiopia.

#### **1.4.2. Specific Objectives**

In line with the above general objective, the specific objectives of this study are the following:

- How supply chain integration is being practiced at Goal Ethiopia

- What are the major determinants of supply chain integration at Goal Ethiopia?
- To evaluate the extent of supply chain integration role in determining the Supply chain performance of Goal Ethiopia?

### **1.5. Significance of the Study**

The finding of the study give an insight for the organization's management beside with other concerned bodies (same type of organization) about the present factors of supply chain integration. It will recommend the possible solutions that assist the company to improve its supply chain management system.

Based on the recommendation forwarded, the company can formulate the necessary structures to satisfy its donors and beneficiaries, minimize humanitarian aid delivery lead time, and increase the program proper budget utilization. Furthermore, the study was befit or serves as a basis for experts, policymakers, and for future researchers on humanitarian supply chain integration.

### **1.6. Scope of the study**

Regarding to familiarity and proximity of the study area and availability of data, the study has limitation in terms of geographical area, conceptually and methodologically to make the study manageable and easy.

**Geographically:** The geographic coverage of the research is Head office located in in Addis Ababa office and different filed office located in Oromia, Amhara, Gambela, and Afar.

**Conceptually:** The conceptual scope of the research is covered almost the main part of humanitarian supply chain integration; assessment & planning, procurement, warehouse, transport and distribution rather than go through details in the term of humanitarian supply chain activity. This research paper does not include the other SC practices. Apart from that, it is intended to give an insight into the research topic and aims outlined above, and it is not meant to cover all concerns connected to the humanitarian supply chain operated by international non-governmental organization (NGO) in Ethiopia.

**Methodologically:** because of time limitation to collect and analyze the data, the research methodologically delimited applies both qualitative and quantitative research approaches. The benefit of using that approach is to make convenient to cover large sample size to collect and analyze data within a short period of time.

## 1.6. Limitation of the Study

As far as the limitation of the research is concerned, in conducting this study, the researcher has faced several challenges. Firstly, the main limitations in this study were the reluctance of respondents during data collection since some people consider humanitarian supply chain integration major practice; assessment & planning, procurement, warehouse, transport, and distribution rather than go through details in the term of humanitarian supply chain activity as an issue that is out of their concern. The researcher tried to solve these problems by creating better understanding through enhanced orientation of the respondents about the aim of the research.

Secondly, lack of empirical literature review on humanitarian supply chain integration practice in Ethiopian context in general, and humanitarian organization in Goal, Ethiopia program since this approach is new and recently introduced in Ethiopia.

Finally, Lack of adequate time and finance to make deep survey was also another obstacle that the researcher encountered during the research work. Despite these limitations the researcher tried his best to finish the research work within a given time and available finance.

## 1.7. Definition of basic terms

**Humanitarian organization-** is the aid organization which aims (establish) to alleviate the human suffering in the occurrence of natural or manmade disaster or disruption by delivering emergency equipment for affected areas.<sup>12</sup> (Dedan Yu, Karay, O. Mehemet, G, Y. Douglasm H.Hales, 2015).

**Supply chain-**Supply Chain Management includes the following process, planning and management of all activities in the chain internally and externally, which are sourcing and procurement, conversion, and all Logistics Management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, Supply Chain Management integrates supply and demand management within and across companies' (CSCMP, 2006)

**Humanitarian Supply Chain:** According to Plan international official website released in (2022) the planning, procurement, storage, transporting and delivery of different form of supplies, work and services used for project and to respond to emergencies.

This includes the flow of supplies from origin to destination but also the more complex work of forecasting optimizing resources value for money to ensure the most efficient process.

**Humanitarian Supply Chain Management (HSCM)** is the process of managing varies internal and external stockholder in the supply chain including coordination and integration (Cozzolino 2012),

**Supply chain Integration-** Integration in this context refers to the extent to which various supply chain activities and processes work together in as seamless a manner as possible. Thus integration in supply chain meant the close internal and external coordination through the supply chain procedures and processes under the mutual vision and value amongst the participating members. Usually, a well-integrated supply chain will show high visibility, lower inventory, high-capacity utilization, short lead-time, and high product quality, low defect rate. Dr Dawei Lu (2011)

**Internal integration:** is the extent of collaboration among different department in the organization and is measured by the degree to which a firm can structure its organizational strategies, practices, procedures, and behaviors into collaborative, synchronized, and manageable processes to fulfill its customers' requirements (Zhao, et al., 2011).

**External integration:** is the degree to which a firm can work integrated with its key supply chain members (customers and suppliers) to arrange their inter-organizational strategies, practices, procedures, and behaviors into collaborative, synchronized, and manageable processes to fulfill their end-users' requirements Zhao, et al., (2011).

## **1.8. Organization of the Study**

The researcher organized the study in five chapters.

Chapter one covered background of the study, statement of the problem, objectives of the study, significance of the study, the study limitations, delimitations (scope) of the study and college of the study. While, the next chapter (chapter two) is reviewing the related literatures of the study. The third chapter was emphasizing about the research design and the methods used in the research, the tools which used to collect the data, the method of the collected data analysis and other procedural issues were raises. The fourth chapter analyzed and interpreted the data collected from different sources covered. Finally, in the fifth chapter resents summary, conclusions and recommendations was present.

## CHAPTER TWO

### 2. REVIEW OF RELATED LITERATURE

This research was conducted to make an evaluation regarding of the determinants of humanitarian supply chain integration in Goal Ethiopia. Thus, this chapter review and discuss about the theoretical review of literature, conceptual framework, and empirical findings and related with humanitarian supply chain integration major practice; assessment & planning, procurement, warehouse, transport, and distribution practice.

#### 2.1. Theoretical Review of Literature

##### 2.1.1. Supply chain Integration

Well-organized and integrated supply chain system plays a major role in the achievement of the business plans of its integral companies. Now a days, in many cases, competition is between supply chains is more profitable than computation between individual companies. Consequently, the partner companies should work closely together to state and perform a supply chain strategy which will both fulfill customer needs and allow the firm to make a sufficient return. The greatest challenge contemporary business is the state integration in supply chains from vendors through manufacturers and distributors to fulfill end customers and get value for those companies. Instead of a challenge facing from the internet, globalization or stakeholder needs. Supply chain management is the planning and flow of materials and products between several companies to deliver goods and services to end consumers. The insight examined in this research is that business supply chains are more likely to survive, grow and profit if they integrate the development of new products with a balanced supply chain in which each link combines to provide the goods that consumers want. To get full benefit from a supply chain it is essential to tie all the partners involved so that goods and services flow seamlessly to consumers. This is achieved by working collaboratively with customers, suppliers, trading partners and service providers. The overall aim is to create a flow of products exactly as required by customers, responding dynamically to changes in their orders. Sadler, (2007). Supply chain integration (SCI) is a comprehensive conception applied to varied links among functions within a firm however additionally among organizations Haozhe Chen.et.al (2009). There's a typical accord among researchers that because of the advanced international business setting, it's of a strategic

importance for organizations to integrate activities each outwardly and internally (Danese et al (2013).)

## **2.1.2. External Integration**

### **2.1.2.1. Relationship Integration**

Is the first type of integration necessary for an effective overall system approach in supply chain management? This type of integration (relation integration) is the two or more companies have social relationship or sharing of vital information along the supply chain network which is assisted by information technology that guide their interaction (study.com)

### **2.1.2.2. Measurement Integration**

Type of integration that use to evaluate the performance of the supply chain that also holds each individual organization or business unit responsible for meeting its own goals Scheinbaum, (2011). Accordingly, this type of integration occurs to ensure that each part of supply chain is accountable to meeting its own goal. There must be explicit direction and clear expectations regarding what is required to meet the overall organization goal. The supply chain stakeholder must have criteria and procedure that can generate a report card on how each member is performing.

### **2.1.2.3. Technology/Planning Integration**

This is a type of information system is use to connect the managers across different firms and through the firm in the supply chain. It helps to access important information regarding the actual level of inventory, shipment status, and to make customer data easily accessible in real time for the partner to be successful.

### **2.1.2.4. Material & Service Supplier integration**

According to Leuschner, Rogers and Charvet (2013), information integration refers to the coordination of information transfer, collaborative communication and supporting technology among firms in the supply chain. Information integration has been found to be a necessity for firms looking to integrate with their all stakeholder. Information integration however not just restrained to the efficiency and application of technology. It requires the inputs and role playing of people, technological systems to originate, sort, process, and disperse information to the

designated location at the right time for effectual decision-making process. When information shared across the supply chain, data can collect in real time as closer communications are then created with other members in the supply chain which would lead to improved customer service and improved demand forecasting. Integration in the supply chain has been found to improve the performance of the chain therefore it is important for partners in the supply chain. Vikas Kumar.et.al. (2017)

#### **2.1.2.5. Customer integration**

Customer integration is a linkage between the firm and the customer or end user of the firm service , this in the supply chain gives the advantage for firms to have an indication of the requirements and the customer specific demand in order to serve them better. Integrating customers in a supply chain centered on transforming information from customers such as their buying patterns, their choice for products and their ability of products purchase which would then use in making better decisions during the production process or distribution to customers. When firms work together with their customers, they can respond in a quick and well-organized manner with their customers improving their order fulfillment as well as improving visibility Lotfi. et.al. (2013).

#### **2.1.3. Internal Integration**

##### **2.1.3.1. Internal Operation Integration**

Internal integration is the first phase of supply integration before any other integration, this types of integration began within different department of the organization or it should be inter organizational level. Internal integration defined as the strategically aligned and coordinated internal processes and functions for the purpose of attaining maximum achievement of an organization; it advances the organization's performance through decreasing expenses and restricting departmental capacity which wouldn't maximize the overall goals within the organization Kumar et al., (2017)

## **2.2. Empirical Review**

### **2.2.1. Supply chain integration practices**

Different researchers consider Supply Chain Integration as organization performance improving approach. From the former empirical studies review, it observed that different researches conducted worldwide and also in our country Ethiopia, an increase in the extent of supply chain integration is results in an upgrading in product quality, innovations, firm performance, customer satisfaction, competitiveness, and operational performance of organizations. According to Amsalu Sisay and, Mezgebu Liku (2022) research finding the humanitarian relief organization must increase their supplier integration by building better relationships with their internal and external members or stockholders of the chain and in both operationally and communicational.

Assefa Balda and Rajwinder (2020) indict that sustainable supply chain management requires a strong or high level of integration among the Supply Chain members and balancing the economic, social, and environmental dimension. Thus, to establish strong and sustainable supply chain integration both internally and externally the supply mangers should understand what determinant factors are there, in what extent they have share and in what systems of the organization shale to implemented.

### **2.2.2. Determinants of Humanitarian supply chain Integration Practice**

As any business supply chain area Humanitarian supply chains are different types of integration determinants or there is different reason that could be the factors for strong and effective supply chain integration establishment. We can categorize them based on where they are arises from or to which will they be the factors?

#### **2.2.2.1. Organizational Procedures**

Every organizations has their own policies and producer use to outline rule outline courses of action deals with problem, organization polices producer to make the employees comprehend the organization views and values on specific issues. And what will be the consequence if they are not followed. Polices general statements of how a firms want to behave and producer define exactly how to do task or perform step by step. \

#### **2.2.2.2. Organizational Culture**

Every organization in the world has its own organizational culture, whether aware or of it or not. Organization culture is a main factor in organizational performance and can be a determining factor between success and failure. Rasak Bamidele (2022)

The organization culture influenced as the organization faces and learns how to cope with external and internal challenges. Those principles maintained as the organization's way of doing business offers an effective adaptation to environmental problems and maintains success. Culture can be designated as a context of shared values that can be estimated to represent the similar culture of the firm, even with different backgrounds within the organization at different levels.

Organizational culture also referred as an arrangement that separates the organization from other organizations with a common meaning held by members. In every firm, organizational culture is a very significant topic. For performance, organizational culture and communication between employees are important. Organizational cultures show the situations of employment, employee behavior, etc. A significant determinant of organizational performance is organizational culture, and each organization has special social structure. In establishing the organization's brand image and making it different from its competitors.

#### **2.2.2.3. Inter departmental communication-**

Communication is one of the organizational activity which helps a firm to keep efficient and productive. There are different types of organizational communication, one of the more important forms of organizational communication is inter departmental communication. The importance of communication among different departments in the same organization become most evident when communication brake down. When implement strong interdepartmental communication it will maintain efficient flow of information, build thrust among employee, helps to deliver butter customer service, and avoid conflict among employee and create an opportunity for butter profession advancement. (Rasak Bamidele)

#### **2.2.2.4. Supply Chain Trust**

Trust is the extent to which a firm believes that its partner with whom exchange takes place, is honest and/or benevolent and is a salient buffer of long-term stability and success of inter-organizational relationships. Ipek Kocoglu.et.al. (2011)

Trust is a crucial challenge influencing collaboration and communication in disaster situations. Trust plays a vital role in supply chain relationships, and research suggests that improving trust is possible (Murayama et al., 2013).

There are sometimes high levels of uncertainty Achrol and Stern, (1988) generated by the complexity and heterogeneity of the products or environment, and by the rate of change in the market and in demand. Trust will occur, one party is willing to rely on the actions of another party a futuristic inclination characterized by great uncertainty of outcome. Researchers on trust have broadly focused on three perspectives to build trust between supply chain members. The perspectives are characteristics-based trust, rational trust, and institutional trust. In characteristics-based trust, the focus is usually on the characteristics of individual processes, economics, technology, and institutional system on establishment of trust. Kwon and Suh, (2005). Members in a supply chain institute trust through legal frameworks, commercial law, control system, agreements, and contracts

#### **2.2.2.5. Information sharing among supply chains members**

In this more globalized world, in every kind of business information has a vital role for success, especially smooth information sharing among supply chain partners will have irreplaceable value in all organizational successes or it would be a central component of effective supply chain management.

There are many different types of information that can shared within a supply chain members, including logistic, business, strategic, tactical, and so on. Some familiar types of Information may categorize as, Inventory Information, purchasing Data, Demand Forecasting, purchase request Information, Distribution Ability Information and Other Information that Partners like to share.

According to Assefa Balda, Rajwinder Singh (2020) for the smooth process of supply chain integration, information integration is the strategic elements for all business organizations and they intensely focused on sharing information among the supply chain partners is highly important for the betterment of supply chain coordination.

## 2.1. Conceptual framework

The conceptual framework of the study was based on the model presented in a previous study by (Ajmal & Rehman, 2019). The study was guided by conceptual framework shown below. According to the conceptual framework, determinants of supply chain integration include Organization procedure, Organization culture, interdepartmental communication, supply chain Trust and information sharing among the supply chain members. For supply chain integration to be effective and well-organized; the use of timely and accurately information sharing with latest information system and technology will increase integration by minimizing uncertainty. All challenges regarding Organization procedure, Organization Culture, inter departmental communication, supply chain trust, and inter organizational communication to consider under this research title. For SCI to be effective, it will have to work in an integrated manner across the supply chain. In this way, it will contribute more to respond or deliver aid to alleviate human suffer and reduce death.

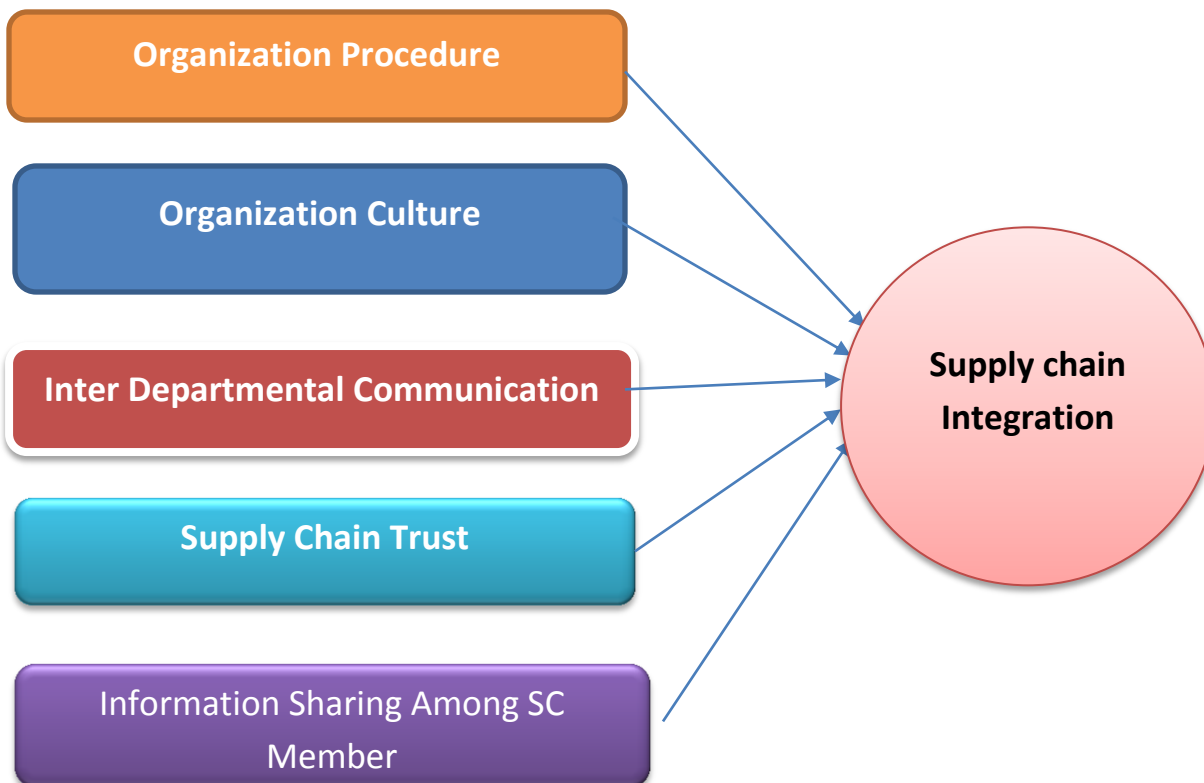
Therefore, the Conceptual Framework of the study variables was developed as follows:

### Independent Variables

#### Supply Chain Integration Determinant

### Dependent Variables

#### Supply Chain Integration



## **CHAPTER THREE**

### **3. RESEARCH METHODOLOGY**

This chapter covers and discuss the overall methodology to be used in the study. It consists of brief discussion of research design, target population, techniques and methods of sampling, data collection, processing, analysis, research design quality and ethical considerations the area in which the research is carried out.

#### **3.1. Research Approach**

Regarding the research approach, qualitative and quantitative are the two most dominant research approach. These two methods have their own means and way of character representation that are Qualitative approach and quantitative approach, quantitative approach is a method use a numerical value for data collection and analysis in the time of research, but quantitative research approach is used a quantitative way of measurement or measures the data quantitatively by using terms and observation to express or to show fact and attempt in natural setting to describe individuals. The quantitative approach on the other hand stems from a strong academic tradition, which places considerable trust in numbers representing opinions or concepts (Amaratunga, Baldry, Sarshar, & Newton, 2002).

The other method, named Mixed Method Analysis, uses both methods in order or at the same time to create a research outcome that is better than either method individually (Malina, Nørreklit, & Selto, 2010). Hence, this study was conducted by using mixed approach. The term "mixed approach" refers to an emerging research methodology that advances the systematic integration, or "mixing," of quantitative and qualitative data within a single research or on-going inquiry research program (Gunasekare, 2013).

#### **3.2. Research Design**

Research design is the set of approaches and procedures used to collect, analyze and measures of the variables stated in the research problem. The research design categorized into three different and broad groups based on their purpose; Exploratory, descriptive, and explanatory (Mark, Philip, & Adrian.2016). According to Green and Tull (2009) a research design is the specification of methods and procedures for obtaining the information needed. It is the overall

operational pattern or framework of the final research work that specifies what kind information is to be collected specifically from which source by what procedures. Research design is important as it prepares appropriate framework within which the research work used carried out.

Research design to investigate the Cause-and-effect relationship; to see discrepancy in the variable that expected to cause the change in the other variable and then measure the changes in the other variable using statistical methods. It allows us to understand the very nature of what we are looking at it.

### **3.3. Types and Sources of Data**

The researcher used both primary and secondary data sources in gathering and analysis the research. Primary data is firsthand or raw data, original records and materials created by participants or witnesses of the events under study. In collecting primary data for the study, the researcher used both personal interview and questionnaire. Secondary data is information that gathered and often interpreted by other researchers and recorded in books, articles, and other publications.

### **3.4. Methods of Data Collection**

Primary data collected by structured by questionnaires. Structured questionnaire method of collection selected because it is comparatively quick to gather information from a high number of employees, are helpful in gathering information that is unique to individual such as attitude, behavior, and the result of the questionnaire can be easily and quickly quantified.

The questionnaire has two parts. The primary part has helped to measure the level of supply chain integration in Goal Ethiopia. To identified the determinant of Goal Ethiopia supply chain integration; the Likert scale used. A 5-point level Likert scale was use as follows: 1=Does not occur, 2=Small Extent, 3=Medium Extent 4=large Extent and 5=Very large extent.

Structured questioner (close ended questioner) used to gather primary data using five points. Likert scale. With the help of skillful views and suggestions, a self-administered questioner will formulate. Then the final questioner distributed after suggested correction. A hard copy of questionnaires distributed to Addis Ababa office staffs and the study was used email for the field office staff because the field office respondent is in a remote area Oromia, Amhara, Gambela, Afar and Addis Ababa regional states.

The questionnaire was organized in English and Amharic languages. The English language questionnaire submitted to employees those are middle level supervisors, professionals and the Amharic version of the questionnaire distributed to clerical and non-clerical employees

### 3.5. Total Population and Sampling Unit of the study

Based on Zikmund (2010) Population meant a holistic group that have share communal character (shared character). Target population is the planned group to conduct the study on. Research population is also known as all people or objects within a certain population generally have a mutual binding characteristics or peculiarity (Kumar, 2011). The target population is a sample or a particular group that I had collect data from (Banerjee & Chaudhury, 2010).

The population of the study was Goal Ethiopia. Goal Ethiopia Program has relatively large number of employers, but the study focus on departments under supply chain which are Logistics unit (Department), procurement unit (Department), Finance unit (Department) program unit (Department and IT unit (Department). As participants. The sample population for the study incorporated as the table below.

**Table 3.1: The Total Population Goal Ethiopia Program**

Unit	Population
Logistic	21
Procurement	20
Finance	22
Program	38
IT	3
<b>Total</b>	<b>104</b>

Source: Goal Ethiopia Program HR office, (2023)

As a result of the small numbers of the target population in different five field office. Thus the researcher has taken a decision to consider the entire population in the study, meant census survey instead of sampling from the population. This census survey proposal in the case of target population is smaller than 200, census survey is very applicable and effective since

virtually all population would have to be sampled in small populations to achieve a desirable level of precision (Israel, 2013)

### **3.6. Sampling Techniques and Procedures**

Sampling techniques offer a variety of methods that enable one to decrease the amount of data needed for a study by considering only data from a sub-group instead of all possible elements (Saunders & et al., 2009). Even if the normal sense of population is not usually used in most sampling, the population in this case is in its normal sense because the research dealt with customers and employees who fell in the people category. There are two major methods of sampling technique, Probability sampling and non-probability sampling. In probability sampling, respondents are randomly selected to join in in a survey or other mode of research or every item in the population has an equal chance of being included in sample and non-probability sampling is a selection based on non-random criteria and not every individual has a chance of being included in the study unlike Probability sampling. Among the Non-Probability sampling you have: (Saunders & et al., 2009).

In this research work the researcher was employ a probabilistic stratified sampling method to categorize the total population by service centers and no probabilistic census sampling technique is prefer to use the entire target respondents. This technique preferred because it was use to assist in minimizing bias when dealing with the population. With this technique, the sampling frame organized from departments (strata's) of heterogeneous employees of the Goal Ethiopia Program have different departments under supply chain which are Logistics unit, procurement unit, Finance unit program unit and IT unit in the Goal Ethiopia Program and to reduce the sampling errors of Goal Ethiopia Program.

### **3.7. Sample size determination**

Population includes the total collection of all units of analyses upon which the researcher was draw specific conclusions. The subsection of the entire population which examined by the researcher and whose features generalized to the complete population called a sample (Bless et al., 2006). The sample size mentions to the number of items to select from the universe to constitute a sample (Kothari 2004). For this study the number of target population small, the researcher must use the entire target. Hence, sample size for this study were all of one hundred

four (104) employees those are from departments under supply chain which are Logistics unit, procurement unit, Finance unit (department) program unit (Department) and IT unit (department) workers of Goal Ethiopia Program.

### **3.8. Methods of Data Analysis**

The study used both quantitative and qualitative data analysis method to analyze the collected data and arrive at conclusions. In this study, for the realization effective completion of data gathered from primary and secondary approaches, different data sources recorded material, edited, organized the data, analyzed the data, interpreted, and presented with the research questions.

However, this study used mixed data analysis approach, both qualitative and quantitative data collected and data analysis from questionnaires and presented using descriptive statistical tools by using SPSS Version 24. Tables, Frequencies distribution, mean, standard deviation and percentages used to explain some characteristics of the variables. Therefore; in this study for analyzing data descriptive statistics had used the data collected from the Goal Ethiopia Program.

### **3.9. Data Validity and Reliability**

To cross check its completeness the researcher used to identify the determinants of supply chain integration literature and empirical review of the former researches on the area of the study. Though, according to the theses, in survey-based research, before the questioners administrated, it is vital to validate the scales used for reliability and validity. The researcher intends to use a pre-pilot and pilot survey to test the questioner validity and reliability on current survey situations. To test face validity, the questionnaire given to the research adviser, academicians, and employees from selected department of the organization to gain their comment. Then, based on the observation of response of the academicians and respondents, the redundant and ambiguous items was either modified or removed.

#### **3.9.1. Validity**

Validity refers to how accurately a method measures what it is intended to measure. If research has high validity that means it produces results that correspond to real properties, characteristics, and variations in the physical or social world. High reliability is one indicator that a measurement is valid (Najanja, and Naiagi, 2013). To ascertain the validity of the instrument,

content validity adopted. The instrument was validated by my research advisor. The advisor ensured that the instrument represents the whole range of possible items to test in the study. The questionnaire modifies along their recommendations.

### 3.9.2. Reliability

After I conducted validity test of the research instrument and the consistency and reliability of the instrument .Reliability meant the degree to which data collection techniques or analysis procedure result consistency finding. Thus the researcher uses calculating the Cronbach alpha to Measure internal consistency of research instrument which uses to develop questionnaire the value of Cronbach alpha should be 0 and 1 As the result approaches to 1, the more is the internal consistency of the items, which means all the items measure the same variable. Scale considered reliable if their Cronbach alpha value reached at least .70 (Najanja and Naiagi, 2013).

### Reliability

**Table-3.2 Reliability Test**

Items	Cronbach's Alpha	N of Items
External Integration	.839	4
Internal integration	.817	4
Supplier Integration	.837	5
Customer Integration	.858	4
Information Integration	.845	4
Organizational Culture	.904	4
Supply chain Trust	.928	6
Inter departmental Communication	.904	6
Information sharing among supply chain members	.904	6

### **3.10. Ethical Consideration**

To build trust with participants it was essential to give full information about the purpose of the research and role. Such action has helped the respondents to avoid ambiguity and not to cause harm of any body. Giving respect for respondents and disclosing of the need for confidentiality of their response and use of data to be believed to increase the credibility. Maintaining the objectivity of the study in the all process of data collection, analysis of the collected data and report preparation stages. The researcher did not disclose any personal information of the respondents and that was explained during the distribution of the questionnaire and, for the interviewee before conducting the interview. In addition, credit was given to the authors of documents referred.

## CHAPTER FOUR

### 4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Chapter four is presents the analysis and interpretation of data collected from primary and secondary sources using the selected techniques. Data gathered through questionnaires analyzed by using descriptive and inferential statistical tools such as graphs, tables and charts and then interpreted to make them more understandable. Those data gathered through interview and focus group discussion have been analyze through narrative description to complete the data obtained through questionnaires. In line with descriptive a nature of the study, the raw data gathered coded, marked, tabulated, and organized in relation to the types of research questions and nature of data collected. Accordingly, the analysis and interpretation of data related to determinants of supply chain integration in humanitarian organization in public sector in Goal Ethiopia Program in this chapter.

#### 4.1. Response Rate

In this study, respondents were targeted population's only Goal Ethiopia Program target populations that treated using questionnaires. However, the total questionnaires distributed for those employees were 104. Out of the total questionnaires distributed for the of Oromia, Amhara, Gambela, Afar and Addis Ababa staffs of Goal Ethiopia Program, all of 104 respondents returned the questionnaire with their response on time. Based on this, the overall response rate was 100%. So, the response rate is enough to carry out the analysis.

#### 4.2. The Demographic Background of respondents

The demographic characteristic of the respondents consists of five items about the respondents were asked about the major issues discussed here include the gender, age, educational attainment, duration of work experience and your department currently working in Goal Ethiopia Program. The responses of respondents from questionnaires 1- 5 are presented in tables sought below.

**Table: 4.1 Demography of Respondent**

<b>Demographic profile of respondents</b>	<b>Items</b>	<b>Frequency</b>	<b>Percent</b>
Gender	Male	41	22.0
	Female	63	33.9
Age	26-35 year	31	16.7
	36-45 year	73	39.2
Educational Background	Diploma	2	1.1
	Degree	69	37.1
	Master/PhD	18	9.7
	If Other: Please specify	15	8.1
Level of Position at the organization	Officer	24	12.9
	Senior officer	46	24.7
	Manager	11	5.9
	Coordinator	23	12.4
Total Work Experience	1-5yrs	26	14.0
	6-10yrs	53	28.5
	>10yrs	18	9.7
	>10	7	3.8
Position in the organization	Procurement	20	10.8
	Logistic	10	5.4
	Programmer	58	31.2
	Finance	16	8.6
Place of field office	Oromia	13	7.0
	Gambela	16	8.6
	Amhara	31	16.7
	Afar	9	4.8
	Addis Ababa	35	18.8

#### **4.2.1. Gender of respondents**

As indicated on the above table and figure 4.1 shows the sex distribution of the respondents in the study. Out of 104 respondents, 41 (39.4%) were male and 63 (60.6%) were female. The cumulative percent shows that 39.4% of the respondents were male and 100% were either male or female. Overall, most of the respondents were female accounting for 60.6% of the total sample.

#### **4.2.2. Age of respondents**

Regarding age of the respondents, the above table and figure 4.2 shows, provides information on the age distribution of the respondents. It shows that out of the total 104 respondents, 31 (29.8%) were aged between 26-35 years and 73 (70.2%) were aged between 36-45 years. The cumulative percent column indicates that all respondents fall into these two age groups. This suggests that most respondents are in their middle-age.

#### **4.2.3. Educational qualification of respondents**

As indicated on the above table and figure 4.3 concerning to educational level of respondents. The educational qualification of the respondents. Out of 104 respondents, only 2 (1.9%) have a Diploma, while 69 (68.3%) have a degree. 18 (85.6%) respondents have a Master or PhD degree. 15 respondents (100.0%) specified "other" as their educational qualification. The valid percent column excludes the "Other" category. Overall, most of the respondents have a degree followed by Master/PhD qualifications in Goal Ethiopia Program.

#### **4.2.4. Level of your position currently working in Goal Ethiopia**

As indicated on the above table and figure 4.4. Shows that, the level of positions currently working in Goal Ethiopia. Out of 104 respondents, the majority (44.2%) are senior officers, followed by coordinators (22.1%) and officers (23.1%). Managers make up the smallest proportion at 10.6%. Overall, 55.9% of the respondents fall under these four job levels.

#### **4.2.5. Work experience in Goal Ethiopia's supply chain**

As indicated on the above table and figure 4.5 shows that, the total work experience in Goal Ethiopia's supply chain. Out of 104 respondents, 26 (25%) have 1-5 years of work experience, 53 (51%) have 6-10 years of work experience, 18 (17.3%) have more than 10 years of work experience, and 7 (6.7%) have more than 10 years of work experience but the exact number is not specified. The cumulative percent shows that 76% of respondents have 6-10 years or more of work experience in Goal Ethiopia's supply chain.

#### **4.2.6. Position in the organization**

As indicated on the above table and figure 4.6 shows that, the position of the respondents in the organization based on their frequency and percentage. The data reveals that out of 104 total respondents, 20 (19.2%) are working in the procurement department, 10 (9.6%) are working in coordination, 58 (55.8%) are programmers, and 16 (15.4%) work in finance.

The cumulative percentage column indicates the total percentage of respondents up to each row. For example, the cumulative percentage of procurement and logistics positions is 28.8%, which is the sum of their individual percentages.

The valid percent column represents the percentage of respondents who gave valid answers to the question. The total valid percentage adds up to 100%, indicating that all respondents gave valid answers.

Overall, the highest percentage of respondents are programmers, followed by those in procurement and finance, with the lowest percentage being in logistics.

#### **4.2.7. Place of Filed Office**

As indicated on the above table and figure 4.7 shows that, the frequency and percentage distribution of the place of filed office. The table presents data on five different regions in Ethiopia, namely Oromia, Gambela, Amhara, Afa, and Addis Ababa.

The total number of respondents in the sample is 104. Out of these, 13 (12.5%) respondents had their filed office in Oromia, 16 (15.4%) in Gambela, 31 (29.8%) in Amhara, 9 (8.7%) in Afa, and the highest number, 35 (33.7%), in Addis Ababa.

The cumulative percentage shows the proportion of respondents who have filed office in each of the regions, and the total percentage of all the regions combined. For example, the cumulative percentage of respondents who have filed office in Oromia and Gambela is  $12.5\% + 15.4\% =$

27.9%. In conclusion, most of the respondents in the sample have their filed office in Addis Ababa, with Amhara coming in second place.

### 4.3. Descriptive Analysis of “Extent of Supply Chain Integration”

This section deals with the descriptive analysis and interpretation of the data obtained from the selected respondents in Goal Ethiopia Program, specifically focuses on the questions regarding Extent of Supply Chain Integration in humanitarian organization: the case of Goal Ethiopia in Goal Ethiopia Program. The results of shown below sought tables.

**For this descriptive analysis the researcher uses weighted averages for 5-point Likert scales**

Table: 4.2: Range of mean analysis

	<b>Result</b>	<b>Result interpretation</b>
<b>1.00-1.79</b>	<b>Does not occur</b>	<b>Strongly Disagree</b>
<b>1.80-2.59</b>	<b>Small extent</b>	<b>Uninfluential</b>
<b>2.60-3.39</b>	<b>Medium extent</b>	<b>Moderate</b>
<b>3.40-4.19</b>	<b>large extent</b>	<b>Influential</b>
<b>4.20-5.00</b>	<b>Very large extent</b>	<b>Very Influential</b>

**Table: 4.3 Summary of supply chain integration indicator variables Mean**

S,No	Items of Supply Chain Integration	Mean	Standard deviation
<b>A</b>	<b>External Integration</b>		
1	The Sourcing and tendering decisions are easily made due to external Integration and information sharing.	2.77	.578
2	The external SC integration that fastens flows such as, physical	2.56	.636
3	The Distribution and delivery is made at the right time and place due to external integration	2.44	.666
4	The integration of objectives, planning, and resources with external organizations	2.41	.633
<b>5</b>	<b>Mean of External Integration</b>	<b>2.5457</b>	
<b>B</b>	<b>Internal Integration</b>		
1	Monitoring stock movement has been made easier as a result of the collaboration between procurement, logistics and warehouse/ inventory Management.	3.32	.700
2	There are internal integration of functions and activities.	3.32	.579
3	With an integrated SC technologies and systems established, inter and Intra organizations' communications are optimized.	3.09	.765
4	The company involves different departments during the preparation of strategic plan	3.04	.787
5	The company uses cross functional teams in process improvement	2.68	.544
	<b>Mean of Internal Integration</b>	<b>3.0885</b>	
<b>C</b>	<b>Supplier Integration</b>		
1	A database of suppliers is easily maintained as a result of SC Integration.	2.66	.931
2	With an integrated suppliers supply chain, logistics services are Improved.	2.84	.911
3	Supplier integration has provided the organization the ability to quickly and easily relate with suppliers.	2.90	.782
4	Supplier integration is led to a better supplier relationship management	2.97	.743
5	Orders are easily processed as a result of supplier integration.	2.65	.785

	<b>Mean of Supplier Integration</b>	<b>2.8389</b>	
<b>D</b>	<b>Customer Integration</b>		
1	Customer integration Customer has assisted in improving the quality of goods, works and services offered to the beneficiary.	2.92	.867
2	The speed of service delivery has been enhanced due to the supply chain integration process	3.02	.836
3	Customer integration has enabled to deliver services easily and quickly.	3.30	.736
4	The speedy customer collaboration has been maintained as a result of Customer integration	3.12	.728
5	<b>Mean of Customer Integration</b>	<b>3.0889</b>	
<b>E</b>	<b>Information Integration</b>		
1	Due to information and technology integration, there are access of Tracking performances of SC partners.	3.13	.784
2	With existing Supply chain Information integration the organization provide real-time supply chain information	2.82	.619
3	Due to supply chain information integration, the organization is improve in supply chain operation, like cost reduction, lead time and S.C risk	2.59	.691
4	Due to Supply chain information integration the organization benefits for making strategic S.C decision	2.86	.689
	<b>Mean of Information Integration</b>	<b>2.8462</b>	
<b>F</b>	<b>Measurement Integration</b>		
1	With an integrated SC measurement systems established, Intra organizations' communications are optimized.	2.39	.598
2	With an integrated SC measurement systems the supply chain members have standards that can generate a report on SC performance	2.81	.789
3	With an supply chain measurement systems the members have clear direction and expectations regarding what is required to meet as overall	2.63	.713
4	<b>Mean of Measurement Integration</b>	<b>2.6090</b>	
<b>Grand Mean of Supply chain Integration</b>		<b>2.8362</b>	

#### **4.3.1. Descriptive Analysis of the “External Integration”**

This section deals with the descriptive analysis and interpretation of the external supply chain integration practise in Goal Ethiopian. The data obtained from the respondents regarding this specific dependent variable (external supply chain integration) shows almost majority of the respondent agreed with that, external integration is in a neutral state or has no important contribution for overall supply chain integration. According table 4:2 external integration descriptive data analysis, 104 respondent have responded the question regarding the supply chain integration practices of Goal Ethiopia both in Head office and other four field offices based on the respondent answer the mean value is 2.5529. This mean value implies that the organization has a

Due to the absence enough external integration the organization (goal Ethiopia) is working under a limited external integration among external supply chain members or partners. Due to lack of external integration the organization is facing a problems in easily Sourcing and tendering decisions, fast flow of physical items, right time and place delivery and planning, and resources with external organizations.

#### **4.3.2: Descriptive Analysis of the Internal Integration**

In addition of Table 4.2 the below chart presents that the practices of internal supply chain integration in the company is in moderate extent. As the response from employees of the company indicates with mean value of 3.09, which implies the organization internal integration extent is less than influential. In other word the internal supply chain practice of the organization is not good at collaboration among departments, like procurement, logistics and warehouse, involvement of different departments during the preparation of strategic plan, using cross functional teams in process improvement and an integrated SC technologies and systems established.

However the internal integration mean value is greater than the external integration mean value it is still fails in between 2.60-3.39 so the mean value display that the respondent agreed with that the organization Internal integration practice is in not contribute enough for overall organizational supply chain integration. This suggests that the overall collaboration among departments in the organization has no positive impact on the efficiency of overall Goal Ethiopia Program supply chain integration.

#### **4.3.3. Descriptive Analysis of the “Supplier Integration”**

This section deals with the descriptive analysis and interpretation of the data obtained from the organization employee about the extent of supplier integration of the organization or aspects of “Supplier Integration” in Goal Ethiopia. The mean value 2.84 and standard deviation .721 shows the extent to which the supplier integration in the organization is total of 104 responses were recorded. Out of the 104 responses, the majority level the extent of supplier integration as neutral or has no sufficient significance for overall organizational supply chain integration. In terms of the grand mean

#### **4.3.4. Descriptive Analysis of the “Customer Integration”**

The descriptive analysis and interpretation of the data which collected from the employee of the organization to know the organization customer integration status and the response that get from the respondents in mean value is 3.09 and standard deviation is .652. According to the analysis result of Customer Integration practise of Goal Ethiopia the mean values shows that customer integration has unsatisfied role or insignificant contribution for overall organizational efficient supply chain integration shows the extent of "Customer Integration". The data includes 104 responses, with a mean score of 3.09 and a standard deviation of 0.652. The variable "Customer Integration" repeated four times, indicating that there may be different aspects or measures of customer integration evaluated. The data also suggests that the distribution of responses is relatively normal, as indicated by the valid N (skewness) value of 104. Overall, the data suggests that customer integration has a moderate positive impact on improving overall supply chain integration.

#### **4.3.5. Descriptive Analysis of the “Information Integration”**

Based on the analysis result of the data obtained from the 104 respondents about the question was asked to know the extent of Goal Ethiopia “Information Integration” and interpret of the data to decides the impacts on the overall supply chain integration. Accordingly as displayed on the below chart 4.3.5 and table 4.2 the results of a study on the extent of information integration in the organization supply chain integration found the mean value 2.85 and standard deviation 0.552.

This analysis result suggests that information integration play a moderate role in improving overall supply chain integration of the organization (Goal Ethiopia).As a result of descriptive analysis the organization still have gap in information and technology integration, Tracking

performances of SC partners, real-time supply chain information, cost reduction, lead time and S.C risk and making strategic S.C decision.

#### **4.3.4. Descriptive Analysis of the “Measurement Integration”**

This section deals with the descriptive analysis and interpretation of the data obtained from the respondents about the question was asked to know whether Goal Ethiopia “Measurement Integration” aspects of Goal Ethiopia Program. The results shows data related to the extent of "Measurement Integration." The data pertains to the result variables of an integrated supply chain (SC) measurement system. The table shows that there were 104 responses, and the mean score was 2.61 with a standard deviation of 0.592. This indicates that the responses did not have sufficient significant in Overall the supply chain integration improvement of the organization. The data suggests that still the organization has a gap on integrated SC measurement systems among supply chains members, having clear direction and expectations regarding what is required to meet as overall and standard report of supply chain performance. Thus establishment of an integrated SC measurement system can result in optimized intra-organizational communications in Goal Ethiopia Program.

Based on the analysis the result (2.78574) of grand mean value reveal that the organization has low external low extent of external integration or the organization supply chain system is not working integrated with other organization or partners, suppliers, and customers. And also medium level (3.0885) in internal integration or has no good integration among different department, thus the organization supply chain integration needs to improve to go in line with the organization purpose or to make fast and responsive.

#### **4.4. Descriptive Analysis of “Determinants of supply chain integration”**

This section deals with the descriptive analysis and interpretation of the data obtained from the selected respondents in Goal Ethiopia Program, specifically focuses on the questions regarding Determinants of supply chain integration in humanitarian organization: the case of Goal Ethiopia in Goal Ethiopia Program. The results shown below sought tables.

#### 4.4.1. Descriptive Analysis on the determination “Level of Organization Procedure” on SCI

This section deals with the descriptive analysis and interpretation of the data obtained from the respondents about the question was asked to know the “Level of Organization Procedure” “determination of supply chain integration” aspects of Goal Ethiopia Program. The results of shown below sought in the below tables.

<b>Table 4.4: The determination “Level of Organization Procedure” on SCI result</b>			
<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines external integration	104	3.13	.801
Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines internal integration	104	3.18	.760
Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines supplier integration	104	3.02	.892
Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines customer integration	104	3.11	.622
Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines information integration	104	3.30	.652
Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines measurement integration	104	3.04	.869
<b>The Mean of Level of Organization Procedure</b>		<b>3.1298</b>	

Source: Researcher own survey results, 2023.

As indicated on the above table and figure of 4.4 shows the results of the determination of the "Level of Organization Procedure" on SCI (Supply Chain Integration) with respect to different variables. The variables considered are the level of clear guidelines for managing supply chain alliance and the level of flexibility of organizational systems process.

However, the data shows that for external integration, the mean score is 3.13 with a standard deviation of 0.801. For internal integration, the mean score is slightly higher at 3.18 with a standard deviation of 0.760. The mean score for supplier integration is 3.02 with a standard deviation of 0.892. For customer integration, the mean score is 3.11 with a standard deviation of 0.622. The mean score for information integration is the highest at 3.30 with a standard deviation of 0.652. The mean score for measurement integration is 3.04 with a standard deviation of 0.869. The sample size (N) is 104 for all variables and the data shows no significant skewness. Overall, the results indicate that the level of clear guidelines for managing supply chain alliance and the level of flexibility of organizational systems process have a significant impact on various aspects of supply chain integration in Goal Ethiopia Program.

#### 4.4.2. Descriptive Analysis on the determination “Level of Organizational culture” on SCI

This section deals with the descriptive analysis and interpretation of the data obtained from the respondents about the question was asked to know the “Level of Organizational culture” “determination of supply chain integration” aspects of Goal Ethiopia Program. The results of shown below sought in the below tables.

Write the below data Interpretation:

<b>Table 4.5: The determination “Level of Organizational culture” on SCI result</b>			
<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Level Attitude toward change or the response given to new methods, ways, and values determines External integration	104	3.21	.720
Level Attitude toward change or the response given to new methods, ways, and values determines internal integration	104	3.04	.573
Level Attitude toward change or the response given to new methods, ways, and values determines supplier integration	104	3.33	.645
Level Attitude toward change or the response given to new	104	3.31	.789

methods, ways, and values determines customer integration			
Level Attitude toward change or the response given to new methods, ways, and values determines information integration	104	3.17	.630
Level Attitude toward change or the response given to new methods, ways, and values determines measurement integration	104	2.92	.759
<b>The Mean of Level of Organizational culture</b>		<b>3.1360</b>	

Source: Researcher own survey results, 2023.

As indicated on the above table and figure of 4.26 provides the results of the determination of "Level of Organizational culture" on SCI (Supply Chain Integration) based on the level of attitude towards change or the response given to new methods, ways, and values. The table shows six variables: External integration, internal integration, Supplier integration, Customer integration, Information integration, and Measurement integration.

The mean level of attitude towards change or the response given to new methods, ways, and values determines External integration is 3.21 with a standard deviation of .720. For Internal integration, the mean level is 3.04 with a standard deviation of .573. For Supplier integration, the mean level is 3.33 with a standard deviation of .645. For Customer integration, the mean level is 3.31 with a standard deviation of .789. For Information integration, the mean level is 3.17 with a standard deviation of .630. For Measurement integration, the mean level is 2.92 with a standard deviation of .759. The valid number of respondents for each variable is 104. There is no information provided on the skewness of the data. These results suggest that attitude towards change or the response given to new methods, ways, and values have an impact on the level of organizational culture in terms of supply chain integration in Goal Ethiopia Program.

**4.4.3. Descriptive Analysis on the determination “Level of Inter-departmental communication” on SCI**

This section deals with the descriptive analysis and interpretation of the data obtained from the respondents about the question was asked to know the “Level of Inter-departmental communication” determination of supply chain integration aspects of Goal Ethiopia Program. The results of shown below sought in the below tables.

Write the below data Interpretation:

<b>Table 4.6: The determination “Level of Inter-departmental communication” on SCI result</b>			
<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
The level of information sharing across functional areas of the organization or among departments determines external integration	104	3.25	.665
The level of information sharing across functional areas of the organization or among departments determines internal integration	104	3.30	.652
The level of information sharing across functional areas of the organization or among departments determines Supply integration	104	3.38	.727
The level of information sharing across functional areas of the organization or among departments determines customer integration	104	3.44	.735
The level of information sharing across functional areas of the organization or among departments determines information integration	104	3.38	.561
The level of information sharing across functional areas of the organization or among departments determines measurement integration	104	3.11	.787
<b>The Mean of Level of Inter-departmental communication</b>		3.2837	

Source: Researcher own survey results, 2023.

As indicated on the above table and figure of 4.6 shows the results of determining the "Level of Inter-departmental communication" on SCI (Supply Chain Integration) variables. The data collected from 104 participants. The mean and standard deviation values for each variable shown. The level of information sharing across functional areas of the organization or among departments determines external integration had a mean value of 3.25 and a standard deviation of .665. Similarly, the mean values for internal integration, supply integration, customer integration, information integration and measurement integration were 3.30, 3.38, 3.44, 3.38 and 3.11 respectively. The standard deviation values for these variables were .652, .727, .735, .561 and .787 respectively. All variables had a valid N value of 104. No information on skewness given for any of the variables in Goal Ethiopia Program.

#### 4.4.4. Descriptive Analysis on the determination “Level of Supply Chain Trust” on SCI

This section deals with the descriptive analysis and interpretation of the data obtained from the respondents about the question was asked to know the “Level of Supply Chain Trust” determination of supply chain integration aspects of Goal Ethiopia Program. The results of shown below sought in the below tables.

Write the below data Interpretation:

<b>Table 4.7: The determination “Level of Supply Chain Trust” on SCI result</b>			
<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
The level of trust among your firm ‘s and supply chain members determine external integration	104	3.41	.758
The level of trust among your firm ‘s and supply chain members determine internal integration	104	3.31	.592
The level of trust among your firm ‘s and supply chain members determine supplier integration	104	3.45	.681
The level of trust among your firm ‘s and supply chain members determine costumer integration	104	3.57	.679
The level of trust among your firm ‘s and supply chain members determine information integration	104	3.22	.653
The level of trust among your firm ‘s and supply chain members determine measurement integration	104	3.06	.651
<b>The Mean for Level of Supply Chain Trust”</b>		3.3365	

Source: Researcher own survey results, 2023.

As indicated on the above table and figure of 4.28 shows the results of a survey on the determination of "Level of Supply Chain Trust" on Supply Chain Integration (SCI) among 104 participants. The mean scores for the level of trust among the firm's supply chain members presented for six variables: external integration, internal integration, supplier integration, customer integration, information integration, and measurement integration.

However, the results indicate that the participants rated the level of trust among their firms and supply chain members as moderately high, with mean scores ranging from 3.06 to 3.57 on a scale of 1 to 5. The highest mean score reported for customer integration (3.57), followed by supplier integration (3.45), external integration (3.41), internal integration (3.31), information integration (3.22), and measurement integration (3.06). The standard deviations ranged from .592 to .758, indicating that the responses were consistent for each variable.

Overall, the results suggest that trust plays an important role in supply chain integration, with higher levels of trust helping to facilitate integration across different dimensions of the supply chain in Goal Ethiopia Program.

#### 4.4.5. Descriptive Analysis on the determination “Level of Information sharing among supply chain members” on SCI

This section deals with the descriptive analysis and interpretation of the data obtained from the respondents about the question was asked to know the “Level of Information sharing among supply chain members of supply chain integration aspects of Goal Ethiopia Program. The results shown below sought in the below tables. Write the below data Interpretation:

<b>Table 4.8: The determination “Level of Information sharing among supply chain members” on SCI result</b>			
<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
The level of information sharing with suppliers on inventory and quality of supplies determines Internal integration	104	3.25	.665
The level of information sharing with suppliers on inventory and quality of supplies determines external integration	104	3.30	.652
The level of information sharing with suppliers on inventory and quality of supplies determines supplier integration	104	3.38	.727
The level of information sharing with suppliers on inventory and quality of supplies determines customer integration	104	3.44	.735
The level of information sharing with suppliers on inventory and quality of supplies determines information integration	104	3.38	.561
The level of information sharing with suppliers on inventory and quality of supplies determines measurement integration	104	3.11	.787
<b>The Mean of Level of Information sharing among supply chain members</b>		<b>3.3077</b>	
<b>The Grand Mean of Determinants of supply chain integration</b>			<b>3.23874</b>

Source: Researcher own survey results, 2023.

As indicated on the above table and figure of 4.9 shows the results of a determination of the "Level of Information sharing among supply chain members" on Supply Chain Integration (SCI) result variables. The mean and standard deviation values calculated for different aspects of information sharing with suppliers on inventory and quality of supplies and their impact on various integration levels such as internal integration, external integration, supplier integration, customer integration, information integration, and measurement integration.

The results indicate that the level of information sharing with suppliers on inventory and quality of supplies has a moderate impact on different levels of integration, with mean values ranging from 3.11 to 3.44 on a scale of 1 to 5. The highest mean value is for customer integration, indicating that information sharing has a relatively greater impact on integrating with customers. The lowest mean value is for measurement integration, indicating that information sharing has a relatively weaker impact on this aspect of integration. The valid N value, which indicates the number of valid cases for each variable, is 104. The skewness value not provided in the table in Goal Ethiopia Program.

#### **4.5. Correlations**

Correlation measures the degree to which the change in one variable follows the pattern of change in the other variable. Field (2010). Pearson product-moment correlation coefficients were computed to assess the relationship between the independent and dependent variables that are measured quantitatively.

The findings of the correlation matrix analysis between Independent variables of supply chain integration (i.e., Organizational Procedure, Organizational Culture, Inter Departmental Communication Supply chain Trust and Information Sharing Among Supply Chain members) with dependent variable (Supply chain integration), 4.4 below.

#### 4.4 Correlation among dependent and independent variable (N=104)

		Supply Chain Integration
Supply Chain Integration	Pearson Correlation	1
	Sig. (2-tailed)	
	N	104
Organizational Procedure	Pearson Correlation	-.160
	Sig. (2-tailed)	.103
	N	104
Organizational Culture	Pearson Correlation	.130
	Sig. (2-tailed)	.187
	N	104
Inter Departmental Communication	Pearson Correlation	.047
	Sig. (2-tailed)	.638
	N	104
Supply Chain Trust	Pearson Correlation	.225*
	Sig. (2-tailed)	.021
	N	104
Information Sharing among SCI	Pearson Correlation	.254**
	Sig. (2-tailed)	.009
	N	104

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

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

Source: Researcher own survey results, 2023

This correlation analyses has done to know the correlation extent among independent variable (determinants) and dependent variables. It helps to identify which dependent variable's has more correlate with independent variables. In this stage the researcher had identified the correlation among five independent and one dependent variable. It enables to determine the correlation extent or to identify which independent variable are more determinant for supply chain integration. So the analysis table display the extent of correlation among each independent with dependent variable and level of significant of the correlation. Accordingly, organization procured, organizational culture, Inter departmental communication, supply chain trust and information sharing among supply chain members are correlated with supply chain integration

respectively with respective value of .160, .122, .047, .225, and .254 with difference significant level or some of the variable are low significant value, meant organization procedure, organization culture, and inter departmental communication but Supply chain trust and information sharing among supply chain member have relatively high significant level.

There for in this organization (Goal Ethiopia) Supplier integration is affected by the five independent variables, in different dependency level. both organization procedure, organizational culture and Inter departmental communication have relatively less determinant effect on in the organization supply chain integration , but information sharing among supply chain supply members and supply chain trust have relatively highest determinant effect on the organization supply chain integration system.

#### 4.6. Regression Analysis

Based on the correlation analysis finding the researcher realized that there is a correlation among dependent and independent variables with different level but still the research needs to do regression analysis to answer how independent variable influence the dependent variables or how much change in independent variables will change dependent variable extents.

##### 4.6.1. Regression Analysis Identify Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Information Sharing among supply chain member, Organizational culture, inter departmental communication, Supply chain trust , Organizational procedure		Enter
2		Inter departmental communication	Backward (Criterion: F-to-remove <= 2.710).
3		Organizational culture	Backward (Criterion: F-to-remove <= 2.710).
4		Supply chain trust	Backward (Criterion: F-to-remove <= 2.710).

a. Dependent Variable: dependent variable

b. All requested variables entered.

Table 4.12

Based on the above table the analysis identify two independent variables (Information sharing among supply chain members and organizational procedure) as determinant and the remaining three (organization culture inter departmental communication and supply chain trust) are removed from the analysis due to their low level of significance on dependent variables.

### Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
<b>1</b>	<b>.460<sup>a</sup></b>	<b>.211</b>	<b>.171</b>	<b>10.75173</b>

a. Predictors: (Constant), Information Sharing among supply chain member, Organizational culture

Table 4.13

Based on the regression analysis model summary table R is the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable. The finding of the analysis implies that there are an association of 21.1% between observed and predicted supply chain integration. Therefore; from this result, it can be interpreted as there is a strong correlation between observed dependent variable and independent variable of. R<sup>2</sup> is called the coefficient of determination, it is the proportion of the variance in the dependent variable (supply chain integration) explained by variations in the independent variables, it shows the level of variance explained by the model; which indicates how the organization supply chain integration varies with variation in organization Culture, organization procedure, inter departmental communication, supply chain trust, and information sharing among supply chain members. The finding shows that, the independent variables (that were studied, explain only 21.1% the performance of the organization, in case of Goal Ethiopia as represented by the R<sup>2</sup>. Therefore, this means that another supply chain integration determinants not studied in this research contribute 78.9% of the organizational supply chain integration determinants. Therefore, further research should be conducted to investigate the others supply chain integration determinants that have a role to determines supply chain integration.

### ANOVA TABEL

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3033.980	5	606.796	5.249	.000 <sup>b</sup>
	Residual	11328.780	98	115.600		
	Total	14362.760	103			

a. Dependent Variable: Dependent variable

b. Predictors: (Constant), Information Sharing among supply chain member, Organizational culture, inter departmental communication, Supply chain trust, Organizational procedure.

Table 4.14

The findings of the above table 4.12 indicated that the significance value of the model is  $p < .0005$ ; which is less than the significance level of 0.05 at a confidence level of 95%, thus the model is statistically significant in predicting how organization procedure, organization culture, inter departmental communication, supply chain trust and information sharing among supply chain members determine or affect the supply chain of the organization.

### Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	62.607	9.256		6.764	.000
	Organizational procedure	-1.247	.442	-.348	-2.821	.006
	Organizational culture	-.541	.479	-.133	-1.128	.262
	inter departmental communication	-.093	.399	-.025	-.232	.817
	Supply chain trust	.691	.458	.180	1.511	.134
	Information .Sharing among supply chain member	1.524	.540	.389	2.822	.006

a. Dependent Variable: Dependent variable Table 4.15

From the above regression model, the significance value of two independent variables (Organization procedure and information sharing among supply chain members ) is less than 0.05 which show that the variables is statistically significance to predict the analysis of supply chain role on supply chain integration determinant, whereas the significance value of three independent variables (organization culture, inter departmental communication, and supply chain trust) is greater than 0.05 which show that the variables are statistically insignificance to predict the analysis of supply chain integration determinants. This implies that the independent variable such as, organization producer and information sharing among supply chain member have the greater influence on the organization supply chain integration. On the other hand, organization culture inter departmental communication and supply chain trust have no significant impact for the integration. However both organization procedure and information sharing among supply chain members have a significant level of determinacy on supply chain integration, the first one has a negative effect and the second variable has a positive effect on the integration. Thus if the organization producer decies by one the supply chain integration increase by 44.2% and if the organization information sharing among supply chain members improved by one the supply chain integration extent would be increase by 54%.

According this all analysis that done to identify the determinants of supply chain integration the result reviled that organization procedure and information sharing among supply chain integration have high determinacy level or more determinant on Goal Ethiopia supply chain integration.

## CHAPTER FIVE

### 5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The main objective of this study was to evaluate the Determinants of supply chain integration in humanitarian organization in the case of Goal Ethiopia. Therefore, in this chapter the researcher has presented the summary of major findings, conclusion, and recommendations with regards to the Determinants of supply chain integration in humanitarian organization practice in Goal Ethiopia Program.

#### 5.1. Summary of the findings

Considering this study research problem filling the gap on identifying the Determinants of supply chain integration in humanitarian organization in Goal Ethiopia Program. Based on the result obtained from SPSS Version 24. By using the application of descriptive statistical and frequency measures, correlation and regression of data analysis and interpretations mechanisms, the researcher summarized the major findings of the study as below.

##### 5.1.1. Descriptive Analysis Summary for the “Demographic Background of respondents”

The study descriptive analysis of the demographic data analyses the study revealed that, the data summary provides information on different demographic and work-related characteristics of the respondents in a study conducted in the Goal Ethiopia program. The study included a sample of 104 respondents, consisting of 41 (39.4%) male and 63 (60.6%) female respondents. Most of the respondents were aged between 36-45 years, with 29.8% aged between 26-35 years. The educational qualification of the respondents varied, with most of them having a degree (68.3%) or a Master/PhD degree (18.5%). In terms of work position, most of the respondents were senior officers (44.2%), followed by coordinators (22.1%) and officers (23.1%). The total work experience of the respondents in Goal Ethiopia's supply chain ranged from 1-5 years to more than 10 years, with 51% having work experience between 6-10 years. The highest percentage of respondents (55.8%) worked as programmers, followed by those in procurement (19.2%) and finance (15.4%). Most of the respondents had their filed office in Addis Ababa (33.7%), followed by Amhara (29.8%). Overall, the data summary provides insights into different demographic and work-related characteristics of the respondents, which can be useful in various research and program planning activities in Goal Ethiopia Program.

### 5.1.2. Descriptive Analysis Summary

- ❖ The analysis made on the extent of dimensions of supply chain integration practices were revealed that the result of external integration (2.5457), internal integration (3.0885) supplier integration (2.8389), customer integration (3.0889), information integration (2.8462), and measurement integration (2.6090), ranked from one to six respectively. The result of the analysis implies the low extent of supply chain integration practices by the organization since all of the dimensions have been fall in the great rate as per the survey scale instrument
- ❖ The outcome of the second objective of the study to identify the major determinants of supply chain integration by examining the correlation and regression analysis in between supply chain integration (dependent variable) and organization procedure, organization culture, inter departmental communication, supply chain trust, and information sharing among supply chain members) to determinants the determinant variables and their determinacy level. The result indicates information sharing among supply chain members is the first and organization procedure have the second determinant level among all five independent variables.

### 5.1.3 Correlation Analysis

As the result shown on the correlation analysis table there is a significant correlation between dependent variable (supply chain integration) and independent variable mainly supply chain trust and information sharing among supply chain member, so it indicate that there are relation between them mean there are a relation or correlation between dependent and independent variables. Thus to identify the exact independent variable which has a high relative significant share on supply chain integration and also to measure the extent of the degree of determinacy it need to conduct recreation analysis.

### 5.1.4 Regression Analysis Summary

The data presented in tables 4.12 and 4.13 provide the result level of how much the dependent variable influenced by independent variable or how much the dependent variable determine by the extent of independent variable status, there for the respective of organization procedure and

information sharing among supply chain members have cumulatively R value of 460 and R square .211. Thus as this result indicates this five independent variables account for 21.1% of dependent variables or the organization supply chain integration. And also based on the organizations (Goal Ethiopia) supply chain integration determined by organization producer and information sharing among supply chain integration.

And also as the coefficient table result prevails that only organization procedure and information sharing among supply chain integration have high significant value to be factor for supply chain integration.

## **5.2. Conclusions**

Even though the study had limitation in terms of resource constraint including time, finance and access to information, unwillingness of respondents, lack of knowledge of respondents and lack of recent literatures and in view of the Determinants of supply chain integration in humanitarian organization were tested in Goal Ethiopia Program. Therefore, based on the summary of major findings, the following conclusions drawn:

The study revealed that the demographic data analyses of the respondents, it concluded that most of the respondents in the study are female, middle-aged, and highly educated, with most of them holding a degree or higher qualification. Senior officers make up most respondents' job levels, with over half of the respondents having more than six years of work experience in Goal Ethiopia's supply chain. The highest percentage of respondents work in programming, followed by procurement and finance. Addis Ababa is the region where most respondents have their filed office. Overall, the data helps to provide a better understanding of the demographics and characteristics of employees in Goal Ethiopia's supply chain.

Based on the Descriptive Analysis Summary of “Extent of Supply Chain Integration” the data presented its conclusion, the study provides a detailed analysis of the external, internal, supplier, and measurement integration aspects of supply chain integration in Goal Ethiopia Program. The results of the survey conducted on 104 to find the first research question \*how supply chain integration is being practiced in Goal Ethiopia\* the finding approved that there is low level of supply chain integration practices in the organization both internally and externally in these selected five program region.

Regarding the determinant of the supply chain integration are organization procedure and information sharing among Supply chain members are the main determinants for organization supply chain integration and regarding the dependency level the organization supply chain integration 44.2% depend on organization producer and 54% depend on information sharing among supply chain members.

### **5.3. Recommendations**

In the light of the key findings of the study and the conclusions drawn, the following recommendations were forwarded to alleviate or at least to minimize the problems currently observed related with supply chain integration in humanitarian organization in Goal Ethiopia Program in the study area.

- The researcher recommends that, the Humanitarian organizations are advised to improve better integration practices in all the dimensions of integration so as to reap the benefits from it.
- The researcher also recommends that, other organizations should also be encouraged to incorporate supply chain integration practices in their strategies in order to better serve the beneficiaries and to stay in business.

Lastly, the researcher recommends that, there may be other factors which not considered in this study but could have explained organizational supply chain integration performance. Thus, organizations should also consider and adopt these factors of integration to maximize their performance.

### **5.4. Recommendations for future research**

The research would have been better should it considered every supply chain operator which have not been included in this scope of study. Several scholars propose that humanitarian supply chains consist of a wide range of actors such as governments, non-governmental international organization, donors, suppliers, end beneficiaries, local non-profit organizations, military, and private actors (Kovacs, et al, 2007). Thus, the researcher recommends to further analysis through broadening focuses:

- Supply Chain Integration and Humanitarian Supply Chain Integration in Ethiopia is one of the less focused and under researched sectors among practitioners and academicians. Therefore, similar cross sectional and longitudinal researches to contribute towards

improvement performances of humanitarian organizations.

- This research findings discover only some present of the other of the variance explained by other factor not cover in the research, so the researcher recommend to conduct additional researches by including other variables in order to cover the gap.

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## APPENDIXES:

### Appendix-I: Research Questionnaires

ADDIS ABABA UNIVERSITY  
SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTIC AND SUPPLY CHAIN MANAGEMENT

#### Dear respondents:

The purpose of this survey is to gather data for an academic study of MA in logistics and supply chain management at Addis Ababa University School of Commerce. As part of the partial fulfillment of MA Degree I am undertaking a research on the “Determinants of supply chain integration in humanitarian organization: the case of Goal Ethiopia”

I kindly request you to participate in this research study by completing this questionnaire. All the information you are going to provide will be treated carefully and confidentially. Please do not write your name on any part of the question response paper.

I also kindly request you to answer all the questions as honestly as possible and return the completed questionnaire in time. Your feedback will provide valuable information regarding the Determinants of supply chain integration in humanitarian organization: the case of Goal Ethiopia. The study will certainly benefit all stakeholders in the organization.

I know that you are very busy and your time is very valuable but filling the questionnaire will not take more than 15 minutes to complete. Please attempt to answer all questions and make a tick mark ( ) on only one box that best explains your opinion for each statement.

If you have any questions, please contact me by my email address [yaredk43@gmail.co](mailto:yaredk43@gmail.co) or cell phone - 0910978131.

#### Notes:

- You do not need to write your name.
- Answer your preference by ticking ( ) mark in the check box.
- Please respond as precisely as possible and at your earliest convenience

I thank you very much in advance for your precious time.

**Part I: Participants' back ground information**

**Instruction:** This section discuss about the background information of the participants in order to have a clear biography. Please check in the box that you think is most representing.

1. **Gender:** Male  Female

**2. Age Group**

18 - 25  26- 35  36-45  Above 45

**3. Educational qualification**

Diploma  First degree  Master/PhD  Other: Please specify \_\_\_\_\_

**4. Level of your position?**

Officer  Senior Officer  Manager  Coordinator

**5. Total work experience in Goal Ethiopia's supply chain?**

From 1 to 5 Years  from 6 to 10 Years  >10 Years

**6. Position in the organization**

Procurement  Logistics  Program  Finance

**7. Filed Office**

Oromia  Gambela  Amhara  Afar

**Section B: Extent of SC Integration**

Please indicate the extent to which the following statements concerning the level of SC Integration within your organization occur.

**Use the scale** of: 1=does not occur, 2=small extent. 3= medium extent, 4= large extent, 5= very large extent

<b>Extent of Supply Chain Integration</b>						
<b>External Integration</b>						
		1	2	3	4	5
	Sourcing and tendering decisions are easily made due to external Integration and information sharing.					
	There are external SC integration that fastens flows such as, physical And funds.					
	Distribution and delivery is made at the right time and place due to external integration					
	There are integration of objectives, planning, and resources with External organizations.					
<b>Internal Integration</b>						
	Monitoring stock movement has been made easier as a result of the collaboration between procurement, logistics and warehouse/ inventory Management.					
	There are internal integration of functions and activities.					
	With an integrated SC technologies and systems established, inter and Intra organizations' communications are optimized.					
	The company involves different departments during the preparation of strategic plan					
	The company uses cross functional teams in process improvement					
<b>Supplier Integration</b>						
	A database of suppliers is easily maintained as a result of SC Integration.					

With an integrated suppliers supply chain, logistics services are Improved.					
Supplier integration has provided the organization the ability to quickly and easily relate with suppliers.					
Supplier integration is led to a better supplier relationship mgt					
Orders are easily processed as a result of supplier integration.					

<b>Customer Integration</b>					
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Customer integration Customer has assisted in improving the quality of goods, works and services offered to the beneficiary.					
The speed of service delivery has been enhanced due to the supply chain integration process					
Customer integration has enabled to deliver services easily and quickly.					
The speedy customer collaboration has been maintained as a result of Customer integration					

<b>Information Integration</b>					
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Due to information and technology integration, there are access of Tracking performances of SC partners.					
With existing Supply chain Information integration the organization provide real-time supply chain information					
Due to supply chain information integration, the organization is improve in supply chain operation, like cost reduction, lead time and S.C risk					
Due to Supply chain information integration the organization benefits for making strategic S.C decision					

<b>Measurement Integration</b>					
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With an integrated SC measurement systems established, intra organizations' communications are optimized.					
With an integrated SC measurement systems the supply chain members have standards that can generate a report on SC performance					

	With an supply chain measurement systems the members have clear direction and expectations regarding what is required to meet as overall					
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**Section C: Determinants of supply chain integration**

Please indicate the extent to which the following statements concerning the relationship that exists between your SCI and the determinant of supply chain integration.

Use the scale of: 1= Very low extent, 2= Low extent, 3= Moderate extent, 4=Great extent and 5=Very great extent.

S.N	Determinants variable supply chain integration	Scale				
A	Organization Procedure	1	2	3	4	5
	Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines external integration					
	Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines internal integration					
	Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines supplier integration					
	Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines customer integration					
	Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines information integration					
	Level of clear guidelines for managing supply chain alliance & Level of flexibility of organizational systems process determines measurement integration					

<b>B</b>	<b>Organizational culture-</b>					
	Level Attitude toward change or the response given to new methods, ways, and values determines External integration					
	Level Attitude toward change or the response given to new methods, ways, and values determines internal integration					
	Level Attitude toward change or the response given to new methods, ways, and values determines supplier integration					
	Level Attitude toward change or the response given to new methods, ways, and values determines customer integration					
	Level Attitude toward change or the response given to new methods, ways, and values determines information integration					
	Level Attitude toward change or the response given to new methods, ways, and values determines measurement integration					
<b>C</b>	<b>Inter departmental communication</b>					
	The level of information sharing across functional areas of the organization or among departments determines external integration					
	The level of information sharing across functional areas of the organization or among departments determines internal integration					
	The level of information sharing across functional areas of the organization or among departments determines Supply integration					
	The level of information sharing across functional areas of the organization or among departments determines customer integration					
	The level of information sharing across functional areas of the organization or among departments determines information integration					
	The level of information sharing across functional areas of the organization or among departments determines measurement integration					
<b>D</b>	<b>Supply Chain Trust</b>					

	The level of trust among your firm's and supply chain members determines external integration					
	The level of trust among your firm's and supply chain members determines internal integration					
	The level of trust among your firm's and supply chain members determines supplier integration					
	The level of trust among your firm's and supply chain members determines customer integration					
	The level of trust among your firm's and supply chain members determines information integration					
	The level of trust among your firm's and supply chain members determines measurement integration					
<b>E</b>	<b>Information sharing among supply chain members-</b>					
	The level of information sharing with suppliers on inventory and quality of supplies determines Internal integration					
	The level of information sharing with suppliers on inventory and quality of supplies determines external integration					
	The level of information sharing with suppliers on inventory and quality of supplies determines supplier integration					
	The level of information sharing with suppliers on inventory and quality of supplies determines customer integration					
	The level of information sharing with suppliers on inventory and quality of supplies determines information integration					
	The level of information sharing with suppliers on inventory and quality of supplies determines measurement integration					

**Please state any other relationships:**

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