ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

THE EFFECT OF SUPPLIER RELATIONSHIP MANAGEMENT ON HUMANITARIAN SUPPLY CHAIN PERFORMANCE AT WORLD VISION ETHIOPIA ADDIS ABABA PROGRAM CO-ORDINATION OFFICE

BY:

MESERET LEMMA

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF LOGISTIC AND SUPPLY CHAIN MANAGEMENT

JUNE, 2022

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DECLARATION

I, the undersigned, declare that the study entitled "The Effect of Supplier Relationship Management on Humanitarian Supply Chain Performance at World Vision Ethiopia Addis Ababa Program Co-ordination Office" is my original work, that it has not been submitted for a degree at any other university, and that all sources of materials used in the study have been properly acknowledged.

Declared By: Meseret Lemma

Signature: _____

Date: _____

CERTIFICATION

This is to certify that Meseret Lemma has carried out her research work on the topic entitled, "The Effect of Supplier Relationship Management on Humanitarian Supply Chain Performance at World Vision Ethiopia Addis Ababa Program Co-ordination Office". The work is suitable for submission for the award of the Degree of master in Logistic and Supply Chain Management at Addis Ababa University.

Advisor: Temesgen Belayneh (PhD)

Signature: _____

Date: _____

APPROVAL SHEET

ADDIS ABABA UNIVERSITY

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This thesis, written by Meseret Lemma, entitled "The Effect of Supplier Relationship Management on Humanitarian Supply Chain Performance at World Vision Ethiopia Addis Ababa Program Co-ordination Office" and submitted in partial fulfillment of the requirements for the degree of master of Logistic and Supply Chain Management complies with the regulation of the University and meets the acceptable standards.

Approved by Board of Examiners

_____	_____	_____
Advisor	Signature	Date
_____	_____	_____
Internal Examiner	Signature	Date
_____	_____	_____
External Examiner	Signature	Date

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List of Abbreviations and Acronyms

APs	Area Programs
CNLRM	Classical Normal Linear Regression Model
HSC	Humanitarian Supply Chain
KPI	Key Performance Indicators
NGOs	Non-Governmental Organizations
OLS	Ordinary Least Square
SCM	Supply Chain Management
SPSS	Statistical Package for Social Sciences
SRM	Supplier Relationship Management
WASH	Water, Sanitation and Hygiene
WFP	World Food Program
WVE	World Vision Ethiopia
WVI	World Vision International

ABSTRACT

The main purpose of this study was to examine the effect of Supplier Relationship Management on Humanitarian Supply Chain Performance at World Vision Ethiopia Addis Ababa Program Co-ordination Office. To achieve the objective of the study, questionnaires were adapted mainly from different works of literature. A variable of the study was measured through five-point Likert scale of measurement. A descriptive correlational survey research design was used to quantitatively analyze the effect & relationships between the study variables. A cross-sectional survey research methodology was employed in which 231 valid questionnaires were collected. Simple random sampling technique was used to select representative samples from the employees working in the organization. The internal consistency measurement results of Cronbach`s Alpha coefficient used were reliable in most of the study variables. Descriptive and inferential statistical techniques were used for data analysis. From descriptive statistics, frequency, percentage, mean and standard deviation techniques were used. From inferential statistics, Pearson's bivariate correlation and multiple linear regression analysis techniques were used to assess both relationships and effects as per the hypotheses of the study respectively. The study result indicated that trust, commitment, cooperation and transparency/information sharing had statistically positive and significant effect on humanitarian supply chain performance of WVE. Whereas, power, communication and supplier performance management had positive but statistically insignificant effect on humanitarian supply chain performance of WVE. Accordingly, WVE should give emphasis for the supply relationship influencing factors which are trust, commitment, cooperation and transparency/information sharing in an effort to improve its humanitarian supply chain performance.

Key Words: *Supplier Relationship Management, Humanitarian Supply Chain Performance*

CHAPTER ONE

1. INTRODUCTION

This chapter introduces nature of the research and the overall planned approach to deal with the stated research problem. It consists of background of the study, research problem, associated research questions to be answered, objectives to be achieved, scope of the study, and limitation of the study, significance of the study & organization of the study.

1.1. Background of the Study

Since its introduction in the early 1980s (Oliver and Webber, 1982), supply chain management (SCM) has become one of the most popular concepts within management (La Londe, 1997). Studies have articulated that the integration of supply chains is vital concept for organizations' strategic as well as operational importance (Zailani and Rajagopal, 2005). Researchers like Gimenez and Ventura, (2005) have stressed that the more the integration the better.

The world is a fast changing place. Organizations are changing and adapting like never before as they try to figure out how to compete, survive and succeed on an ever-evolving planet. Those who didn't manage to keep up have failed. New organizations with new ideas, innovative ways to do business and an insatiable hunger to succeed continue to emerge the world over ready to satisfy our changing needs and expectations. The supply base, the role of the supply base and the way organizations are engaging with suppliers is changing. Many factors are driving this and if we are to determine how purchasing and the supply base can add value for the future we first need to understand the landscape around us that is creating new and exciting challenges, imperatives and opportunities for us all (O'Brien, 2014).

Supplier Relationship Management (SRM) is a comprehensive approach to managing an organization's interactions with the firms that supply the products and services it uses (Lamming, 2005). SRM plays an important role in the reduction of costs and the optimization of performance in organizations. SRM is understood as the sourcing policy based design of strategic and operational procurement processes as well as the configuration of the supplier management (Appelfeller & Buchholz, 2005). SRM includes both business practices and software and is part of the information flow component of supply chain management (SCM). SRM practices create a common frame of reference to enable effective communication between

an enterprise and suppliers who may use quite different business practices and terminology. As a result, SRM increases the efficiency of processes associated with acquiring goods and services, managing inventory, and processing materials (McLachlin& Larson, 2011).

The study emphasizes on investigating the influence of SRM on humanitarian supply chain performance at World Vision Ethiopia Addis Ababa Program Co-ordination Office, with data collected from among the staff of the organization. To achieve this, the researcher assessed how the employees perceive about the supplier relationship management practices and whether they believe such SRM practices are effective in fulfilling the organization's supply chain performance.

1.2. Statement of the Problem

The world faces many structural problems like hunger, lack of proper sanitation and displacement (Van der Laan, Brito and Vergunst 2009). Therefore, the global demand for humanitarian assistance is rising and will continue to rise (Christopher and Tatham 2011; Thomas and Kopczak, 2005).

Despite the growing humanitarian need, the humanitarian supply chain is challenged by different complexities. Among the complexities being; raising freight cost, inaccessibility, increased risk of losses, limited resources & competitive environment, constrained food supply among others, the increased need for accountability by donors and supply chain situations which are unpredictable, turbulent, and requiring flexibility, (Oloruntoba and Gray, 2006) because of complex environments due to the disasters that occur anywhere and anytime, unfortunately often in underdeveloped countries with poor infrastructure or political instability (Scholten et al., 2010).

Thus, to overcome these complexities, key success factors are essential to achieve efficient and effective supply chains, to fulfill the donor and beneficiary demands as wells as service requirements and to generate competitive advantages. However according to McLachlin et al., (2009), humanitarian supply chains tend to be unstable, prone to political and military influence, and inefficient due to lack of joint planning and inter-organizational collaboration.

Humanitarian supply chain of World Vision Ethiopia covers disaster relief as well as continuous support for developing regions. The procurement process takes a long time, and winner supplier

is not willing to receive the supply orders because of price variation in the market and becoming out of stock.

In addition, unavailability of enough resources to manage multiple tier suppliers to avoid disruptions is another real problem adversely affecting the day-to-day supply chain operations of the organization. Moreover, there external factors that affect WVE's supply operations from the side of its suppliers. Among the challenges, some suppliers are not technology friendly, they do not have well-structured formal staffing that analyses and responds to the required information.

Apart from the above mentioned real supply chain management challenges at WVE, the researcher has learned that limited empirical studies have been conducted internationally to determine the effect of supplier relationship management on humanitarian supply chain performance.

For instance, Rucha &Abdallah (2018)conducted a study at WFP in Somalia using five supplier relationship factors (i.e. information sharing, multiple tiers for value generation, knowledge management, supplier performance management and information technology) so as to determine the effect of supplier relationship management on humanitarian supply chain performance. Samuel (2014), made a research at World Vision International Kenya to investigate that price, past completed work, delivery reliability, personal contact, relationships, partnering, networking and word of mouth communication were seen as crucial issues in buyer-supplier partnerships.

Another research regarding the effect of strategic supplier relationship management on supply chain performance was conducted by (Fikadu, 2018) in governmental organization using collaboration and technology factors as predictor variables to determine the supply chain performance of Ethiopian Pharmaceutical Fund and Supply Agency.

Other studies were conducted on humanitarian supply chain management by some researchers in Ethiopia. Melesse (2020) conducted a study on the effects of humanitarian supply chain management practices on organizational performance in the case of Save the Children International Ethiopia. Gebreyesus (2020), conducted an analytical study on the humanitarian logistics performance at Ethiopian Red Cross Society. These reviewd emperical literatures confirmed that non of these studies focus on determining the role of supplier relationship management on humanitarian supply chain performance. On the other hand, an empirical study

by (Fikadu, 2018) used few relationship variables(i.e. collaboration and technology) to determine the supply chain performance, though the study was conducted on government sector.

The reviewed literatures have shown that scientific research was made about the relationship between supplier relationship management and supply chain performance within the field of government sector in Ethiopia and therefore, a gap was identified within in the humanitarian sector. Besides, the reviewed literatures revealed to focus more on the traditional ways of performance indicators (KPI) like cost, quality, lead time and flexibility from the buyer's side (Rucha & Abdallah, 2018).The aformantioned studies did not address the relationship influencing KPIs like trust, power, communication, commitment and cooperation.Thus, this study aimed at investigating the effect of supplier relationship management on humanitarian supply chain performance at World Vision Ethiopia.

1.3. Objective of the Study

1.3.1. General Objective

The main objective of the study was investigate effect of supplier relationship management on humanitarian supply chain performance at World Vision Ethiopia with the aim of forwarding appropriate suggestions to the organization to continuously improve supplier relationship management and overall organizational performance.

1.3.2. Specific Objectives

More specifically, the research was aim: -

1. To investigate the effect of trust on humanitarian supply chain performance at World Vision Ethiopia.
2. To examine the effect of power on humanitarian supply chain performance at World Vision Ethiopia.
3. To evaluate the effect of commitment on humanitarian supply chain performance at World Vision Ethiopia.
4. To assess the effect of cooperation on humanitarian supply chain performance at World Vision Ethiopia.

5. To explore the effect of communication on humanitarian supply chain performance at World Vision Ethiopia.
6. To measure the effect of transparency/information sharing on humanitarian supply chain performance at World Vision Ethiopia.
7. To estimate the effect of supplier performance management on humanitarian supply chain performance at World Vision Ethiopia.

1.4. Research Questions

The research was attempted to answer the following questions. These are: -

1. What will be the effect of trust on humanitarian supply chain performance at World Vision Ethiopia?
2. Is there significant positive relationship between power and humanitarian supply chain performances at World Vision Ethiopia?
3. Is there significant positive relationship between commitment and humanitarian supply chain performance at World Vision Ethiopia?
4. What will be the role of cooperation on humanitarian supply chain performance at World Vision Ethiopia?
5. What will be the influence of communication on humanitarian supply chain performance at World Vision Ethiopia?
6. To what extent transparency/information sharing affect humanitarian supply chain performance at World Vision Ethiopia?
7. Will supplier performance management have positive significant influence on humanitarian supply chain performance at World Vision Ethiopia?

1.5. Significance of the Study

Above all, the findings of the study will help Program Co-ordination Offices of WVE and supply chain managers to understand importance of supplier relationship management and its importance to humanitarian service delivery. Hence, this study serves WVE as one guiding and/or living document in order to take appropriate remedial actions over the identified supplier relationship practice gaps and ultimately achieving overall organizational performance as far as WVE is concerned.

In addition, conducting this study will be useful:

1. To the government, donors and other partners to help ease the pressures that humanitarian managers get from these stakeholders. The stakeholders, who are the main funder of humanitarian organizations, will be able come up with polices that ensure humanitarian organizations achieve short-term goals of accountability and transparency in usage of funds as well as enable them pursue long-term goals like supplier relationship management that will enhance performance.
2. The findings will also be valuable to future researchers and academicians as it was extent the existing knowledge besides acting as a source of reference. In addition, the study would suggest areas for further research that future scholars and academicians can further develop knowledge on. Academicians can do further research on supplier relationship management on the service performance of other humanitarian organizations in the region in order to generalize of the findings.

1.6. Scope of the Study

The scope of the study was delimited conceptually, geographically and methodologically which is described as follows. The geographical scope of the study was delimited to only World Vision Ethiopia Addis Ababa Program Co-ordination Office. Regarding the conceptual scope, though different factors affect the effectiveness of humanitarian supply chain performance, the researcher is forced to considered only the seven main factors namely trust, power, commitment, cooperation, communication, transparency/information sharing and supplier performance management in the link between SRM and HSC performance.

The methodological scope of the study includes descriptive statistical techniques like frequency, percentage, mean & standard deviation to summarize as well as to describe the response of participants. From inferential statistical techniques, Pearson correlation and multiple linear regression analyses was applied. Regarding the research design, the study was employ descriptive survey research design.

1.7. Limitation of the Study

During the course of this study, the researcher was faces some challenges during administration & analysis of data collection which may ultimately affect the quality of the study. The main

challenges include but not limited to the distributed questionnaires not returned on time or not returned at all, failure of the respondents to provide genuine/accurate responses due to different personal and organizational motives etc. In addition to the above mentioned limitation, the survey was limited to WVE staff working in Addis Ababa Program Co-ordination Office only.

1.8. Definition of Key Terms

Supplier Relationship Management (SRM): -is a comprehensive approach to managing an organization's interactions with the firms that supply the products and services it uses (Lamming, 2005). SRM plays an important role in the reduction of costs and the optimization of performance in organizations. SRM is understood as the sourcing policy based design of strategic and operational procurement processes as well as the configuration of the supplier management (Appelfeller& Buchholz, 2005).

Humanitarian Supply Chain (HSC): - is the process of getting aid in the form of goods and services to the beneficiaries requiring the goods. Fritz Institute (2006) defines the term HSC as a process that integrates, coordinates and controls the movement of materials, goods and related information from suppliers and donors to meet beneficiary requirements in a timely manner. Humanitarian supply chain covers disaster relief as well as continuous support for developing regions.

1.9. Organization of the Study

This study contains five chapters. Chapter one concerned with introduction that included background of the study, statement of the problem, general and specific objectives, research questions, significance of the study, scope of the study, limitation of the study, definition of key terms & organization of the study. Chapter two includes review of literatures and it contains a review of existing literatures written in the area of supply chain management theories, supplier relationship and supply chain management from humanitarian context, empirical literatures, research hypotheses and conceptual framework of the study. Chapter three is about research methodology that consists of research design, research approach, population of the study, sample size determination & sampling technique, data type & sources, data collection instrument, methods of data analysis & tools, validity and reliability, operationalization & measurement of the study variables, model development & specifications and ethical considerations was discussed. Chapter four is about data analysis, presentation and interpretation which include

demographic profile of the respondents, scale reliability test, descriptive & inferential statistics analysis results, test for assumptions of linear regression model/regression diagnostics, discussion of results and research hypotheses test results. Chapter five contain summary of the study findings, general conclusions and possible recommendations to the problems that is drawn from the results of the data analysis and final results. Major limitation of the study and indication for further studies in the area also discussed respectively.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Introduction

This chapter briefly introduces and provides a systematic literature review on the works of various scholars in the area of logistics and supply chain management. It includes theoretical literatures about the conceptual meanings of humanitarian logistics & humanitarian supply chain management, humanitarian logistics vs. business logistics, supply chain management theories, different perspectives on performance evaluation and measurements of relationships Based on the theoretical literatures, the researcher will determine both dependent and independent variables so as to develop conceptual framework of the study and design data collection instruments. Empirical literatures related to the topic of the study will also be reviewed.

2.2. Theoretical Literature

2.2.1. Conceptual Meanings of Humanitarian Logistics & Humanitarian Supply Chain Management

2.2.1.1. Humanitarian Logistics

According to Thomas and Kopczack (2005), the process of planning, implementing, and controlling the effective and cost-efficient movement of goods/services, information, finance, and human resources from one point of origin to another desired location for the purpose of alleviating the suffering of vulnerable people is referred to as humanitarian logistics. The key humanitarian logistics functions include situation analysis, planning, procurement, transportation, warehousing, tracking and tracing, and customs clearance.

Humanitarian logistics is characterized by large-scale activities, irregular demand and unusual constraints (Beamon and Kotleba, 2006). The problems can range from a lack of electricity supplies to limited transport infrastructure including ‘controlled’ environment with some minor variability (e.g. traffic congestion) (Kovacs and Spens, 2009). Humanitarian organizations are mostly driven by donors (i.e. supply) (Tomasini and Van Wassenhove, 2009). The customers

(aid recipients) actually have no choice and, therefore, 'true demand' is not created in humanitarian logistics (Kovacs and Spens, 2009).

2.2.1.2. Humanitarian Supply Chain

The humanitarian supply chain is a system that combines, coordinates, and manages the flow of materials, goods, and related information between suppliers and donors in order to satisfy beneficiaries' needs on time. The humanitarian supply chain includes emergency relief as well as ongoing assistance to underdeveloped countries. It is the process of delivering aid in the form of products and services to beneficiaries (Fritz Institute, 2012).

Humanitarian organizations supply chain plays a very crucial role, when providing relief to disaster victims, which involves, planning and management of all activities involved with sourcing, procurement and all logistics management activities, it also includes coordination and collaboration with actors who can be suppliers, intermediaries, donors, beneficiaries, third party service providers, developmental programs and operational activities in times of disaster (CSCMP, 2011).

In addition, HSCM requires the process of effective and cost efficient plans, implementations and controls for aid flows (i.e. materials, goods, services, financial resources, information etc.) from the point of origin to the point of consumption with the goal of reaching the aid recipients' requirements (Thomas and Mizushima, 2005). Now a day, this area attracted the attention of both academics and practitioners (Dubey, 2015).

2.2.2. Humanitarian Logistics vs. Business Logistics

A sharp difference exists between the way the logistics is perceived between the business sector and the humanitarians. By comparing humanitarian logistics with business logistics similarities in the basic principles are identifiable. Managing the flow of goods, information and finances from a specific source to the final customer is applicable for both types. In addition, various activities included in commercial logistics such as planning and procurement or transporting and warehousing remains in its ultimate elements also valid for humanitarian logistics. (Kovács&Spens, 2007).

Several key distinctions between business and humanitarian logistics are discussed by Kovács and Spens (2007). Humanitarians deal with unknown or shifting actors and unexpected demand, whereas corporate logisticians work with predetermined actors or partners and predictable demand. Unsolicited and often even unwelcome donations include expired drugs and groceries, laptops that require energy in areas where infrastructure has been damaged, and heavy apparel that is not ideal for tropical climates. Humanitarian logisticians have higher obstacles in teamwork and coordination than their business colleagues. Coordination of a large number of relief agencies, suppliers, and local and regional actors, each with their own operating procedures and structures, can be difficult. Aid agencies are regularly chastised in descriptions of relief operations for their lack of collaboration, redundancies, and duplicated efforts and materials.

According to McLachlin, Larson, and Khan (2009), the distinctions between corporate and humanitarian logistics stem primarily from two factors: motivation (profit versus non-profit) and environment (uninterrupted versus interrupted). Actors in corporate logistics are motivated by profit and often work in unbroken contexts. Interrupted operating environments are the exception rather than the rule. In humanitarian logistics, on the other hand, actors are almost always non-profit organizations, and interrupted settings are the norm, particularly in the case of disaster relief as opposed to ongoing development aid operations.

Langley and Rutner (2000) mentioned in their work about commercial logistics that the value of logistics lies in "the contribution to profitability". Therefore, the focus concerning business logistics is on cost reduction while the main purpose for logisticians in the humanitarian context is to ensure aid for people located in crisis regions.

2.2.2.1. Humanitarian Supply Chain Management (HSCM)

In the recent past, the world has witnessed more disasters than any other time in history (including both natural and manmade disasters) which have affected more than 5 billion people across the globe. According to the Centre for Research on the Epidemiology of the Disasters (CRED), the combined loss of all the disasters have cost more than 150 trillion US dollars and left more than 180 million people homeless. The earthquakes in Iran (2003), Sumatra (2004), Pakistan (2005), China (2008), Haiti (2010), and Japan (2011) were the major earthquakes in the last decade (Van Wassenhove & Pedraza Martinez, 2012) and the recent one in Nepal in 2015

(Klinenberg, 2015). Therefore, this calls for the better preparedness of disasters. The preparedness helps to tackle a disaster better, helps in mitigating the risk and alleviating the pain caused by the disaster. Humanitarian aid organizations have also nowadays under strict review of the government/NGO's/donors who pledge millions of dollars' worth aids in different forms. The donors expect their aid to reach the beneficiaries and in such cases, demonstrate accountability and transparency (Van Wassenhove, 2006).

The Council of Supply Chain Management Professionals (2011) defines HSCM as the planning and management of all sourcing and procurement, conversion, and logistics management activities. Coordination and collaboration with players such as suppliers, donors, third-party service providers, implementing partners, and beneficiaries is also required. HSCM blends supply management and needs assessment within and between humanitarian organizations and other actors.

It has become important for humanitarian organizations to plan and execute the aid programs intelligently. In any humanitarian aid program, the major part (about 80 %) of the relief activities consists of logistics. Hence, managing the flow can be done only by efficient and effective strategies or in other words, managing the supply chain. In any emergency, the logistics management deals with procuring and managing the food, non-food items, and gifts-in-kind (solicited and unsolicited) from appeal. It includes monitoring the commodity and financial information along the relief aid flow. Under such situations, the timely and accurate information becomes a critical factor. Relief managers, depending upon this information, try to mobilize the resources to provide the aid to the beneficiaries and at the same time, make an appeal to their donor (Tomasini& Van Wassenhove, 2009).

Table 2.1.The Contrast between Business and Humanitarian Logistics

Topic	Commercial SCM	Humanitarian SCM
Main objective	Maximize profit	Save lives and help beneficiaries
Demand Pattern	Fairly stable and can be predicted with forecasting techniques	Irregular with respect to quantity, time and place. Demand is estimated within the first hours of response
Supply Pattern	Mostly predictable	Cash is donated for procurement. Unsolicited donations and in kind donations need sorting, prioritizing to decrease bottlenecks
Flow type	Commercial products	Resources like evacuation vehicles, people, shelter, food, hygiene kits, etc.
Lead time	Mostly predetermined	Approximately zero lead time, demand is needed immediately
Delivery network structure	Established techniques to find the number and locations of warehouses, distribution centers	Ad hoc distribution facilities or demand nodes, dynamic network structure
Inventory control	Safety stocks for certain service levels can be found easily when demand and supply pattern is given	Unpredictable demand patter makes inventory control challenging. Prepositioned inventories are usually insufficient
Technology and information systems	Highly developed technology is used with commercial software packages	Less technology is used, few Software packages that can record and track logistics data. Data network is non-existent
Performance measurement method	Based on standard supply chain metrics	Time to respond the disaster, fill rate, percentage of demand supplied fully, meeting donor expectation
Equipment and vehicles	Ordinary trucks, vehicles and forklifts	Robust equipment are needed to be mounted and demounted easily
Human resources	Commercial SCM is now a respected career path (Thomas, 2003)	High employee-turnover, based on voluntary staff, harsh physical and psychological environment
Stakeholders	Shareholders, customers and suppliers	Donors, governments, military, NGOs, beneficiaries, United Nations, etc.

Source: Beamon (2004)

2.2.3. Supply Chain Management Theories

According to (F. A. Garcia, M. G. Marchetta, M. Camargo, L. Morel, and R. Q. Forradellas, 2012) there are various publications pertaining to supply chain performance measurement with a number of approaches, with different objectives and contexts. The balance scorecard is a widely used framework on performance measurements by incorporating multiple relevant attributes together (Kaplan and D. Norton 1992). Bhagwat and Sharma (2007) also applied the balanced score card to supply chain management, which provides a quantitative perspective of the dynamics of the distribution logistics chains by dashboards.

2.2.4. Supply Chain Operations Reference (SCOR) Framework

SCOR is developed by the Supply Chain Council (SCC) to evaluate the overall effectiveness of a supply chain. It is a reference process model for supply chain management, which provides a framework that links business process, metrics, best practices and technology features into an integrated structure. SCOR is the most common model to describe supply chains using a common set of definitions and can be used in various types of organizations. The model spans from a supplier's suppliers to a customer's customers. It describes the business activities required to satisfy customer demand and provides a basis on how to improve business processes. It uses benchmark and best practice data to prioritize the supply chain activities, quantify potential benefit of specific process improvement, and determine financial justifications (J. Cheng, K. Law, H. Bjornsson, A. Jones, and R. D, 2010). SCOR integrates the business concept of process re-engineering, benchmarking, and measurement into its framework (S. Huan, S. K. Sheoran, and G. Wang, 2004). It covers all customer interactions (order entry through paid invoice), all physical material transactions (supplier's suppliers to customer's customers, including equipment, supplies, spare parts, bulk products, software, etc.) and all market interactions (from the understanding of aggregate demand to the fulfillment of each order). It does not attempt to describe every business process or activity. The corresponding performance attributes in SCOR model are reliability, responsiveness, agility, costs, and asset management. SCOR defines reliability as the performance of supply chain in delivering, correct product in the correct time, in the correct condition and quantity, with the correct documentation, and to the correct customer. Responsiveness refers to the speed at which a supply chain provides products to the customer, and agility is the ability of a supply chain in responding to market changes.

2.2.5. Network Theory in Supply Chain Management

According to Halldorsson (2007), network theory aims to understand how personal chemistry between supply chain parties can influence trust building and long-term commitment. In the theory, direct communication is perceived as an enabler for building unique relationships, which could result in customization of the supply chain to meet the unique customer demands (Halldorsson, 2007). According to the Network Theory (NT) the networks of the firm are developed through two types of interactions: exchange processes of information and goods, and adaption of these processes such as legal, logistical and technical (Halldorsson, 2007). Theseinteractions enable the parties in the network to establish mutual trust (Halldorssonl, 2007).Commonly NT has been used as a descriptive tool to map capabilities of the supply chain such as its activities, members and resources (Halldorsson, 2007).

2.2.6. Stakeholder Theory in Supply Chain Management

The shift towards pleasing all the stakeholders rather than increasing shareholder value is under discussion within academia and industry leaders (Sajjad et al., 2015; Park-Poaps and Rees, 2010; Huq et al., 2016, Co and Barro, 2009). Managing and aligning stakeholders' interests require new understanding and strategic analysis. For this purpose, the stakeholder theory was established (Phillips, 2003). Originally, stakeholder theory was established for strategic management discipline to emphasize ethics and morals in decision-making, unlike other theories in strategic management (Friedman and Miles, 2006). In essence, stakeholder theory is concerned with the interest and well-being of the organization's stakeholders (Phillips, 2003).

In this context, stakeholder refers to anyone, who can influence a company's success positively or negatively (Phillips, 2003). For supply chain management, a sustainable supply chain has been the goal because of increased demand by consumers (Padhi, 2018). Despite the implicit purpose of gaining visibility and good reputation through marketing a business as sustainable, supply chain managers have become more aware of their suppliers' business practices. In this situation, stakeholder theory can be applied to better understand the dynamics of different stakeholders within the supply chain. While Freeman introduced the stakeholder theory concept in 1984, Donaldson and Preston in 1995 classified stakeholder theory into three categories normative, descriptive and instrumental approaches (Friedman and Miles 2006). The theory suggests that

when the density of the network increases, referring to improved communication and connectedness between network parties, shared behaviors and expectations increase. Thus, there is increased chance that the network can constrain the focal organization (Friedman and Miles, 2006). In order to avoid the possible constraints, the position of the organization plays a key role (Friedman and Miles, 2006). When the organization possesses higher centrality in the supply chain, it has more power over the parties. The power over the network (centrality) is gained not through individual qualities of the organization but through the number of ties within the network (centrality), closeness as independent access to others as control over others (Rowley 1997).

Humanitarian aid involves a growing and complex plethora of actors and agencies from the civil, business and military sectors (Oloruntoba& Gray 2006). As identified by Thomas and Kopczak (2005) humanitarian logistics, as well as business logistics, encompass a range of activities including preparedness, planning, procurement, transportation, warehousing, tracking and tracing and customs clearance. This presupposes a sophisticated coordination of activities to carry out the primary mission of humanitarian aid-delivery of product and/or service to the end user, whose immediate and longer-term survival may depend upon efficient completion of logistics and supply chain operational activity up to and including the crucial 'last fifty meters'.

2.2.7. Why Measure Buyer-Supplier Relationship Performance?

2.2.7.1. Potential Advantages in Measuring Relationship Performance

Advantages can be structured according to the levels of a company's hierarchical functions. The traditional hierarchies in function, which are used in this section, are divided into three levels: strategic, tactical and operational (Ghemawat and Costa, 1993; Gunasekaran, Patel and McGaughey, 2004; Tan and Wang, 2009). These levels relate to the time horizon for activities and to the management level where they are treated. The strategic level has a longer time-perspective and is generally treated on a higher management level. The operational level has the opposite time perspective and is treated on a lower level and finally the tactical level is in-between. The levels are interrelated and success of a lower level supports goal fulfillment of the higher level, e.g. employees target operational goals that will lead to achievement of tactical objectives, if reached. (Gunasekaran, Patel and McGaughey, 2004).

i) Strategic Level

As stated by Doran (1981), "what gets measured gets done", meaning if you are not monitoring it, there will definitely not be any improvements. In order to assess performance, it is important to use the right metrics. The metrics used will differ depending on which company the measuring process is applied to. As profitability is a key factor for every company, the KPIs are often possible to trace back to their impact on profit, and regularly used in companies around the globe. In order to secure profit and a stable development, one has to ensure that professional companies keep their promises. The suppliers need to be of high quality in order for the focal company to propel forward (Purdy and Safayeni, 2000). Besides this fact, relationships have positive links to performance if used in a mutual perspective (Donaldson and O'Toole, 2002). This is also highlighted by Hallikas et al. (2005), who state that collaboration will reduce supply chain risk.

Having a mutual understanding of long-term goals and objectives will help reduce the uncertainty of being misaligned and minimizes the probability of working in the wrong direction. This can be linked to the trust-aspect, which company highlighted as the most important factor. Trust is built up gradually over time, not over a short period, further emphasizing long-term thinking. Globerson (1985) argues that many of today's performance measurement systems lack long-term focus and instead encourage short-term attention. Noted in the relationship between company A and company B was that they believe a long-term focus is vital and perhaps most important. If one party does not focus on long-term relationship development, it is desired to change partner. Long-term commitment must be present in order to align the companies towards the same direction.

Through monitoring the relationship development, one will have a better understanding of how interaction between the companies works. Furthermore, by having thoroughly established trust within the chain, the companies interacting will experience commitment to a larger extent and a higher degree of transparency and information sharing. A highly transparent relationship will only be possible through continuous communication, which is emphasized by both company A and company B.

Having relationships working effectively will help secure a steady flow of products keeping the desired quality with a minimum level of defects. Achieving a high level of product reliability will in turn lead to increased customer satisfaction. Moreover, it might reduce costs incurred by the company, since a decrease of warranty claims could be expected as a result of high-quality products (Neely, Gregory and Platts, 2005).

ii) Tactical Level

The tactical level considers, in particular, resource allocation and measuring performance to achieve expected results (Gunasekaran, Patel and McGaughey, 2004). On the tactical level, advantages can be identified in terms of e.g. efficiency and flexibility. Although some aspects of the tactical level overlap with both the strategic and the operational level, they can also be singled out and analyzed in terms of advantages.

Flexibility represents such an overlap as it is considered on all three levels. Flexibility becomes increasingly important in order to cope with a volatile customer demand. It relates to the ability to satisfy customers' varying volume-and lead-time demands. According to company B it would be beneficial to improve the relationship in terms of communication and information sharing to better cope with company A's variation in demand. Failure to communicate forecasts can easily result in overproduction or stock-outs for the supplier (company B). It could therefore be argued that flexibility could be improved through a tighter and more open relationship.

Efficiency is a measure of performing in the right way, often related to effectiveness, which is an indication of doing the right things. Both parameters are highly applicable in a relationship situation. If they fail or succeed to function they will either affect the business outcome negatively or positively. Supplier effectiveness implies to what extent customer requirements are fulfilled whereas efficiency refers to the financial impact of using a firm's resources in providing a certain customer satisfaction. This illustrates the interrelationship between satisfying the customer through a high level of efficiency and still performing well financially through effective resource usage. An example of a mutual high level of efficiency and effectiveness is given by Neely, Gregory and Platts (2005). They argue that high quality products can lead to increased customer satisfaction as well as reduction in defected products and warranty claims, which in turn has a positive impact on the financial result. If the relationship somehow could be

impacted and the level of efficiency and effectiveness improved one could expect higher customer satisfaction and profit.

iii) Operational Level

The flexibility within the operational segment is associated with having a shorter focus. It is often defined as "built in procedures which permit a high degree of variation in sequencing and scheduling (Ghemawat and Costa, 1993). Not everything can be standardized, as business relationships are dynamic. This is very similar to the context in which a company operates in general, which always changes. It highlights the importance of being "on your toes" and to always stay flexible. In order to stay adaptable towards both customers and suppliers, it is essential to measure the relationship performance to grasp how the interactions are developing. By not having flexible companies to rely on, the extent of being competitive will be very limited.

The operational level deals with the day-to-day activities performed in a company. It is what keeps the business running within the limitations set by the higher hierarchical levels. The time horizon is short and the focus is on complying with schedules, ability to produce defect free products and technical representation. Companies are increasingly seeing the advantages in a well function relationship on the operational level, as this reduces uncertainty and enhances control. Through operational collaboration tactical and strategic goals are fulfilled, therefore it is just as important level of measuring. Operational level could especially increase the performance of relationships through reducing total cost of operation, reduced inventories and increased information sharing (Gunasekaran, Patel and McGaughey, 2004).

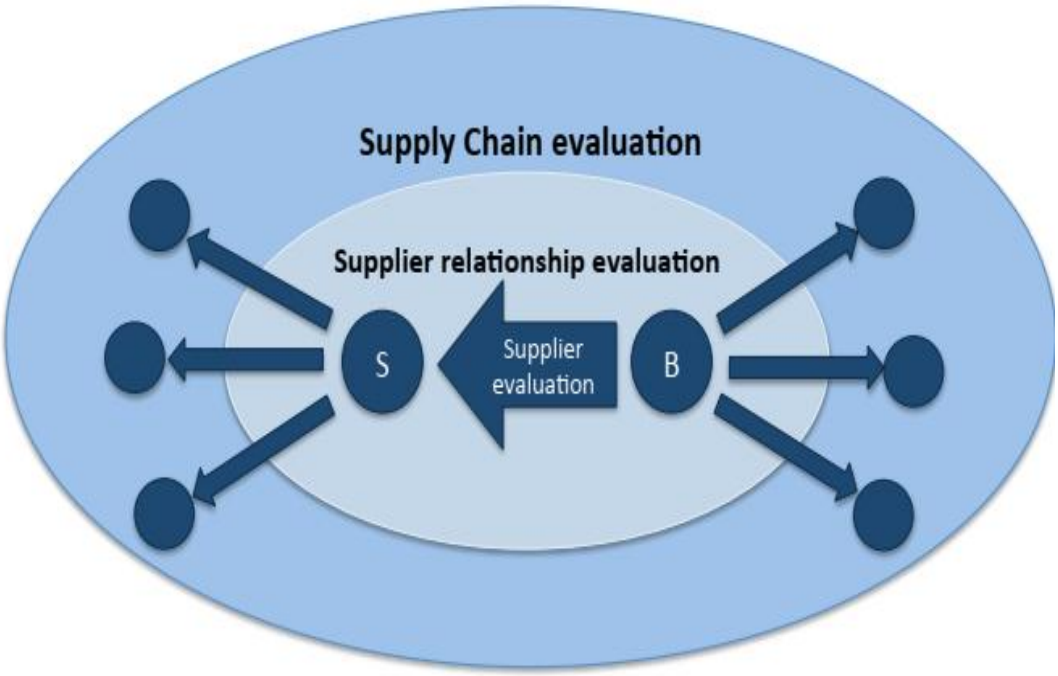
2.2.8. Different Perspectives on Performance Evaluation

Any relationship can appear differently depending on by whom and from what perspective it is being observed. In a buyer-supplier relationship, three perspectives can be distinguished- the buyer's perspective, the supplier's perspective and the mutual perspective, represented by a perspective of an external observer. A relationship considered from just one perspective might not be sufficient to fully grasp the context of a relationship, therefore the mutual perspective is embraced in this book, as the title implies. For example, the buyer's perspective of a supplier

relationship could turn out quite similar to an evaluation of supplier performance rather than an evaluation of the relationship performance.

Hald and Ellegaard (2010) make a similar point when they address the development of performance measurement systems and divide it into three categories of research-supplier evaluation, buyer-supplier relationship evaluation and supply chain evaluation. These categories are illustrated in Figure 1 and explored next.

Figure 2.1.The Three Different Levels of Performance Measurements



Source: From the works of (Damlin *et al.*, 2012)

2.2.8.1. Supplier Evaluation

The supplier evaluation is defined as the process of quantify the effetivness and the efficiency of supplier actions. From the buyer's perspective, supplier evaluation can be seen as a tool to influence their supplier-base to align with the buying company's interests. This means that the suppliers are expected to improve their capabilities and performance to better benefit the buyer (Hald and Ellegaard, 2010). Hald and Ellegaard (2010) present a three-step model for establishing and executing supplier evaluation. Design the evaluation system by defining key

performance indicators and how they are measured. Implement the evaluation system to collect and process data. Review and act upon the collected data.

According to Prudy and Safayeni (2000) two domains of information could be evaluated, either processes or products. Information about these domains could furthermore be collected, indirectly or directly. Indirect information is gathered in retrospect, most often upon request from the buyer. This includes for example asking the supplier for information regarding business aspects, policies or practices, such as safety procedures and quality practices. It can also refer to acquiring information about the supplier's output, by requesting statistical process control data or inventory levels. In either case, the indirect information is given to the customer by the supplier. Table 2 summarizes key features of process-and product evaluation gathered directly or indirectly.

Table 2.2.Supplier Evaluation Strategies (Adapted from Prudy and Safayeni, 2000:437)

Information Acquisition Mode	**Information Domain**	
	Process	Product
Indirect	Supplier provides customer with information about manufacturing and /or Management processes.	Supplier provides customer with performance information (e.g., cost, quality, delivery)
Direct	Customer goes to supplier and examines manufacturing and Management processes.	Customer tests outputs or collects its own performance

Source: From the work of (Damlin *et al.*, 2012)

Direct information is based on buyer observations of their suppliers' products or processes. Such information is gathered by visiting suppliers and observing their inventories, work-in-progress or manufacturing processes. Direct information can also be gathered through evaluating suppliers' output, e.g. quality and delivery lead-time fulfillments.

There are advantages and limitations with the different evaluation strategies, where three conclusions are particularly significant in the study of Prudy and Safayeni(2000). These could represent the limitations of a too narrow-focused evaluation approach, such as supplier evaluation. First, suppliers felt that their effectiveness was not accurately reflected in the evaluation. Instead, suppliers felt that the evaluation was a measure of how similar their organization was to the buying organization. Second, suppliers argued that the evaluation focused solely on supporting purchasing decision and therefore misused the audit process with supplier comments that could have been constructive for the relationship. Third, the evaluation parameters were incentives for suppliers to adapt to the buyer (repack to fit the buyer's format), rather than finding ways to improve (find the overall best format to pack). Lamming, Cousins and Notman (1996) however concluded that suppliers could also appreciate supplier evaluation as positive and constructive for the relationship. The key advantages and limitations of the evaluation strategies are briefly presented in table 3 and 4.

Table 2.3.Key Limitations (Adapted from Prudy and Safayeni, 2000:437)

Information Acquisition Mode	**Information Domain**	
	Process	Product
Indirect	• Increased cost of information collection and processing • Increased potential for receiving distorted information • May be limited by the model that is held of the supplier organization	• Increased potential for inconsistency in information • Increased potential for receiving distorted information • Potential attribution bias of blaming supplier
Direct	• Physical limitations of direct observation • Requirement of increased technical and engineering expertise • Potential for attribution errors	• Increased problem correction time • Root-cause analysis more difficult • Requirement of increased technical and engineering expertise

Source: From the work of (Damlin *et al.*, 2012)

Table 2.4.Key Advantages (Adapted from Prudy and Safayeni, 2000:438)

Information Acquisition	Information Domain	
	Process	Product
Indirect	• Extensive documentation of processes provided to customer • Good fit for large bureaucratic customer • Mechanism for supplier pool reduction	• Summarized product information provided to customer • Minimized expense for product testing • Ability to rely on supplier reputation
Direct	• First-hand observation of process • Holistic view of supplier organization • Opportunity for active supplier development	• First-hand knowledge of • Testing procedures • Increased organizational learning for customer • Additional level of product quality control

Source: From the work of (Damlin *et al.*, 2012)

In a liberal manner the study of Hald and Ellegaard (2010) concludes that the outcome of evaluating suppliers cannot simply be engineered by optimizing evaluation systems, performance measures and data collection.

2.2.8.2. Buyer-Supplier Relationship Evaluation

Lamming, Cousins and Notman (1996) argue for widening the scope of performance measurement from internally focused to also include the counterpart of the relationship. Through this mutual approach to the buyer-supplier relationship the actors can better allocate resources to relationships and act appropriately towards their counterpart.

Lamming, Cousins and Notman (1996) question traditional simplistic evaluation models to be based on the perspective of either a supplier or a customer, as is the case for supplier evaluation. For example, buyers, although thinking they implement supplier development processes for mutual benefits, probably still lack involvement of suppliers in the design and development of those processes, which is in line with Prudy and Safayenie's (2000) argumentation in the previous section. To overcome this, Lamming, Cousins and Notman (1996) present a relationship assessment program as a system to diagnose the health of relationships through a combined or integrated perspective. This relationship assessment takes into account the perceived needs for both parties in its perfection of value adding and waste reduction. The assessment model considers internal and external factors that impact a relationship and also takes into account enablers and influencers of the two parties. This provides a useful tool to better understand what is going on between the buyer and the supplier in terms of perceived, desired and actual status of a relationship. This is quite similar to the approach and perspective considered in this book.

The more extensive the evaluation becomes, the more it requires from the involved companies. It requires willingness and incentives for both to improve the relationship. This is achieved by understanding long-term and short-term gains of improvements for both companies. Furthermore, it requires dedication to the evaluation and actions and an acceptance for a continuous process of evaluating and improving. On an operational basis it requires periodic re-evaluation of assessment procedures, regular feedback of supplier and customer performance and a close collaboration between the buyer and the supplier. Customers could however consider that data sharing of performance is unwise and unnecessary (Lamming, Cousins and Notman, 1996), something that will have to be over bridged to get the best evaluating outcome. Therefore, the relationship approach is better suited for already existing, deeper and closer relationships, where both parties consider the relationship worthy of consideration.

2.2.8.3. Supply Chain Evaluation

Selecting appropriate performance measures for supply chains is especially important, as there is no single optimal performance indicator that is inclusive, universal, measurable and consistent to represent the overall supply chain performance. If the variety of relationship constellations

requires different measures the supply chain approach will rather look like a collection of separate relationship evaluations. As highlighted by Shepherd and Günter (2006), to measure a supply chain performance output, one has to go further than just measure internal processes, and instead assess performance measures from in between companies, namely relationships. It could be argued that if relationships are considered separately they could be improved in their different environment. Furthermore, it could be argued that such separation of relationships would in that case sub-optimize the supply chain with less consideration to relationship interactions.

Beamon (1999) supports the full supply chain evaluation but at the same time recognizes the challenge in measuring effectively as the scope is larger and more complex. Perhaps the most notable difficulty with the supply chain approach is the complexity in defining common boundaries for the supply chain, as all actors consider the supply chain from their perspective as a focal company. Traditionally two models of measuring supply chain performance are used, the cost approach and the combination of cost and customer responsiveness. Cost includes all costs related to the processes, e.g. inventory cost and operating cost. Customer responsiveness instead refers to for example lead---time and stock---out. Many supply chains limit themselves to only measure cost. This might limit the inclusiveness as it takes little consideration to the output, namely customer responsiveness. In a framework for evaluating supply chain performance Beamon (1999) suggests a usage of at least one performance indicator from the areas resources, output and flexibility. It is important to still keep in mind that the complexity of selecting appropriate performance indicators increases with the number of actors included in the evaluation.

The evaluation approach depends on the context. Many times it is neither possible nor interesting to just single out one particular relationship without considering the impact of other relationships as well. In the relationship studied between company A and company B, it is understood that the particular relationship is only impacted to a small extent by other relationships. In such a situation the buyer-supplier relationship evaluation is probably preferable.

2.2.9. Measurements of Relationships

2.2.9.1. Traditional KPIs

Supply chain performance measurements are often classified into four categories: cost, quality, time and flexibility. Shepherd and Günter (2006) argue that it is essential to continuously measure and monitor the supply chain performance in these aspects and act upon the results in order to stay competitive. These performance indicators are highly interdependent (Bamford and Forrester, 2010), for example if a company wants to be the fastest and provide the best quality, cost could increase.

i) Cost

Many authors agree that cost is the single most important factor in evaluating and monitoring suppliers. According to Bamford and Forrester (2010) cost remains an important factor to measure since it correlates to profit, labor productivity and selling prices. However, they state that today much more importance is given to the reduction of costs through decreased stock levels and increasing stock turnovers. In that aspect it can be argued that cost and time measurements are somewhat interrelated, e.g. shorter delivery lead-times allow companies to decrease their inventory levels.

ii) Lead-Time

As product lifecycles are continuously shortened, organizations are adopting just-in-time practices and the power is shifting from the seller to the buyer. It has become increasingly important for companies to respond quickly to demand fluctuations (Christopher, 2011) and as a consequence the significance of time measurements has increased. According to Bamford and Forrester (2010) companies have shifted their attention to lead-time reduction in product design. This is mainly since the faster a company can move from the design phase to provision from the service/product the more appealing it will become for the market.

iii) Quality

Shepherd and Günter (2006) state that quality displays the ability of the supply chain to deliver superior customer service. According to Bamford and Forrester (2010) quality plays an

important role in the operation strategy of any market driven company and can be considered from two different dimensions; a product and an organizational context. They further argue that quality is an important feature of any product or service and sales levels are often associated to a company´s reputation of quality.

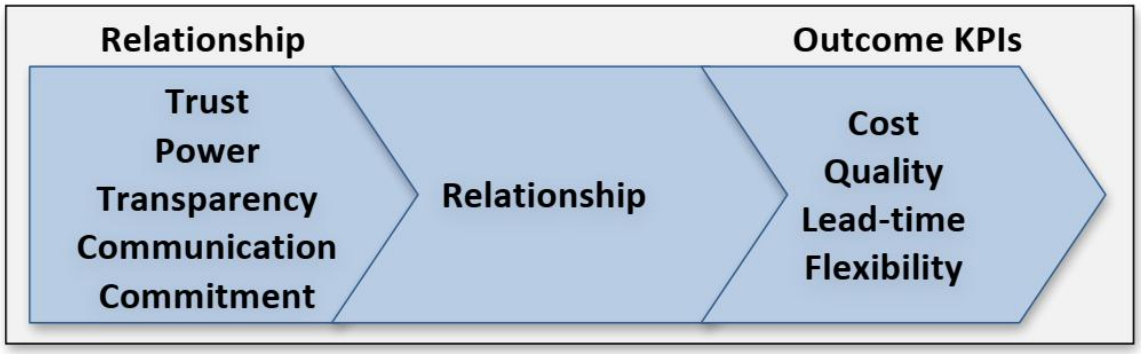
iv) Flexibility

Flexibility is defined as the ability to increase production volumes as well as having customizable business processes, adaptable supply relationships, and quick and streamlined data flow (Jacoby, 2009). Flexibility measures allow companies to determine whether they have the appropriate level of flexibility in order to cover fluctuations in future demand and to arrange activities accordingly (Supply Chain Council, 2008). Shepherd and Günter (2006) even argue that by measuring flexibility a company not only gets a reflection on how parties cope with rapid changes in demand but also rapid changes in supply. Flexibility measures are either based on historical data or on assumptions (Supply Chain Council, 2008) and can be measured from different aspects, such as supply chain response time and product flexibility.

2.2.9.2. Buyer-Supplier Relationship Performance KPIs

There are many factors identified by various authors as being important in a buyer-supplier relationship and thus are important to measure. The six factors described below are the once affecting the relationship to the greatest extent. What distinguishes them from the traditional KPIs is that they are soft qualitative measures. According to Harland (1996) in most cases performance measurements include hard quantitative measures, which can be hard to use when measuring soft and intangible traits of relationships. It can be argued that improving these qualitative measures will increase the performance of the traditional KPIs (Figure 2.2).

Figure 2.2.Correlation between the Relationship KPIs and the Traditional Ones



Source: From the work of (Damlin *et al.*, 2012)

1. **Trust**

As companies become more and more specialized, focusing on core competences, the dependency on other companies' increases. Due to this trend, trust between companies becomes increasingly important. As companies to a decreasing extent compete on their own, but rather compete with their entire supply chain against other supply chains, the importance of trust is even more relevant (Van Weele, 2010).

Trust can be defined as "one party's belief that the other party in the relationship will not act opportunistically and not exploit its vulnerabilities even when such exploitation would not be detected" (Stuart, Verville and Taskin, 2012). It is important to notice that trust is only a belief from one side of the relationship and not clear evidence that the other party will not act opportunistically. This is a reason why most companies work with contractual agreements and not only base their decisions on trust.

Trust can be divided into different levels, which describe how deep the trust goes. These levels can be characterized as Calculative, Cognitive, Normative and Trustworthiness. On a calculative level suppliers or buyers only trust each other because it is in their self-interest to do so. Cognitive trust is where actors share common cognitions but nothing more. The normative trust is established by common views, expectations and responsibilities that are agreed upon through industrial or social norms and good fit between company cultures. The deepest level of trust is described as trustworthiness and is characterized by day-to-day demonstrations of trust, such as kept promises (Giannakis, 2007).

According to Van Weele (2010), trust can be narrowed down to two factors, competence and trustworthiness. Competence through skilled and experienced employees will lead to higher trust towards a company. Trustworthiness can be gained through strict ethical principles and procedures that are conveyed in a consistent and reliable way by the entire company. It is therefore important that companies have clear policies on business integrity and ethics in order to convey trust to their suppliers and customers (ibid.). Van Weele adds another important dimension to trust, competence, and defines the deepest level of trust, trustworthiness, as something the entire company expresses in everything they do. The trustworthiness dimension of trust can almost be seen as the firm reputation which Suh and Houston (2010) argues to be more important than trust when forming and maintaining buyer supplier relationships. Since trust is based on the impression of the entire company the two concepts of trust versus firm reputation may however not contradict each other.

Concerning competitiveness, Stuart, Verville and Taskin, (2012) claims that a supply chain without this mutual trust between businesses will not be able to compete with one where mutual trust exists. To be able to form competitive inter-organizational alliances such as strategic partnerships mutual trust is critical and mandatory.

Stuart, Verville and Taskin, (2012) explains that trust can lead to several benefits for companies: First, trust can help lower transaction costs, for example by implementing Vendor Managed Inventory (VMI). Second, safeguarding costs can be reduced by less need of extensive contracts. Third, trust will reduce opportunistic behavior and lead to more effective information flows and information sharing. The two latter benefits can be achieved by increasing transparency between organizations as is suggested by most researchers in the field of Supply Chain Management. To sum up the potential benefits of trust, it can lead to: improved financial performance (Verville, Taskin and Law, 2011), greater market penetration and improved customer relationships. (Stuart, Verville and Taskin, 2012)

However, trust has not always been considered as something important in corporate culture. During the early years of studying the subject most western companies saw trust as something unnecessary and preferred competition in every new business relationship. A quote from a leading practitioner during this time explains the mindset: “Having suppliers fight each other for my business means I get the best price.” (Stuart, Verville and Taskin, 2012:393) It was with the

introduction of lean thinking in the western world, at the same time as the competition from eastern countries, such as Japan, grew tougher, that practitioners started to understand the potential of trust-based relationships between suppliers and buyers. Risk reduction and speed-to-market strategies were leading arguments that emphasized more cooperative relationships. (Stuart, Verville and Taskin, 2012).

Measuring Trust

Since trust has so many benefits and is crucial to enable strategic partnerships it can be used as a qualitative measure of performance for a relationship. To measure trust is not an easy task and requires opinions from both parties within a relationship.

Trust will be used as a KPI when measuring the performance of buyer-supplier relationships. Trust is mentioned by several authors (Johnston, 2004; Giannakis, 2007; Stuart, Verville and Taskin, 2012) as an important aspect of a good relationship between a buyer and a supplier. Since the level of trust greatly can affect the relationship itself as well as other aspects of a relationship, such as information sharing, willingness to cooperate and communication, it is considered an important aspect to consider when assessing a buyer supplier relationship.

When measuring trust, the four different levels of trust; Calculative, Cognitive, Normative and Trustworthiness, presented above, will be taken into consideration. A scaling ranging from 1 to 5 is created to make the assessment. In this scaling five is considered the highest level of trust and is describes as "Trust in all aspects of the relationship". For the other four ranks the 4 levels of trust has been chosen so that rank 1 means calculative trust, rank 2 cognitive trust, rank 3 normative trust and rank 4 trustworthiness.

2. Power

Power in relationships between companies arises due to dependences. These dependences are formed when one of the companies´ goals become dependent on the actions of the other company. Dependency is therefore considered to be the inverse of power (Gadde, Håkansson and Persson, 2010). The reason for this dependency is often characterized as a high need of the specific product or service but low possibilities of receiving this product or service from other sources as well as low possibilities for integration with the current supplier (Böhme et al., 2008).

The power structure is a key element to assess in supply chain management (Hingley, 2005). Similarly, Böhme et al. (2008) considers it to be important to understand the dependency and power between two companies in order to understand the relationship.

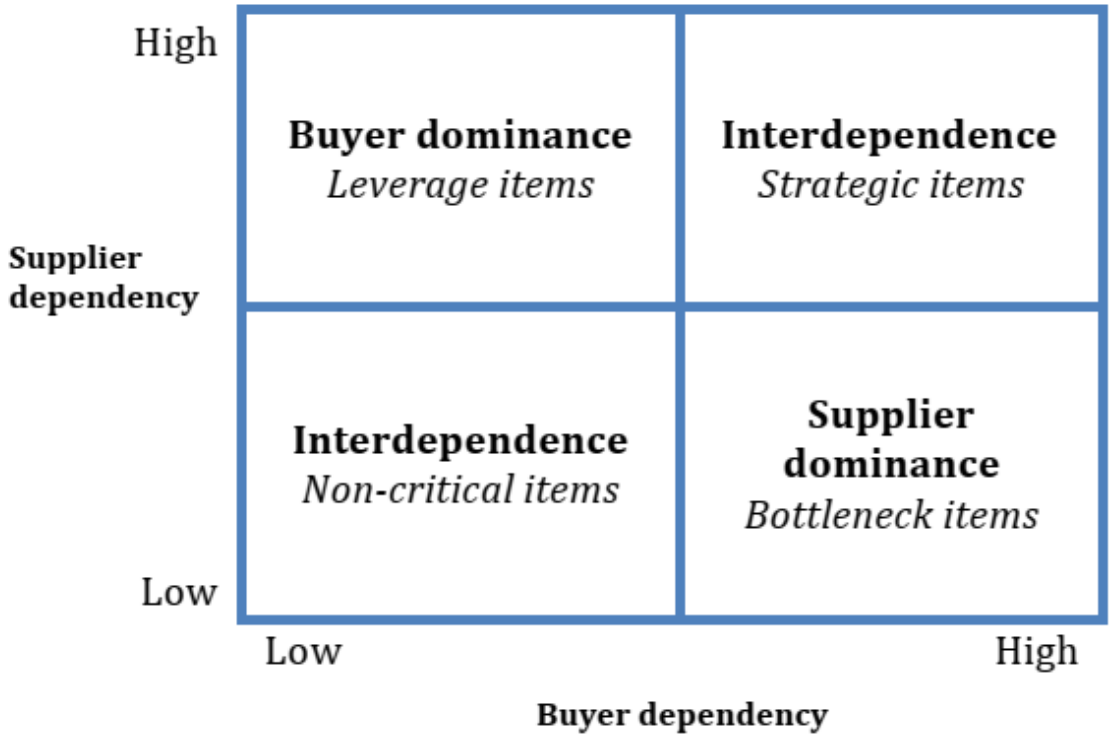
There are five major variables that determine the level of dependency a buyer has on a supplier, and thereby the power the supplier has over the buyer (Böhme et al., 2008):

- **Capabilities/supplier skills** – If the supplier has certain capabilities or skills that are hard to copy or even unique, the buyer-dependency will be high.
- **Switching cost** – If the buyer has made large investments in the relationship with the supplier, the dependency on the supplier will be high.
- **Supplier resources** – Scarce resources could lead to dependencies. If a supplier are in possession of, or has good means to get a scarce resource that the buyer is dependent on, this could lead to dependencies on the supplier.
- **Branding/reputation** – If a buyer prefers or needs a specific brand a dependency on that supplier will arise.
- **Number of alternative suppliers** – If there are only few or none alternative supplier of a specific product or service the dependency on the current supplier will be high.

Another important aspect is the size differences between the two companies. If the buyer is contributing to a very small part of the total revenue stream for the supplier, and there already is a dependency on this supplier, the supplier power will increase even more due to the insignificant role of the buyer.

When a buyer has a high dependency on a supplier for a specific item and the supplier does not have the same dependency on the buyer as a customer, this item is considered a bottleneck item. This is the least suitable scenario for the buyer and can be visualized in the bottom right corner of Figure 3 (Böhme et al., 2008).

Figure 2.3.Power and Dependency Dyadic Relationship Model (Adapted from Böhme et al., 2008)



Source: From the work of (Damlin *et al.*, 2012)

This can be achieved by four different strategies (Böhme et al., 2008):

- **In sourcing** – Buyers try to build or supply themselves to reduce dependency Volume increase – Buyers choose suppliers for sourcing of more products than the bottleneck one in order to change the dynamics of the relationship
- **Global sourcing** – Buyers investigate new potential supplier with from a wider geographical perspective
- **Socialization** – Buyers try to earn trust through socialization in order to reduce the risk of opportunistic behavior. This will not reduce the dependency but can make the situation more bearable for the buyer.

But to think that each relationship with suppliers can be balanced in power is not realistic. Asymmetries have to exist sometimes and that does not necessarily mean that the relationship is

unstable or cannot last. Asymmetries between organizations are more likely to exist than perfect matches and the dependent organization will have to cope with that (Hingley, 2005).

Buyer power instead considers the buying firm's perspective and thus the supplier's dependency. Buyer power derived from supplier dependency most often exists when the buying company holds a high percentage of the supplying company's business or is significant in other ways. Having buyer power implies a higher commercial value of the buying organization and results in a stronger bargaining position when it comes to setting prices and making quality trade-offs (Böhme et al., 2008).

Similar to the supplier power variables, Böhme et al. (2008) mention five supplier dependency variables:

- **Purchasing volume/profit margin** – As mentioned earlier the strongest reason for buyer power comes from the volume they purchase from the same supplying company. Buying a high percentage from the same unit implies a higher power over that supplier and vice versa.
- **Switching cost** – If the supplier has made significant investments in their customer relationship the buyer enjoy a higher buyer power, as the supplier is dependent on their customer to be able to profit from their investments.
- **Branding reputation** – If the customers demand products from a certain company, the suppliers to this company will become dependent on supplying to this particular company.
- **Real-time demand information**- Ownership of data, e.g. customer demand insight, could be practiced to increase a buying company's power over its suppliers.
- Number of alternative customers – If the number of customers is few, the suppliers naturally depend on supplying to this or these few customers.

In a buyer power position the buyer has the ability to dictate the relationship with its suppliers. It can therefore be expected that short-term contracts, reduction of the supplier base, lower level of information exchange, less time on contract negotiation and less time on monitoring relationship performance be the result (Böhme et al., 2008).

However, Böhme et al. (2008) also conclude in a study that surprisingly many suppliers were treated as partnerships, 37 per cent, rather than just as close suppliers or transactional-based suppliers. This implies that despite the buyer's dominant position much focus is still on the relationship and not solely on achieving the best price. This is supported by Hallikas et al. (2005) study of a large Finish OEM company with high power over suppliers, where it is concluded that the investigated relationships are long-lasting and that both parties are strongly committed to the relationship.

In a situation where both supplier dependency and buyer dependency are relatively high the relationship tends to take a completely different shape. This interdependency situation, illustrated in the top right corner of Figure 3, mainly concerns strategic products. In such case the contracts are long-term, information sharing and openness is vital, production is tailored to fit the situation (Böhme et al., 2008) and collaborative practices of risk management and learning is stronger (Hallikas et al., 2005).

Measuring Power

The power structure between two companies will affect the nature of their relationship. Therefore, power will be used as a KPI when measuring the performance of the relationship. As stated in above, power originates from dependencies between the companies. Power is regarded as the inverse of the dependencies meaning that if the supplier is very dependent on the buyer, the buyer will be the one with the power.

It is important to have in mind that large power distance does not automatically mean that the relationship is a bad one. As long as the powerful part of the relationship does not act upon its power a well-working relationship might still be kept. However, it is easier to conduct a well-working relationship between two parties of equal dependency due to the fact that integration between the two companies are more likely to be enabled leading to better supply chain performance (Böhme et al., 2008).

When measuring power, a different scaling will be used than the one for trust. The scale from one to five still remains but in the assessment the rank 3 will stand for power balance. To make it easier to understand the measurement can be referred to as buyer power meaning that a rank 5

will mean that the buyer got all the power and rank 1 will mean that the supplier got all the power.

3. Commitment

Commitment concerns the willingness of the trading partner to put effort in to the buyer-supplier relationship (Mohr and Spekman, 1994). Rangan and Bell (2006) however describes it as a "pledge of continuity and adaptation of a long-term view, with the willingness to make investments and sacrifices to get there". Therefore, it can be seen as a declaration of future intentions to either maintain or improve the relationship.

Mohr and Spekman (1994) suggest that a high level of commitment from both parties involved in the relationship can lead to that both individual as well as joint goals can be reached without increasing the possibility of opportunistic behavior. This is mainly since committed partners will place more effort in balancing short-term problems with long-term goals. It is suggested by Little and Marandi (2003) that relationship commitment is directly related to the duration of the relationship, therefore the longer the relationship, the greater the commitment and or loyalty is. However, Hausman(2001) argues that the long-term endurance of a relationship is a consequence of the strength of the relationship. Rangan and Bell (2006) although suggest that trust between the supplier and buyer stimulates the development of commitment. Therefore, trust can build commitment and in turn commitment lays the foundation for trusting interactions between the two parties.

According to Giannakis (2007) there are three factors that affect the level of commitment: effort, loyalty and length of supplier relationship. Loyalty refers to the attachment and recurrence of interaction with the trading partner, whilst effort refers to the tendency of the associate to maintain the business relationship. Length of the supplier relationship however refers to the length of the contract with the supplier.

Measuring Commitment

Commitment is one of the KPIs, which will be used to measure the performance of the supplier relationship. Several authors (Giannakis, 2007; Autry and Golicic, 2010; Bove and Johnson,

2001) point out that commitment is one of the main factors that contributes to a buyer-supplier relationship and thus can be seen as an important aspect to measure.

The three factors (effort, loyalty and length of supplier relationship) mentioned by Giannakis (2007) will be taken into consideration when measuring the level of commitment. As for the other indicators the scaling will span a ranking from one to five and shows how the buyer/supplier perceives the commitment of the other party. The rank of 5 is the highest level of commitment or; full commitment and adaptability whereas a rank of 1 is no commitment or adaptability. A rank of 3 therefore indicates that the supplier/buyer fulfills a basic effort in regards of commitment to the other party.

4. Transparency/ Information Sharing

Transparency is defined by Cunningham et al. (2003) as the amount of information exchange between supply chain partners. According to Mohr and Spekman (1994) transparency refers to the "extent to which critical, often proprietary, information is shared to one's partner". Hsu et al. (2008) concur with this definition and state that information sharing/transparency can be either tactical (e.g. logistics, purchasing, operations scheduling) or strategic (customer and marketing information, corporate objective, etc.). As stated by Rangan and Bell (2006) a higher level of transparency involves knowing each other's business plans and strategies and if such a foundation is present the parties can engage in a trusting relationship. They further argue that trust and transparency are very interrelated and can't be achieved without one another.

As product lifecycles are continuously decreasing it has become increasingly important for organizations to find alternative ways to deliver and design high--- quality products and services in a timely manner (Hsu et al. 2008). In order to accomplish this, the authors state that it is essential that adequate and sufficient information sharing remain between the two parties. Monczka et al. (2011) reason that transparency of critical information combined with joint efforts is essential to attain both incremental and breakthrough results beyond what each party can achieve. Mohr and Spekman (1994) further argue that closer relationships can result in both more frequent and relevant information exchanges between the two parties. Furthermore, by understanding each other's businesses and by sharing relative information the partners can act independently in preserving the relationship over a longer period (ibid.). Hsu et al. (2008) further

suggest that information sharing can create opportunities for the two parties to work collectively to identify and eliminate inefficiencies in the supply chain, which in turn directly impacts the buyer-supplier relationship. Mohr and Spekman (1994) agree with this and further state that availability of relative information allows employees to perform different tasks in a more efficient way which leads to an increased level of satisfaction and therefore it is an important factor for a successful partnership. Crotts et al. (2001) state that if there is insufficient understanding regarding the factors that promote relationship development it can lead to a premature termination of the buyer-supplier relationship. Therefore, it can be seen that it is essential that both parties understand these factors and inform each other about the most important once in order to build a strong buyer supplier relationship.

Angdal and Nilsson (2010) studies open book accounting, a term that in this case means a policy of high degree of data disclosure in long---term buyer---seller relationships. They argue that another aspect of sharing cost data is that the partner becomes committed to keeping these costs and therefore the behavioral uncertainty is reduced.

Measuring Transparency/Information Sharing

The importance of transparency and information sharing in relation to relationship performance is mentioned by many authors (Rangan and Bell, 2006; Monczka et al., 2011; Cunningham et al., 2003) as an important factor to measure.

As for the other indicators, transparency will be measured on the scale from 1 to 5 where a rank of 5 is full transparency and information sharing, that is, the buyer/supplier shares all information with the other party whether the information is inside or outside of the boundaries of that specific relationship. This deep level of trust can also be called open book accounting. A rank of 1 is the reverse and indicates that there is no transparency or information sharing whilst a rank of 3 indicates that the trading partner only shares the information relevant to that specific relationship.

5. Cooperation

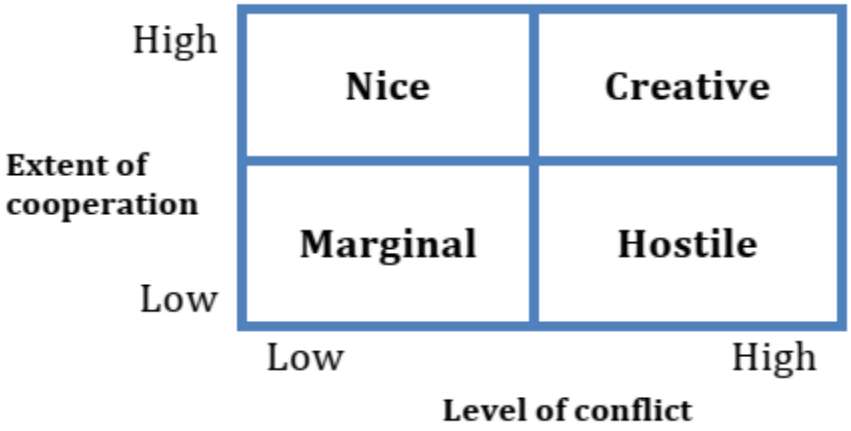
Cooperation is defined by Crotts et al. (2001) as either similar or complementary actions that are taken by both parties within an interdependent buyer-supplier relationship in order to reach singular or mutual objectives. Hardy et al. (2005) although define cooperation as“a cooperative,

inter-organizational relationship in which participants rely on neither market nor hierarchical mechanisms of control to gain cooperation from each other". Rolstadås et al. (1995) state that a buyer---supplier relationship characterized by cooperation comprises exchange of both market-oriented and technical ideas and in some cases even includes adaptations to a product process. They further suggest that cooperation can result in lead-time reduction as well as substantial savings in the material flow. One example of this is when a supplier and a buyer work closely together when introducing new products, which is done to achieve both high quality and low cost production of the product. Crotts et al. (2001) state that the interaction between: cooperation, trust and commitment can result in cooperative behavior which ensures that the relationship is beneficial for both parties involved.

Cousins et al. (2008) suggest that through cooperation, partners are able to profit substantially from rents, which can only be created if the parties work together. They further argue that the ability for an organization to generate these relational rents is dependent to some extent on how effective the supply function is in both leveraging and developing collaborative relationship with the supplier. However, it is essential that conditions are created so that both the buyer and the supplier can develop and contribute to the relationship.

Gadde, Håkansson and Persson (2010) argue that since parties within a buyer-supplier relationship have both shared and conflicting interests it is always characterized by both conflicts and cooperation. They further suggest a 2X2 matrix that describes relationship interaction characteristics in terms of cooperation and conflicts (Figure 4).

Figure 2.4.Relationship Interaction Characteristics in terms of Cooperation and Conflicts (Adapted from Gadde, Håkansson and Persson, 2010)



Source: From the work of (Damlin *et al.*, 2012)

A relationship characterized by low cooperation and high conflict is considered hostile and therefore not expected to last, unless it is considered valuable by one of the parties. However, within a relationship where both cooperation and conflict are low the relationship is considered unimportant for both parties.

Relationships characterized by high degree of cooperation are considered to be the most significant. If conflicts can be managed effectively an increased level of it can improve both product development and innovation. Conflicts can therefore be seen as an essential element in a working relationship. However, if the relationship scores high in cooperation and low in conflict it can be seen as being too "nice" which can imply that the parties place to low demand on each other.

Measuring the Extent of Cooperation

As for the other key performance measurements the extent of cooperation will be measured on the scale from 1 to 5. A ranking of 1 indicates that the cooperation is insufficient whereas a ranking of 5 implies that there is full cooperation between the two parties. A score of 3 implies that the cooperation is on a basic level.

6. Communication

Communication can be seen as the glue that holds the supply chain together (Mohr and Nevin, 1990). According to Mohr and Nevin (1990), communication allows a supplier to improve its performance in accordance to the buyer needs and thus and it is a key factor in the integration with the supply chain. Paiva, Phonlor and D'avila (2008) concur with this and state that since communication allows a supplier to improve its performance to correspond with the need of the buyer it plays an important role in the supply chain. Mohr and Nevin (1990) further suggest that by developing appropriate strategies for communication between the buyer and supplier the risk of problems or conflicts reduces substantially. This is mainly since conflicts are often caused by insufficient communication and therefore lead to misunderstanding between the two parties and mutual feeling of frustration. Moreover, timely and frequent communication between the parties can help to resolve disputes as well as align perceptions and expectations (Morgan and Hunt, 1994). According to Mohr and Spekman (1994) communication quality is the key success factor for any partnership. They further argue that the higher the communication quality is, when measured in terms of accuracy, adequacy, credibility and timeliness, the higher the level of satisfaction is within the buyer-supplier relationship.

Cousins and Menguc (2006) suggest that if communication is more personal and open it can enhance and increase the "prosperity" of the communication itself. They further argue that higher level of interaction and communication strengthens the supplier-buyer relationship which in turn leads to improved performance. Mohr and Spekman (1994) agree with this and reason that honest and open lines of communication are essential for the relationship growth. Furthermore, they state that effective communication between the two parties is essential in order to obtain the benefits of collaboration.

According to Mohr and Nevin (1990), there are four factors that shape the communication integration and intensity between the buyer and supplier, these are: frequency, direction, modality and content.

Frequency- Frequency relates to how often communication occurs and the duration of that contact. Communication is although not considered to be better with increased frequency. This is mainly since both too high and to low frequency can lead to less optimal results in

communication. Too little communication and the efforts in the relationship are not coordinated enough but on the other hand, too much communication and the members of the organization becomes overloaded with information. Therefore, one should not only consider the amount of information exchange but also the amount of information necessary to exchange.

Direction- In communication between organizations the information flow can follow a hierarchical structure and flow from the more powerful organization to the one lower in structure or it can flow freely in both directions. It is often difficult to clearly specify if one organization is more powerful than the other. Therefore Mohr and Nevin (1990) focuses on if the information is "unidirectional", flowing in one direction or if it flows in both directions, "bi-directional". When the information flows in both directions problems in the relationship can usually be discovered earlier and thus can be resolved more easily.

Modality- Modality is the way in which the information is sent between organizations. Mohr and Nevin (1990) suggest that one way to define modality is to categorize the modes as formal or informal. The main difference between these two is that the formal modes have a routine connected to them, whereas the informal does not. The information shared is structured in a specific way and thus there is a predefined way in which the mode or channel should be used. This usually refers to written communication or formal meetings. Informal communication is not structured and is more "spontaneous". This occurs in informal meetings or word-of-mouth contacts.

Content- The actual information being communicated is the content in this case. Mohr and Nevin (1990) have chosen do divide the content in direct or indirect communication. The purpose of direct communication is, to some extent, to alter the behavior of the partner. For instance, by sharing information about sales and inventory a buyer can help the supplier to balance production. The indirect communication has the purpose of changing the behavior of the partner in a more indirect way. Examples of this can be discussions about future strategy. This will not cause a direct change in how the partner works but might change the behavior in a long-term perspective.

Measuring Communication

Communication is regarded by many authors (Mohr and Nevin, 1990; Mohr and Spekman, 1994; Cousins and Menguc, 2006) as one of the main factors that contribute to a high performance buyer-supplier relationship. Therefore, it can be seen as a critical aspect to measure.

The four factors (frequency, modality, direction and content) identified by Mohr and Nevin (1990) will be taken into consideration when measuring communication. These factors are considered to reflect the overall quality of the communication and thus it will be considered from that aspect.

When measuring the level of communication, a rank of 5 represents high quality communication between the two parties whereas a ranking of 1 indicates that the quality is poor. The scaling of 3 therefore implies that the communication is of medium quality.

2.2.9.3. Correlations between KPIs

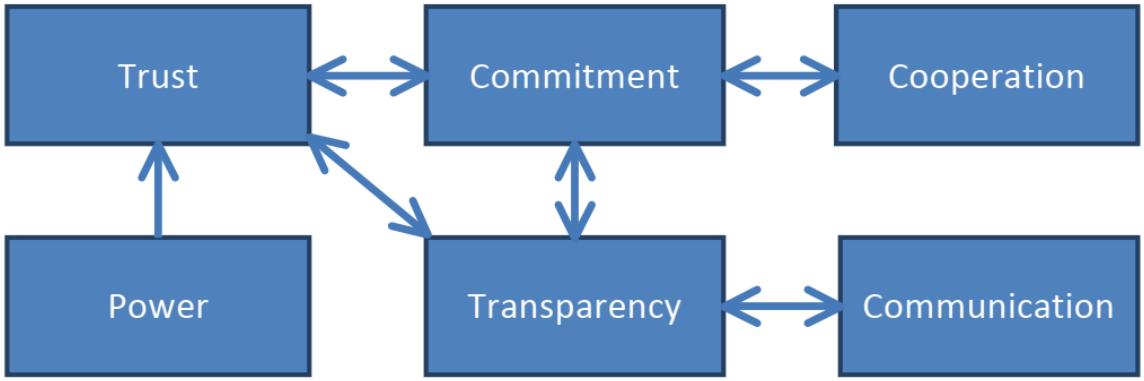
As previously mentioned correlations and interdependencies exist between the different relationships KPIs (Figure 5). Starting off, there is a correlation between trust and power that is rather one-sided. In a relationship where the power distance is large, the trust will be harder to achieve than when there is a power balance. This might be due to the fact that trust is defined as "one party's belief that the other party in the relationship will not act opportunistically and not exploit its vulnerabilities even when such exploitation would not be detected" (Stuart, Verville and Taskin, 2012) and if there are no major vulnerabilities the trust is more likely higher.

Regarding the trust and transparency there is a two-way correlation. If the trust is high the companies are more willing to share information and at the same time if the companies are willing to share information it is more likely that trust between the companies will increase.

Regarding commitment and trust there is the same correlation as above. If the a company shows great commitment the other company is more likely to trust them and if there is trust in the relationship the likelihood of committed companies increases. A similar scenario can be seen between commitment and transparency.

A correlation that is rather self-explanatory is the one between transparency and communication. If the companies share information the quality of communication is more likely to be better since openness exist between the two companies. Also good means for communication could be expected when a lot of information is shared.

Concerning cooperation, the connection with commitment is obvious. Commitment will encourage better cooperation and the more two companies cooperate the likely they are to commit to each other.



Source: From the work of (Damlin *et al.*, 2012)

2.2.9.4. Supplier Performance Management

According to Tan, Kannan and Handfield (1998), measurement of supplier performance is a step in the right direction. Focusing on critical suppliers or suppliers that constitute the largest portion of spending enables a company to identify and manage those performance issues that could have the most immediate and greatest impact on its operations and its perception in the market. However, this narrow focus overlooks lower tier suppliers or suppliers of seemingly non-critical goods and services that can impact an enterprise's cost structure, performance, or customer service (Monczka&Trecha, 1988). Gathering factual, and therefore objective, information about their performance such as lead-times from order, quality standards being met, pricing compliance and whatever else is laid out in the contract. This type of information can usually be obtained from IT systems within the organization in the form of management information. As with all of these aspects, it is good practice to be as consistent as possible in the approach to the performance monitoring (Hervani, Helms, &Sarkis, 2005).

Suppliers should always be asked to continually improve their contract performance Hervani, Helms, & Sarkis, 2005). However, incentives are required for the supplier to reflect improvement in costs or to give more for the same price. Competition and the possible loss of the business may well be an incentive but where the supplier is aware that there is little risk of that (in a genuine sole-source situation for instance) things may be very different. Performance monitoring can be a time-consuming task and so the effort and methods should be proportionate to the value and importance of the contract. Effective methods involve determining the appropriate methods of managing the supply base and different solutions are appropriate for different situations (Tan, Kannan&Handfield, 1998).

2.3. Empirical Literature

Numerous studies have been done on SRM. Samuel (2014) conducted an empirical study on the effect of buyer-supplier partnership on better service delivery within non-governmental organizations involved in humanitarian work, taking the case of World Vision International. Cheung (2011) studied relationship management as a strategy for supply chain engagement in the civil engineering construction industry in Queensland, Australia. Paiva, Phonlor and D'avila (2008) analyzed the influence of the buyer-supplier relationship continuity on service performance among companies that are users of international maritime transport belonging to the machinery and food industries.

Mettler and Rohner (2009) studied supplier relationship management in the context of health care by illustrating the impact of the implementation of SRM principles in a leading Swiss hospital. Locally, Ndambuki (2013) studied the relationship between supply chain integration and supply chain performance of international humanitarian organizations in Kenya. In their study, Ondieki and Oteki (2014) assessed the effect of supplier relationship on the effectiveness of supply chain management practices. However, no local study has focused on supply chain relationship among humanitarian organizations; despite the challenges they get in getting supplies on time due to financing and other constraints, a gap that the present study aims to fill by studying supplier relationship management in humanitarian supply chain at the World Food Program in Somalia.

Rucha & Abdallah (2018) investigated the effect of supplier relationship management on humanitarian supply chain performance at World Food Program in Somalia. They found that

Information Sharing, Multiple Tiers for Value Generation, Knowledge Management, Supplier Performance Management and Information Technology had positive, but statistically insignificant effect on Humanitarian Supply Chain Performance of World Food Program in Somalia.

Nyamoita (2015) conducted a study on the influence of supplier relationship management on supply chain performance in banking industry. The study used Cooperative Bank of Kenya as a case study 168 employees were selected as a sample to conduct this study. Findings of the study showed that the influences of supplier buyer relationship on supply chain performance are trust, communication, power dependence and cooperation.

Lee and Kim (2021) made a study on collaborative communication, information sharing and supply chain performance. A questionnaire was administered to employees of South Korean pharmaceutical companies and 244 valid responses were used for the statistical analysis. Additionally, structural equation modeling was used to measure the relationships between the observed and latent variables. Results of the study indicated that collaborative communication has a positive effect on information sharing. However, information sharing, unlike collaborative communication, does not exhibit a significant positive relationship with supply chain performance. These results indicate that it is important to communicate effectively in the supply chain rather than strive for the right type of information sharing. Consumers and retailers within the supply chain should continue to strive for candid communication. This study is meaningful, as it empirically tests the relationships between collaborative communication, information sharing, and supply chain performance in the South Korean pharmaceutical industry.

Alahmad (2021) made a study about the relationship between SCM practices and supply chain performance in Saudi Arabian Firms. The purpose of this study was to examine the relationship between supply chain management practices (SCMPs) and supply chain performance (SC performance) within different industries in the Kingdom of Saudi Arabia. An empirical study was conducted on a sample of 196 firms; information was collected from the supply chain managers and those in top management in different industries in the Kingdom of Saudi Arabia. In addition to a series of interviews conducted with managers of the supply chains, a theoretical model was developed depicting the relationship between SCMPs and supply chain performance (SC performance). This model was also tested using multiple regression analysis. The research suggests that SCMPs, including supply chain planning (SC planning), level of information

sharing (IS), customer relationship management (CRM), and supplier relationship management (SRM) are all positively related to SC performance. Additionally, SC performance is positively related to Firm Financial Performance (FFP). The research employed perceptual performance measures to gauge return on investment, revenue, and sales.

Ngouapegne and Chinomona (2018) conducted a study on the influence of buyer-supplier trust and buyer-supplier commitment on supply chain relationship longevity in the food retail industry in Gauteng province. The study adopted a quantitative method where a questionnaire was used to collect data from 429 food retailers in the Gauteng province. The study used a convenience sampling technique to select respondents. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were used to analyze the data. The results of the research revealed that buyer-supplier trust and buyer-supplier commitment have a positive influence on supply chain relationship longevity. Based on the results of this study, it can be concluded that to achieve supply relationship longevity business's operators should develop a great relationship based on trust and commitment.

Mushi, Mwaiseje and Changalima(2021)conducted a study about the impact of buyer-supplier relationships on organizational performance: experience from grapes processing industries in Dodoma Region, Tanzania. The buyer-supplier relationships in terms of sharing of information, sharing of knowledge, supplier base reduction and joint problem solving were regressed on the organizational performance to determine the impact of buyer-supplier relationships on the organizational performance. A cross-sectional research design was adopted and data from 100 participants were collected through a questionnaire. A multiple regression analysis was used to analyze the relationship between information sharing, knowledge sharing, supplier base reduction and joint problem solving on organizational performance. Results of the study indicated that information sharing, knowledge sharing and joint problem solving were positively and significantly related to organizational performance. However, supplier base reduction was positive but not statistically significant related to the organizational performance. Hence, the study concludes that buyer-supplier relationships determined the organizational performance of surveyed wine manufacturers in the Dodoma Region. It was recommended that wine manufacturing firms to develop strong mechanisms that may control buyer-supplier relationships. These may be done by strengthening contracts used to engage grapes suppliers

within the region and frequent training to enable farmers to produce high-quality grapes for wine production.

Lutende (2017) conducted a study about the impact of supplier relationship management on supply chain performance in telecommunication industry in case of Tigo. The study found that good management of supplier relationship that exists in the company leads to improved quality of products as the products supplied meet customer's expectations, cost reduction in costs associated with accessing new suppliers, access to new technologies, procurement of new technologies and after sale costs. The study further revealed that for a supplier relationship to be well managed there are techniques that are used to promote good supplier relationships such as two-way communication with suppliers, planning for uncertainty, setting appropriate service levels and understanding value of the supply chain. The study also found that supplier relationship lead to short lead times hence operational efficiency. These results implied that by adopting a collaborative relationship with the suppliers, Tigo Telecommunication Company has been able to improve its performance hence strengthening the company's competitive advantage in the market. This study indicates that practicing supplier relationship management with suppliers contributes to performance of the supply chain and value addition in the supply chain performance.

Minoo (2015) conducted a study on determinants of buyer supplier relationship on procurement performance in supermarkets in Kisii Kenya. It was conducted through a descriptive survey design; the study found that trust, commitment, cooperation and communication are the key determinants required in SRM to influence procurement performance. The study ascertained determinants of procurement performance in SRM in retail industry in Kenya; current study seeks to assess effects of SRM in procurement performance in the telecommunication industry of Tanzania.

2.4. Research Hypotheses

SRM is defined as the longstanding relationship with which to leverage the strategic and operational capabilities of each participating firm so that all involved can enjoy significant benefits (Li et al., 2006; Li et al., 2005). That is to say, a true supplier partnership encourages mutual planning and problem-solving efforts (Gunasekaran, Patel, &Tirtiroglu, 2001). Gandhi et al. (2017) have investigated the impact of supplier management on SC performance; their finding

is that successful supplier management is directly correlated to a higher level of SCP. To achieve effective SRM, coordination is required between the supply chain partners. With this effective coordination, there can then be successful SRM, thereby ensuring a seamless flow between the supplier and the firm; this will, in turn, allow for the right product being available at the right time, resulting in the enhancement of SC performance (Sundram et al., 2011). Thus, the following hypothesis has been claimed:

H_1: Trustrelationship in SRM has positive influence on humanitarian supply chain performance.

H_2: Power relation in SRM has positive influence on humanitarian supply chain performance.

H_3: Commitment has positive influence on humanitarian supply chain performance.

H_4: Cooperation has positive influence on humanitarian supply chain performance.

H_5: Communication has positive influence on humanitarian supply chain performance.

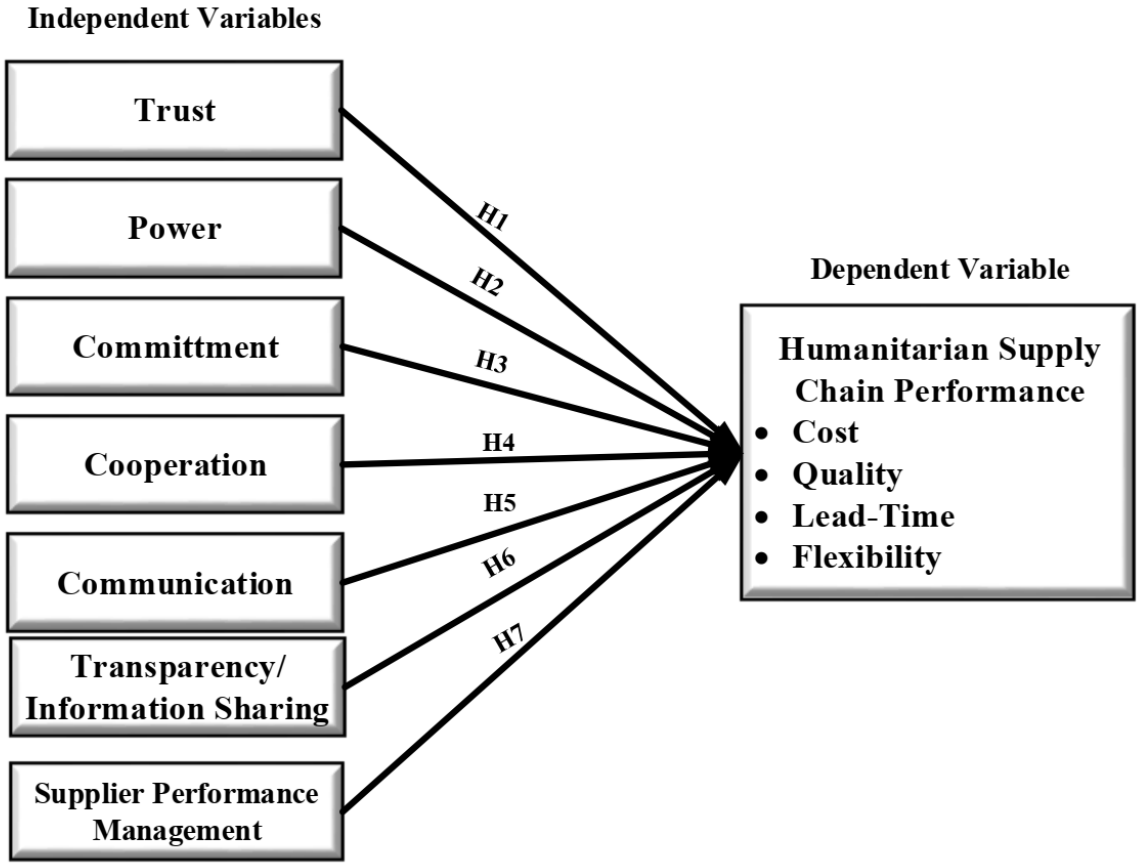
H_6: Transparency/information sharing has positive influence on humanitarian supply chain performance.

H_7: Supplier performance management has positive influence on humanitarian supply chain performance.

2.5. Conceptual Framework of the Study

Based on the overall review of related literatures, the following conceptual framework in which this specific study is governed is developed. It consists of seven independent variables (trust, power, commitment, cooperation, communication, transparency /information sharing and supplier performance management) and HSC performance is the dependent variable. The conceptual framework of the study is depicted in the following diagram.

Figure 2.6. Conceptual Framework of the Study



Source: Developed by the Researcher based on the literatures from Damlin et al., (2012) and Rucha & Abdallah (2018)

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This section elaborates background of the organization, the research approach & design, data type & sources, methods and tools of data analysis, operationalization and measurement of the study variables, ethical considerations and model development & specifications for the variables applied throughout the research.

3.2. Background of the Organization

World Vision Ethiopia began its first intervention in Ethiopia in 1971 with relief and opened the Ethiopia office in 1975. Relief, rehabilitation and small community development projects dominated the decade that followed. During the 1984/85 drought, World Vision Ethiopia participated in a massive relief operation that saved the lives of millions of people. Starting its operation with emergency intervention in some parts of Ethiopia, World Vision currently operates in 57 Area Programs (APs) implementing major programs, such as, education, Water, Sanitation and Hygiene (WASH), nutrition, emergency response, faith and development, food security, economic development, climate change and environment projects and other cross cutting programs (WVI, 2021).

3.3. Research Design

Generally, descriptive survey research design was employed in this study. This is because according to (Lavrakas, 2008) descriptive research designs aim to answer research questions about the current state of affairs, identify factors and relationships among them, and create a detailed quantitative description of phenomena.

Thus, this study aim to answer the research questions about the current state of employees' perceptions/attitudes in WVE towards the supplier relationship management practices of the organization and create a detailed quantitative description in terms of trust, power, commitment, cooperation, communication, transparency/information and supplier performance management.

Lavrakas, (2008) stated that descriptive research because it describes and assesses the magnitude and degree of an existing relationship between two or more continuous quantitative variables with interval or ratio types of measurements or discrete variables with ordinal or nominal type of measurements.

3.4. Research Approach

Mixed research approach was employed in the study, because "Mixed methods" research describes studies that combine both quantitative methods to yield data on effects or impacts and qualitative methods to yield data on the implementation processes and other contextual factors potentially influencing those impacts(Creswell, 2013).The researcher favored approach in order to analyses qualitative and quantitative data with equal emphasis.

3.5. Population of the Study

The target population of this study was employees of WVE working in Addis Ababa Program Co-ordination Office. Currently, WVE has 330 employees in Addis Ababa Program Co-ordination Office and the total populations (employees) of the organization are 1520 as of November 30, 2021 in all APs and Program Co-ordination Offices (Internal Report of WVE, 2021).

3.6. Sampling and Sampling Technique

Yamane (1967:886) provides a simplified formula to calculate sample sizes. Following the formula provided by Yamane (1967), the sample size considered for this study is determined is 317 employees of WVE.

The researcher used non probability sampling particularly purposive sampling technique to determine WVE employees who participated in the study. The researcher used purposive sampling in order to selecting samples on the basis of their knowledge of the research problem.

3.7. Sources of Data

Data collected through a field survey of WVE staff working in Addis Ababa. In conducting this study, the researcher basically make use of primary data types for making analysis & interpretation of the study results. Primary data was collected through self-administered five point Likert-scale (Likert, 1932) questionnaires filled by the existing employees of WVE located

in Addis Ababa. In addition, reliable secondary data also collected from different documents obtained from review of related literatures, previous researches, published journals, internal records of the company, website (internet), relevant books, articles and other available sources.

3.8. Data Collection Instrument and Variables of the Study

The data collection instrument used in this study was close-ended five Point Likert-scale questionnaires to determine the perception of employees towards WVE's supplier relationship management practices. The questionnaire consisted of two parts. The first part was the demographic profile which helped the researcher to identify the participants' gender, age, educational background, work experience and monthly income. The second part consisted of 38 items which helped the researcher to investigate each determinant factor that reflects the perception level of employees towards the WVE's supplier relationship management practices and the level of humanitarian supply service performance in the organization. In the questionnaire items to be completed by the employees to measure the construct dimensions are adopted from previous studies and designed by the researcher using various literatures. The first, second, third, fourth and fifth dimension questions are developed by the researcher based on literatures from various sources. The first dimension, which is trust, is developed from the literatures of Van Weele (2010). The second dimension is power, from the literatures of Hallikas et al., (2005) &Böhme et al.,(2008). The third dimension, which is commitment, from the literatures of Mohr and Spekman (1994) &Giannakis (2007). The fourth dimension is cooperation, from the literatures of Rolstadås et al., (1995) and the fifth dimension, which is communication, from the literatures of Rolstadås et al., (1995). The dimensions that measure transparency/information sharing and supplier performance management questionnaire adopted from (Rucha&Abdallah, 2018). The outcome variable, which is humanitarian supply chain performance, is also adopted from (Rucha& Abdallah, 2018).

The questions are prepared using a five point Likert scale (Likert, 1932). Respondents asked to indicate their level of agreement/disagreement for each of the questions provided. A large amount of researchers uses this methodological instrument, because it is relatively easy for respondents to use, and responses from such a scale are likely to be reliable(Balzan and Baldacchino, 2007); (Lam &Kolic, 2008). After collecting the distributed questionnaires ,the

data gathered edited & carefully checked to eliminate improperly filled questionnaires so that only usable questionnaires were considered for analysis. Next, the data were entered into SPSS software for the analysis purpose. Finally, the data obtained after analysis presented using different statistical tools and models.

3.9. Methods of Data Analysis and Tools

In order to analyze and present the findings of the study, Statistical Package for Social Science (SPSS) software program of version 26 was used. Each response of the respondents coded and fed to the software and analyzed using descriptive statistical analysis techniques like frequency, percentage, mean &standard deviation to summarize & describe the response of participants. From inferential statistical techniques, Pearson correlation and multiple linear regression analysis method were applied.

3.10. Validity and Reliability

3.10.1. Validity

Validity is concerned with how well the concept is defined by the measure. Therefore, this study addresses validity through collecting questionnaires and different documents, the review of literature and adopting instruments developed by well-known authors and also used in the previous researches.

3.10.2. Reliability

The researcher was conduct reliability test to measure the consistency of the study measurement for each item of constructs using Cronbach's Alpha (α) value. The degree to which an instrument measures the same manner each time it is used under the same settings with the same individuals is measured by reliability. Reliability is essentially about consistency (John, 2007).

That is if we measure something many times and the result is the same, then we can say that our measurement instrument is reliable. We can say a measuring instrument is reliable if it provides consistent results (Kothari, 2004). Cronbach's alpha coefficient is the most popular and commonly used technique to estimate reliability or internal consistency of assessments and questionnaires in the behavioral sciences (Kurata H, Nam SH, 2010).

George &Mallery (2003) provide the scale of Cronbach alpha coefficient: >0.9 excellent, =>0.8 Good, =>0.7 Acceptable, =>0.6 questionable and =>0.5 poor. Duffy, and Kilbourne (2001) asserted, Cronbach α measure the consistency with which participants answer items within a scale. Duffy et al. (2001) further stated, a high α (greater than 0.70) indicates that the items within a scale are measuring the same construct. Nunnally (1978) has suggested that score reliability of 0.70 or better is acceptable when used in basic social science research. Based on the results of the reliability analysis, we can conclude the internal consistency. Before conducting the analysis of the research, Cronbach's Alpha (α) was estimated to ensure reliability and consistency of the data instrument.

3.11. Operationalization and Measurement of the Variables

This sub-section identified and operationalized the key variables of the study. The measurement, instrument sources and expected signs of the variables are shown below in table 5.

Table 3.1. Operationalization & Measurement of the Study Variables

S.N	Variables	Expected Signs	Measurement	Instrument Sources	Item No.
1	Trust	+ve	Five point Likert scale	Developed by the reseracher based on literatures from Van Weele (2010)	Items 1-6
2	Power	+ve	Five point Likert scale	Developed by the reseracher based on literatures from Hallikas et al., (2005) &Böhme et al., (2008)	Items 7-9
3	Commitment	+ve	Five point Likert scale	Developed by the reseracher based on literatures from Mohr and Spekman (1994) &Giannakis (2007)	Items 10-12
4	Cooperation	+ve	Five point Likert scale	Developed by the reseracher based on literatures from Rolstadås et al., (1995)	Items 13-15
5	Communication	+ve	Five point Likert scale	Developed by the reseracher based on literatures from Mohr & Nevin (1990) and Cousins &Menguc (2006)	Items 16-19
6	Transparency/Information Sharing	+ve	Five point Likert scale	Adopted from Rucha & Abdallah (2018)	Items 20-24
7	Supplier Performance Management	+ve	Five point Likert scale	Adopted from Rucha & Abdallah (2018)	Items 25-29
8	Humanitarian Supply Chain Performance	+ve	Five point Likert scale	Adopted from Rucha & Abdallah (2018)	Items 30-39

3.12. Ethical Considerations

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

CHAPTER FOUR

4. DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1. Introduction

This chapter deals with data presentation, analysis as well as interpretation of the data collected from the sampled respondents. Statistical tools of descriptive statistics like frequency, percentage, mean, standard deviation and inferential statistics such as correlation & multiple linear regression were used to describe and analyze the collected data with the help of SPSS.

4.2. Questionnaire Response Rate

The study targeted almost 317 respondents and 231 valid questionnaires were returned for the analysis. Accordingly, the response rate for the study was 70%. Hence, the response rate of the study was presented in table 6 below.

Table 4.1. Response Rate of the Study

Response Validity	Frequency	Percentage
Collected/Valid	231	70
Uncollected	86	30
Total	317	100

Source: Researcher's Survey Output (2022)

4.3. Demographic Profile of the Respondents

Under this section the data collected about the general background of the respondents is presented. The demographic information of the respondents' gathered for this study were gender, age, educational qualification, work experience and monthly income of the respondents as presented in Table 4.2 below (for further reference, please see descriptive statistics results at Appendix 1).

From the overall respondents of the survey, 175 (75.8%) were males and 56 (24.2%) were females. This implies that both genders were involved impartially in the study and thus the finding of the study did not suffer from gender bias (Refer to Table 4.2).

Table 4.2. Demographic Profile of the Respondents

Demographic Profile	**Description**	**Frequency**	**Percent**
Gender	Male	175	75.8
	Female	56	24.2
	Total	**231**	**100.0**
Age	20-39 Years	70	30.3
	40-59 Years	161	69.7
	Total	**231**	**100.0**
Educational Qualification	Bachelor's Degree	35	15.2
	Master's Degree	196	84.8
	Total	**231**	**100.0**
Work Experience	1-5 years	77	33.3
	6-10 years	28	12.1
	11-15 years	56	24.2
	Above 15 years	70	30.3
	Total	**231**	**100.0**
Monthly Income	10,000 – 19,999 Birr	14	6.1
	20,000 – 49,999 Birr	140	60.6
	50,000 Birr & above	77	33.3
	Total	**231**	**100.0**

Source: Researcher's Survey Output (2022)

The frequency table result showed that 70 (30.3%) of the respondents belong to age group of 20-39 years and 161 (69.7%) of them belong to 40-59 years of age group. The result showed that even though majority of the respondents belong to between 40-59 years of age group, other age groups are also fairly included in the study.

Regarding educational qualification, 35 (15.2%) of the respondents were bachelor's degree holders and 196 (84.8%) of them were master's degree holders. This indicated that the majority of the respondents can easily comprehend and fill out the questionnaires.

Concerning work experience of the respondents, 77 (33.3%) of them had 1-5 years of work experience, 28 (12.1%) had work experience between 6-10 years, 56 (24.2%) of them had between 11-15 years of work experience and 70 (30.3%) had above 15 years of experience. The result indicated that most of the respondents were at their junior stage of their career.

About their monthly income, 14 (6.1%) of the respondents earned between 10,000-19,999 Birr, 140 (60.6%) of them earned between 20,000-49,999 Birr and 77 (33.3%) of the earned 50,000 Birr & above.

4.4. Scale Reliability Test

As a rough guide, a Cronbach's alpha value of 0.7 and above is seen an acceptable value for Cronbach's alpha and values substantially lower than this threshold indicate an unreliable scale. Accordingly, as indicated in the table 8 below, the Cronbach's alpha coefficients for Trust, Power, Commitment, Cooperation, Communication, Transparency/Information Sharing, Supplier Performance Management and Humanitarian Supply Chain Performance were 0.821, 0.582, 0.763, 0.932, 0.812, 0.737, 0.852 and 0.915 respectively and their internal consistency were reliable since their reliability scale coefficients were above 0.70 except power variable construct and the general internal consistency of the measures used in this study can also be taken as reliable (i.e. 0.955).

Table 4.3. Scale Reliability Statistics Analysis

S.N	Variables of the Study	Cronbach's Alpha Value	No. of Items
1	Trust	.821	6
2	Power	.582	3
3	Commitment	.763	3
4	Cooperation	.932	3
5	Communication	.812	4
6	Transparency/Information Sharing	.737	5
7	Supplier Performance Management	.852	5
8	Humanitarian Supply Chain Performance	.915	10
	Overall Reliability	**.955**	**39**

Source: Researcher's Survey Output (2022)

4.5. Descriptive Statistics Analysis

Descriptive statistics was employed to examine the frequency, percentage, mean & standard deviation of the responses of the respondents.

4.5.1. Descriptive Statistics Results for Trust

Table 4.4. Descriptive Statistics Result for Trust

Descriptive Statistics			
Items	N	Mean (M)	Std. Deviation (SD)
WVE and its suppliers demonstrate trust in all aspects of relationship and keep promises of each other.	231	3.55	.990
WVE follows strict ethical principles and procedures of supply relationship in a consistent and reliable way.	231	4.03	.939
The organization's promises are reliable and fulfill its obligations to its suppliers.	231	4.06	.887
The organization's staff is excellent in supply service delivery.	231	3.88	.592
The organization's staff always makes extra effort to understand suppliers' needs and provides relevant solutions.	231	3.85	.745
The organization's staff possesses excellent supply relationship management skills.	231	3.88	.641
Valid N (listwise)	231		
Overall Mean	**231**	**3.88**	**0.80**

Source: Researcher's Survey Output (2022)

Where the mean for the variable is more than half of the 5-point scale (i.e. >2.5), that the respondent agreed on those factors where the mean for the variables is less than half of the 5-point scale (i.e. <2.5), the respondent disagreed on the factors. According to Creswell (2011), mean value of ≥4.5=Very High, 3.51-4.51=High, 2.51-3.5= Moderate, 1.51-2.5=Low; < 1.5=Very Low.

As indicated in table 4.4, the respondents highly agreed that WVE and its suppliers demonstrated trust in all aspects of relationship and keep promises of each other with a mean and standard deviation values of (M=3.55& SD=0.990). Regarding ethical principles and procedures, the respondents also highly agreed that WVE followed strict ethical principles and procedures of supply relationship in a consistent and reliable way with a mean and standard deviation values of (M=4.03& SD=0.939). Respondents also highly agreed that their organization's promises are reliable and fulfills its obligations to its suppliers with a mean and standard deviation values of (M=4.06 & SD=0.887).

Respondents also highly agreed that their organization's staff were excellent in supply service delivery with a mean and standard deviation values of (M=3.88& SD=0.592).The organization's staff always makes extra effort to understand suppliers' needs and provides relevant solutions (M=3.85& SD=0.745).The organization's staff possesses excellent supply relationship management skills (M=3.88 & SD=0.641).

4.5.2. Descriptive Statistics Results for Power

Table 4.5. Descriptive Statistics Result for Power

Descriptive Statistics			
Items	N	Mean (M)	Std. Deviation (SD)
A stronger collaborative practice of risk management and learning exists between WVE and its suppliers.	231	3.79	.687
Information sharing, openness and long-term contracts are vital for WVE and its suppliers.	231	4.09	.571
WVE suppliers' production/service delivery is tailored to fit the situation and they properly respond to market changes.	231	3.58	.856
Valid N (listwise)	231		
Overall Mean	**231**	**3.82**	**0.70**

Source: Researcher's Survey Output (2022)

As indicated in table 4.5, the respondents highly agreed that stronger collaborative practices of risk management and learning existed between WVE and its suppliers Information sharing, openness and long-term contracts are vital for WVE and its suppliers (M=4.09 & SD=0.571).WVE suppliers' production/service delivery is tailored to fit the situation and they properly respond to market changes (M=3.58 & SD=0.856).

4.5.3. Descriptive Statistics Results for Commitment

Table 4.6. Descriptive Statistics Result for Commitment

Descriptive Statistics			
Items	N	Mean	Std. Deviation
There is high level of commitment between the parties (WVE and its suppliers) that can lead to achievement of both individual as well as joint goals.	231	3.85	.558
WVE always demonstrates full commitment and adaptability towards its suppliers.	231	4.09	.622
The suppliers always demonstrate full commitment and adaptability towards its customer (WVE).	231	3.45	.822
Valid N (listwise)	231		
Overall Mean	**231**	**3.80**	**0.67**

Source: Researcher's Survey Output (2022)

As indicated in table 4.6, the respondents highly agreed that there was high level of commitment between the parties (WVE and its suppliers) that can lead to achievement of both individual as well as joint goals with a mean and standard deviation values of (M=3.85 & SD=0.558).they also highly agreed that WVE always demonstrates full commitment and adaptability towards its suppliers (M=4.09 & SD=0.622).However, they moderately agreed that the suppliers always demonstrate full commitment and adaptability towards its customer (WVE) with a mean and standard deviation values of (M=3.45 & SD=0.822).

4.5.4. Descriptive Statistics Results for Cooperation

Table 4.7. Descriptive Statistics Result for Cooperation

Descriptive Statistics			
	N	Mean	Std. Deviation
There exists buyer-supplier relationship characterized by cooperation that comprises exchange of both market-oriented and technical ideas.	231	3.61	.778
There exists cooperation that can result in lead-time reduction as well as substantial savings in the material flows.	231	3.64	.811
There is full cooperation between WVE and its suppliers.	231	3.67	.767
Valid N (listwise)	231		
Overall Mean	**231**	**3.64**	**0.785**

Source: Researcher's Survey Output (2022)

As shown in table 4.7, the respondents highly agreed that there existed buyer-supplier relationship characterized by cooperation that comprises exchange of both market-oriented and technical ideas with a mean and standard deviation values of (M=3.61& SD=0.778).There existed cooperation that can result in lead-time reduction as well as substantial savings in the material flows (M=3.64 & SD=0.811).There is full cooperation between WVE and its suppliers (M=3.67 & SD=0.767).

4.5.5. Descriptive Statistics Results for Communication

Table 4.8.Descriptive Statistics Result for Communication

Descriptive Statistics			
	N	Mean	Std. Deviation
WVE provides timely and trustworthy information to its suppliers.	231	3.97	.760
Information communicated by WVE is always accurate.	231	3.45	.990
There is higher level of interaction and communication between the two parties.	231	3.70	.872
The information flows between WVE and its suppliers are bi-directional	231	3.82	.627
Valid N (listwise)	231		
Overall Mean	**231**	**3.74**	**0.812**

Source: Researcher's Survey Output (2022)

As shown in table 4.8, the respondents highly agreed that WVE provided timely and trustworthy information to its suppliers with a mean and standard deviation values of (M=3.97 & SD=0.760). There was higher level of interaction and communication between the two parties (M=3.70 & SD=0.872). The information flows between WVE and its suppliers were bi-directional (M=3.82 & SD=0.627). However, they moderately agreed that information communicated by WVE is always accurate with a mean and standard deviation values of (M=3.45 & SD=0.990).

4.5.6. Descriptive Statistics Results for Transparency/Information Sharing

Table 4.9. Descriptive Statistics Result for Transparency/Information Sharing

Descriptive Statistics			
	N	Mean	Std. Deviation
My organization always shares information with suppliers.	231	3.82	.674
My organization has put in place measures for effective information sharing with suppliers.	231	3.73	.618
Our suppliers always inform us in advance when they expect disruptions in supplies.	231	3.21	.809
My organization rewards suppliers who shares information.	231	3.09	.832
At WVE, procurement employees freely interact with our suppliers.	231	3.67	.683
Valid N (listwise)	231		
Overall Mean	**231**	**3.50**	**0.723**

Source: Researcher's Survey Output (2022)

As indicated in table 4.9, the respondents highly agreed that their organization always shares information with suppliers with a mean and standard deviation values of (M=3.82 & SD=0.674).Their organization has put in place measures for effective information sharing with suppliers (M=3.73 & SD=0.618).At WVE, procurement employees freely interact with their suppliers (M=3.67 & SD=0.683).

However, they moderately agreed their suppliers always inform them in advance when they expect disruptions in supplies with a mean and standard deviation values of (M=3.21&SD=0.809).Their organization rewards suppliers who shares information (M=3.09 & SD=0.832).

4.5.7. Descriptive Statistics Results for Supplier Performance Management

Table 4.10. Descriptive Statistics Result for Supplier Performance Management

Descriptive Statistics			
	N	Mean	Std. Deviation
WVE is keen on suppliers of critical commodities.	231	3.97	.675
WVE has put in place mechanisms to evaluate the performance of its suppliers.	231	4.03	.578
WVE has mechanisms to ensure suppliers conform to quality standards.	231	3.85	.823
WVE has mechanisms to ensure suppliers comply with standard prices.	231	3.61	.887
WVE has mechanisms to ensure suppliers conform to lead-time standards.	231	3.61	.921
Valid N (listwise)	231		
Overall Mean	**231**	**3.81**	**0.777**

Source: Researcher's Survey Output (2022)

As presented in table 4.10, the respondents highly agreed that WVE is keen on suppliers of critical commodities with a mean and standard deviation values of (M=3.97 & SD=0.675).WVE has put in place mechanisms to evaluate the performance of its suppliers (M=4.03 & SD=0.578).WVE has mechanisms to ensure suppliers comply with standard prices (M=3.61 & SD=0.887).WVE has mechanisms to ensure suppliers conform to lead-time standards (M=3.61 & SD=0.921).

4.5.8. Descriptive Statistics Results for Humanitarian Supply Chain Performance

As presented in table 4.11, the respondents highly agreed that beneficiaries were satisfied with the quality of the organization's supplies with a mean and standard deviation values of (M=3.61 & SD=0.954).WVE beneficiaries get humanitarian supplies when promised (M=3.52 & SD=0.959).WVE has reduced significantly the cost of delivering humanitarian supplies (M=3.58

& SD=0.741).WVE has adequate warehouses and trucks to timely deliver the supplies to where it is needed (M=3.76 & SD=0.988) and WVE uses versatile equipment (M=3.82 & SD=0.871). However, the respondents moderately agreed that WVE delivers defect free supplies to beneficiaries with a mean and standard deviation values of (M=3.39 & SD=1.129). Their humanitarian supplies reach beneficiaries in time (M=3.30 & SD=1.089).There are no cases of delayed supplies at WVE (M=2.64 & SD=0.981).WVE has greatly minimized the time between the order and the availability of supplies to beneficiaries (M=3.24 & SD=1.018).WVE's suppliers have good flexibility performance (M=3.42 & SD=0.856).But the frequency statistics result showed that above average respondents 126 (54.6%) agreed that there are cases of delayed supplies at WVE.

Table 4.11. Descriptive Statistics Result for Humanitarian Supply Chain Performance

Descriptive Statistics			
	N	Mean	Std. Deviation
WVE delivers defect free supplies to beneficiaries.	231	3.39	1.129
Beneficiaries are satisfied with the quality of the organization's supplies.	231	3.61	.954
Our humanitarian supplies reach beneficiaries in time.	231	3.30	1.089
At WVE, there are no cases of delayed supplies.	231	2.64	.981
WVE beneficiaries get humanitarian supplies when promised.	231	3.52	.959
WVE has reduced significantly the cost of delivering humanitarian supplies.	231	3.58	.741
WVE has greatly minimized the time between the order and the availability of supplies to beneficiaries.	231	3.24	1.018
WVE has adequate warehouses and trucks to timely deliver the supplies to where it is needed.	231	3.76	.988
WVE uses versatile equipment.	231	3.82	.871
WVE's suppliers have good flexibility performance.	231	3.42	.856
Valid N (listwise)	231		
Overall Mean	**231**	**3.43**	**0.959**

Source: Researcher's Survey Output (2022)

4.6. Inferential Statistics Analysis

Regression analysis was performed to evaluate the effect of supplier relationship management on humanitarian supply chain performance at World Vision Ethiopia. Multiple linear regression analysis was made to evaluate the effect between the study variables.

4.6.1. Test for Assumptions of Linear Regression Model/Regression Diagnostics

Before conducting the regression analysis and testing the research hypotheses, regression diagnostic tests were conducted to verify the assumptions of classical linear regression model such as linearity, normality, multi-co-linearity and homoscedasticity tests/assumptions.

4.6.1.1. Linearity Test

The first assumption is linearity, and it is a primary assumption. The assumption of linearity states that conditional means of Y fall in a straight line. Recall that a conditional mean is a mean conditioned on a value of the repressors in the model (Darlington and Hayes, 2017).

The scatter plot of residuals (see Appendix 1) indicates that the points lie in a reasonably straight line from bottom left to top right. Therefore, we can conclude that the assumption of linearity was not violated.

4.6.1.2. Normality Test

The classical normal linear regression model (CNLRM), an extension of CLRM, assumes that the error term (u_i) in the regression model is normally distributed. This assumption is critical if the sample size is relatively small, for the commonly used tests of significance, such as t and F, are based on the normality assumption. It is thus important that to check whether the error term is normally distributed (Gujarati, 2011).

Both kurtosis and skewness are used as measures of deviation from normality. According to (George & Mallery, 2020), kurtosis is a measure of the "peakedness" or the "flatness" of a distribution. A kurtosis value near zero (0) indicates a shape close to normal. A positive value for the kurtosis indicates a distribution more peaked than normal. A negative kurtosis indicates a shape flatter than normal. An extreme negative kurtosis (e.g., < -5.0) indicates a distribution where more of the values are in the tails of the distribution than around the mean. A kurtosis

value between ±1.0 is considered excellent for most psychometric purposes, but a value between ±2.0 is in many cases also acceptable, depending on the particular application.

Skewness measures to what extent a distribution of values deviates from symmetry around the mean. A value of zero (0) represents a symmetric or evenly balanced distribution. A positive skewness indicates a greater number of smaller values (sounds backward, but this is correct). A negative skewness indicates a greater number of larger values. As with kurtosis, a skewness value between ±1.0 is considered excellent for most psychometric purposes, but a value between ±2.0 is in many cases also acceptable, depending on your application (George & Mallery, 2020). The skewness and kurtosis values of all the variables lie between ±2.0. Thus, based on the result (see Table 23 & 24 at Appendix 2), the normality of the distribution was satisfied for this data.

Moreover, the histogram is bell shaped which lead to infer that the residual (disturbance or errors) are normally distributed for the model (look at Appendix 2). The skewness and kurtosis values of the standardized residual are 0.286 and -0.762 respectively, which lie between ±1.0. Thus, we can infer that the assumption of normally distributed error term was not violated.

4.6.1.3. Multi-Co-linearity Test

One of the assumptions of the classical linear regression model (CLRM) is that there is no exact linear relationship among the repressors. If there are one or more such relationships among the repressors, we call it multi-co-linearity or co-linearity, for short (Gujarati, 2011). Multi-co-linearity will occur if some or all of the independent variables are highly correlated with one another. It shows the regression model has difficulty in explaining which independent variables are affecting the dependent variable (Brooks, 2008).

Multi-co-linearity can be tested either from correlation coefficient results or from the Value of Tolerance and VIF. According to Sekaran and Bougie (2016), the acceptable value of tolerance and Variance Inflation Factor (VIF) is above 0.10 and below 10 respectively.

As we can see from table 4.12, the Tolerance Values for Trust, Power, Commitment, Cooperation, Communication, Transparency/Information Sharing and Supplier Performance Management were above the tolerance threshold of 0.10 (0.284, 0.347, 0.402, 0.516, 0.467, 0.586 and 0.444) of the variables respectively and the VIF values (3.526, 2.880, 2.484, 1.938,

2.143, 1.707 and 2.250) were also below the threshold of 10. Therefore, we can conclude that there was no co- linearity issue between the independent variables.

Table 4.12.Co-linearity Diagnosis

Coefficients			
Model		Co-linearity Statistics	
		Tolerance	VIF
1	Trust	.284	3.526
	Power	.347	2.880
	Commitment	.402	2.484
	Cooperation	.516	1.938
	Communication	.467	2.143
	Transparency/Information Sharing	.586	1.707
	Supplier Performance Management	.444	2.250
a. Dependent Variable: Humanitarian Supply Chain Performance			

Source: Researcher's Survey Output (2022)

4.6.2. Test of Homoscedasticity

One of the key classical assumptions of regression is that the variance of the errors is constant across observations. If the errors have constant variance, the errors are called homoscedastic. The possible existence of heteroscedasticity is a major concern in the application of regression analysis, including the analysis of variance, because the presence of heteroscedasticity can invalidate statistical tests of significance that assume that the modeling errors are uncorrelated and normally distributed and that their variances do not vary with the effects being modeled (Gujarati, 2004).

One of the main assumptions for the ordinary least squares regression is the homogeneity of variance of the residuals. If the model is well-fitted, there should be no pattern to the residuals plotted against the fitted values. If the variance of the residuals is non-constant, then the residual variance is said to be "heteroscedastic".

The standard suggestion for examining the assumption of heteroscedasticity in regression analysis is to plot the predicted variable values against the residual values. Heteroscedasticity is indicated when these values spread or fan out from left to right or right to left. The graph of ZRESID[1] and ZPRED[2] should look like a random array of dots evenly dispersed around zero. If this graph funnels out, then the chances are that there is heteroscedasticity in the data. If there is any sort of curve in this graph, then the chances are that the data have broken the assumption of linearity (Field, 2005). Thus, the scatter plot shows that majority of the points are concentrated around 0 which shows that no violation of homoscedasticity (see Appendix 3).

4.6.3. Regression Analysis

4.6.3.1. Model Summary

After testing all the relevant classical linear regression model assumptions for the data used, the researcher conducted the regression model analysis to predict the effect of the independent variables (supplier relationship management) on the dependent variable (humanitarian supply chain performance).

According to (George & Mallery, 2020), multiple coefficient of determination(R square) is the proportion of variance in the dependent (or criterion) variable that is explained by the combined influence of two or more independent (or predictor) variables. R^2 is the most commonly used measure of the overall effect size of the independent or predictor variables on the dependent variable.

[1]ZRESID (the standardized residuals, or errors). These values are the standardized differences between the observed data and the values that the model predicts).

[2]ZPRED (the standardized predicted values of the dependent variable based on the model). These values are standardized forms of the values predicted by the model.

Table 4.13. Model Summary

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829[a]	.687	.678	.41183
a. Predictors: (Constant), Supplier Performance Management, Cooperation, Commitment , Transparency/Information Sharing, Communication, Power, Trust				
b. Dependent Variable: Humanitarian Supply Chain Performance				

Source: Researcher's Survey Output (2022)

Based on table 4.13 of the model summary result, 68.7% of the variation accounted for the dependent variable (humanitarian supply chain performance) is due to the combined effect of the mentioned independent variables of supplier's relationship management. The remaining 31.3% was due to other factors (i.e. extraneous variables and random errors). But, sometimes R^2 tends to somewhat over-estimate the success of the model when applied to real world. Therefore, to see the success of our model in the real world, adjusted R^2 is more preferable than R^2.

R^2 change represents the unique contribution of a new variable added to the regression equation. It is calculated by simply subtracting the R^2 value for the given line from the R^2 value of the previous line (George & Mallery, 2020). Therefore, the variation explained by the regression of all the predictor variables on humanitarian supply chain performance is 67.8%.

Analysis of Variance (ANOVA), the regression coefficients (Beta coefficients) and the p-values for the significant relationships were presented and reported here under. Each of the proposed hypotheses were also empirically tested and discussed here under.

4.6.3.3. Analysis of Variance (ANOVA) or F-Test

As it was shown in the ANOVA table (Table 4.14), the p-value of 0.000 for the model was less than 0.05 significant level. This indicates that the sample data provides sufficient evidence to conclude that the regression model was well fit. In other words, the p-value (0.000) was highly significant and can be concluded that supplier's relationship management can predict humanitarian supply chain performance significantly.

Table 4.14. Analysis of Variance (ANOVA)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83.176	7	11.882	70.057	.000[b]
	Residual	37.823	223	.170		
	Total	120.998	230			
a. Dependent Variable: Humanitarian Supply Chain Performance						
b. Predictors: (Constant), Supplier Performance Management, Cooperation, Commitment , Transparency/Information Sharing, Communication, Power, Trust						

Source: Researcher's Survey Output (2022)

4.6.3.4. Coefficients of the Variables

The regression coefficient result of the model showed that trust had statistically positive and significant effect on humanitarian supply chain performance as the critical p-value was below 0.05, which was (β=0.388, p=0.000< 0.05[3]) as shown in Table 4.15. The positive effect of trust on humanitarian supply chain performance implied that if there is an increase on trust, there will be an increase in humanitarian supply chain performance. In other words, the regression coefficient of 0.388 indicated that a percent/unit change in trust will lead to approximately 38.8% (≈39%) increase in the level of humanitarian supply chain performance (see table 21).

[3]Social scientists have generally accepted that if the p value is less than .05 then the result is considered statistically significant. A significance less than .05 (p < .05) means that there is less than a 5% probability this relationship occurred by chance (George &Mallery, 2020).

Table 4.15.Coefficients of Variables

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.515	.253		-5.994	.000
	Trust	.388	.086	.316	4.496	.000
	Power	.101	.087	.073	1.156	.249
	Commitment	.235	.077	.181	3.065	.002
	Cooperation	.187	.051	.190	3.651	.000
	Communication	.116	.060	.105	1.922	.056
	Transparency/ Information Sharing	.255	.070	.179	3.650	.000
	Supplier Performance Management	.040	.065	.034	.608	.544
a. Dependent Variable: Humanitarian Supply Chain Performance						

Source: Researcher's Survey Output (2022)

The regression coefficient result of the model showed that power had positive but statistically insignificant effect on humanitarian supply chain performance as the critical p-value was above 0.05, which was p=0.249 > 0.05 (see Table 21). This means that though power and humanitarian supply chain performance affect each other positively, their relationship was rather statistically insignificant.

Commitment had statistically positive and significant effect on humanitarian supply chain performance as the critical p-value was below 0.05, which was (β=0.235, p=0.000< 0.05) as shown in Table 4.15. The positive effect of cooperation on humanitarian supply chain performance implied that if there is an increase on commitment, there will be an increase in humanitarian supply chain performance. In other words, the regression coefficient of 0.235 indicated that a percent/unit change in commitment will lead to approximately 23.5% increase in the level of humanitarian supply chain performance.

Cooperation had statistically positive and significant effect on humanitarian supply chain performance as the critical p-value was below 0.05, which was (β=0.187, p=0.002< 0.05) as shown in Table 4.15. The positive effect of commitment on humanitarian supply chain performance implied that if there is an increase on commitment, there will be an increase in humanitarian supply chain performance. In other words, the regression coefficient of 0.187 indicated that a percent/unit change in cooperation will lead to approximately 18.7% (≈19%) increase in the level of humanitarian supply chain performance.

The regression coefficient result of the model showed that communication had positive but statistically insignificant effect on humanitarian supply chain performance as the critical p-value was above 0.05, which was p=0.056 > 0.05 (see Table 21). This means that though communication and humanitarian supply chain performance affect each other positively, their relationship was rather statistically insignificant.

Transparency/information sharing had statistically positive and significant effect on humanitarian supply chain performance as the critical p-value was below 0.05, which was (β=0.255, p=0.000< 0.05) as shown in Table 4.15. The positive effect of transparency/information sharing on humanitarian supply chain performance implied that if there is an increase on transparency/information sharing, there will be an increase in humanitarian supply chain performance. In other words, the regression coefficient of 0.255indicated that a percent/unit change in transparency/information sharing will lead to approximately 25.5% increase in the level of humanitarian supply chain performance.

Supplier performance management had positive but statistically insignificant effect on humanitarian supply chain performance as the critical p-value was above 0.05, which was p=0.544 > 0.05 (see Table 4.15). This means that though supplier performance management and supplier relationship management affect each other positively, their relationship was rather statistically insignificant.

4.7. Discussion of Results

The study result indicated that the effect of trust on humanitarian supply chain performance was positive and statistically significant. This appears to suggest that WVE should consider the supplier relationship management dimension of trust as it was positively & significantly correlated with the humanitarian supply chain performance. Thus, the study result supported hypothesis 1 (H_1) and the researcher accepted the hypothesis. It is, therefore, in agreement with the findings of Nyamoita, (2015), Minoo (2015) and Ngouapegne and Chinomona (2018).

Similarly, power had positively but statistically insignificant effect on humanitarian supply chain performance level of WVE. Hypothesis 2 (H_2) stated that power relation in SRM has positive influence on humanitarian supply chain performance. Moreover, the study result indicated that the effect of commitment on humanitarian supply chain performance was positive and statistically significant. This appears to suggest that WVE should consider the supplier relationship management dimension of commitment as it was positively & significantly correlated with the humanitarian supply chain performance. Thus, the study result supported hypothesis 3 (H_3) and the researcher accepted the hypothesis. It is, therefore, in agreement with the findings of Minoo (2015) and Ngouapegne and Chinomona (2018).

Furthermore**,** the study result indicated that the effect of cooperation on humanitarian supply chain performance was positive and statistically significant. This appears to suggest that WVE should consider the supplier relationship management dimension of cooperation as it was positively & significantly correlated with the humanitarian supply chain performance. Thus, the study result supported hypothesis 4 (H_4) and the researcher accepted the hypothesis. It is, therefore, in agreement with the earlier findings of Nyamoita (2015) and Lutende (2017).

In addition, Communication had positively but statistically insignificant effect on humanitarian supply chain performance level of WVE. Hypothesis 5 (H_5) stated that communication has positive influence on humanitarian supply chain performance.

Besides, the study result indicated that the effect of transparency/information sharing on humanitarian supply chain performance was positive and statistically significant. This appears to suggest that WVE should consider the supplier relationship management dimension of transparency/information sharing as it was positively & significantly correlated with the

humanitarian supply chain performance. Thus, the study result supported hypothesis 6 (H_6) and the researcher accepted the hypothesis. It is, therefore, in agreement with the earlier findings of Alahmad (2021) and Mushi, Mwaiseje and Changalima(2021).

Finally**,** supplier performance management had positively but statistically insignificant effect on humanitarian supply chain performance level of WVE. Hypothesis 7 (H_7) stated that supplier performance management has positive influence on humanitarian supply chain performance. Therefore, the researcher rejected hypothesis seven. This shows that the current finding agreed with the earlier findings of Rucha & Abdallah (2018).

4.8. Testing the Research Hypotheses

This section presents research hypotheses tests and the result of the test was presented in table 4.16. below.

Table 4.16. Summary of Hypotheses

	Hypotheses	**Decision/Result**
H_1	Trust relationship in SRM has positive influence on humanitarian supply chain performance.	Accepted
H_2	Power relation in SRM has positive influence on humanitarian supply chain performance.	Rejected
H_3	Commitment has positive influence on humanitarian supply chain performance.	Accepted
H_4	Cooperation has positive influence on humanitarian supply chain performance.	Accepted
H_5	Communication has positive influence on humanitarian supply chain performance.	Rejected
H_6	Transparency/information sharing has positive influence on humanitarian supply chain performance.	Accepted
H_7	Supplier performance management has positive influence on humanitarian supply chain performance.	Rejected

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Introduction

This chapter outlines brief summary and conclusion of the study in accordance with the study results and forward recommendations based on the overall results of the study.

5.2. Summary of the Study Findings

After going through the analysis and interpretation obtained from the questionnaire, the researcher comes up with the following summarized findings: -

- Trust has high degree of positive significant correlation with power, commitment, cooperation, communication, supplier performance management and humanitarian supply chain performance and moderate level of positive significant correlation with transparency/information sharing.
- Power has high degree of positive significant correlation with commitment, cooperation, communication, supplier performance management and humanitarian supply chain performance and moderate level of positive significant correlation with transparency/information sharing.
- Commitment has high degree of positive significant correlation with communication and humanitarian supply chain performance and moderate level of positive significant correlation with cooperation, transparency/information sharing and supplier performance management.
- Cooperation has high degree of positive significant correlation with humanitarian supply chain performance and moderate level of positive significant correlation with communication and supplier performance management. However, cooperation has no significant correlation with transparency/information sharing.
- Communication has high degree of positive significant correlation with supplier performance management and humanitarian supply chain performance and moderate level of positive significant correlation with transparency/information sharing.

- Transparency/information sharing has high degree of positive significant correlation with supplier performance management and moderate level of positive significant correlation with humanitarian supply chain performance.
- Supplier performance management has high degree of positive significant correlation with humanitarian supply chain performance.
- Trust had statistically positive and significant effect on humanitarian supply chain performance of WVE.
- Power had positively but statistically insignificant effect on humanitarian supply chain performance of WVE.
- Commitment had statistically positive and significant effect on humanitarian supply chain performance of WVE.
- Cooperation had statistically positive and significant effect on humanitarian supply chain performance of WVE.
- Communication had positively but statistically insignificant effect on humanitarian supply chain performance of WVE.
- Transparency/information sharing had statistically positive and significant effect on humanitarian supply chain performance of WVE.
- Supplier performance management had positively but statistically insignificant effect on humanitarian supply chain performance of WVE.

5.3. Conclusions

All the explanatory variables (i.e. trust, power, commitment, cooperation, communication and supplier performance management) had high level of positive significant correlation with humanitarian supply chain performance of WVE except transparency/information sharing which had moderate level of positive significant correlation with humanitarian supply chain performance.

The study result indicated that trust, commitment, cooperation and transparency/information sharing had statistically positive and significant effect on humanitarian supply chain performance of WVE. Whereas, power, communication and supplier performance management had positive but statistically insignificant effect on humanitarian supply chain performance of WVE.

5.4. Recommendations

The researcher forwarded the following recommendations based on the study's findings, which were anticipated to improve WVE's humanitarian supply chain performance.

- ❖ WVE should give due attention for the supply relationship influencing factors which are trust, commitment, cooperation and transparency/information sharing in an effort to improve its humanitarian supply chain performance.
- ❖ The study recommends that future research should include more NGOs so that the findings could be more generally applicable to the entire NGOs.

5.5. Suggestions for Future Studies

This research has clearly shown that supplier relationship factors jointly have a significant influence on humanitarian supply chain performance of WVE. This means that, NGOs aiming at building and maintaining long term supply relationships with their stakeholders give special attention particularly to trust, commitment, cooperation and transparency/information sharing.

This study was however limited to only WVE at Addis Ababa Program Co-ordination Office within Ethiopia even though there are about numerous NGOs with different Area Programs and Co-ordination Offices all over the country. The study recommends that future research should include more NGOs so that the findings could be more generally applicable to the entire NGOs.

Future research on the topic could go beyond NGOs and look at other organizations such as governmental and private sector organizations. This study assessed the effect of supplier relationship management on humanitarian supply chain performance in the case of NGO but within the Ethiopian context. Therefore, future research could extend this study to cover other African countries in order to explore the extent of supply relationship management practice in other NGOs and how it impacts humanitarian supply chain performance due to differences in macro environmental factors and supply chain behaviors.

Overall, this study provides a useful and practical model that can be used by program/project managers to develop SRM strategies aimed at not only satisfying their stakeholders but also ensuring the long-term sustainability of their development programs.

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Appendixes

Appendix 1: Probability-Probability (P-P) Plot of the Standardized Residual

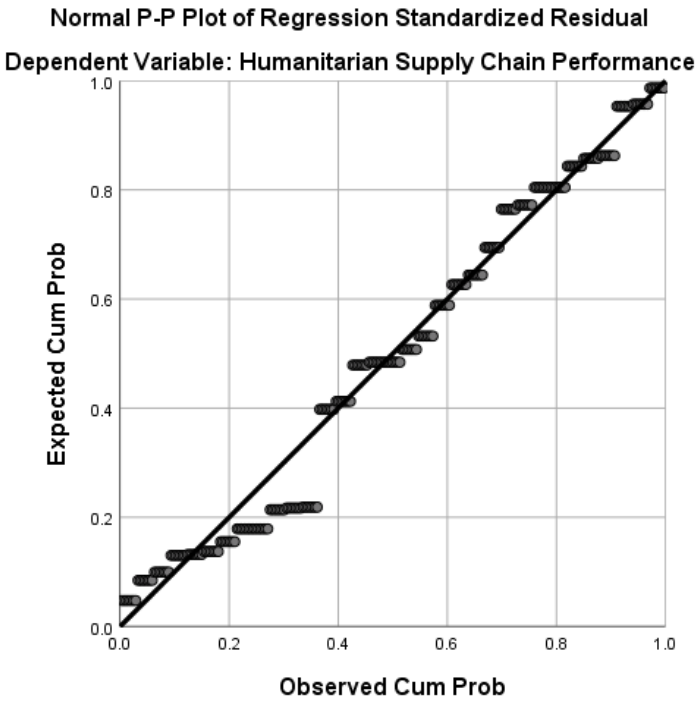


Figure 1: Probability-Probability (P-P) Plot of the Standardized Residual

Appendix 2: Frequency Distribution of Standardized Residual

Figure 2: Frequency Distribution of Standardized Residual

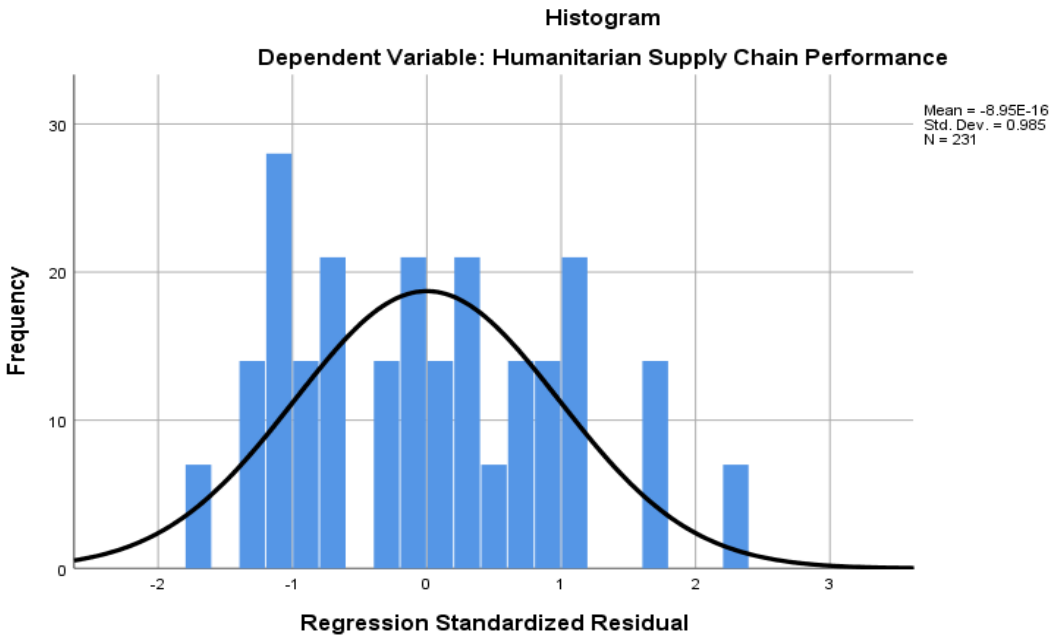


Table 1: Skewness-Kurtosis for Normality Test (Standardized Residual)

Descriptive				
			Statistic	Std. Error
Standardized Residual	Mean		.0000000	.06478620
	95% Confidence Interval for Mean	Lower Bound	-.1276503	
		Upper Bound	.1276503	
	5% Trimmed Mean		-.0258362	
	Median		-.0397592	
	Variance		.970	
	Std. Deviation		.98466503	
	Minimum		-1.67089	
	Maximum		2.21666	
	Range		3.88755	
	Interquartile Range		1.66585	
	Skewness		.286	.160
	Kurtosis		-.762	.319

Table 2: Skewness-Kurtosis for Normality Test (Descriptive Statistics)

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Trust	231	.043	.160	-.388	.319
Power	231	.154	.160	.185	.319
Commitment	231	-.601	.160	.600	.319
Cooperation	231	-.991	.160	.864	.319
Communication	231	-.539	.160	.546	.319
Transparency/Information Sharing	231	-.287	.160	-.385	.319
Supplier Performance Management	231	.440	.160	-.503	.319
Humanitarian Supply Chain Performance	231	.162	.160	-1.017	.319
Valid N (listwise)	231				

Appendix 3: Scatter Plot

Figure 3: Scatter Plots of Regression Standardized Residual against Standardized Predicted Value

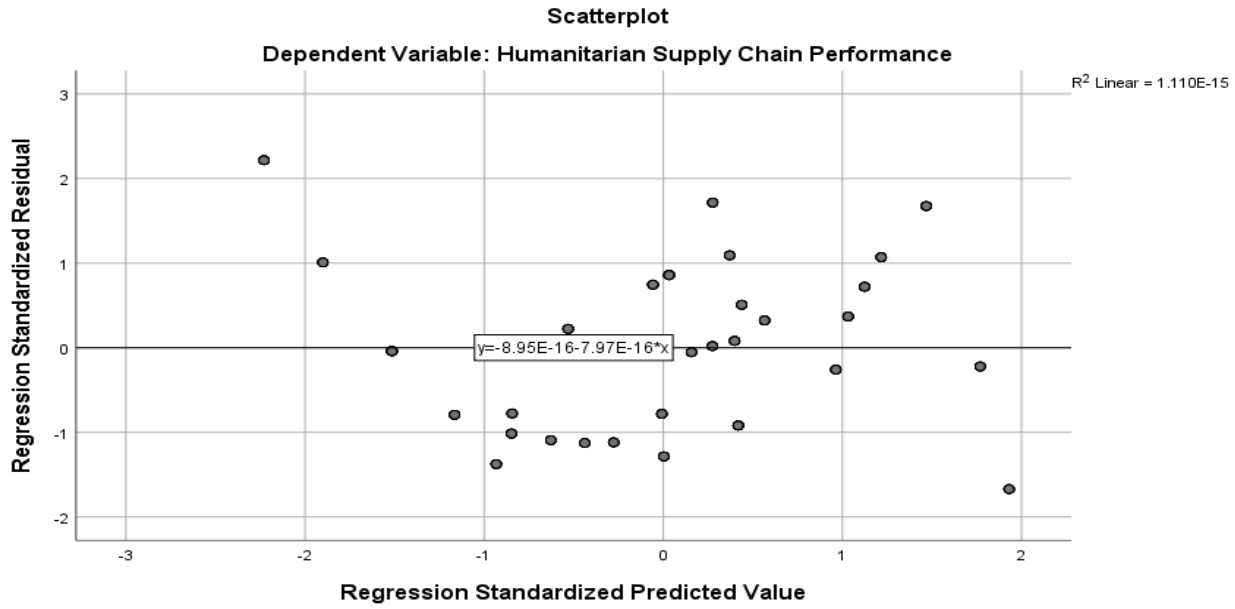


Figure 4: Partial Regression Plot (1)

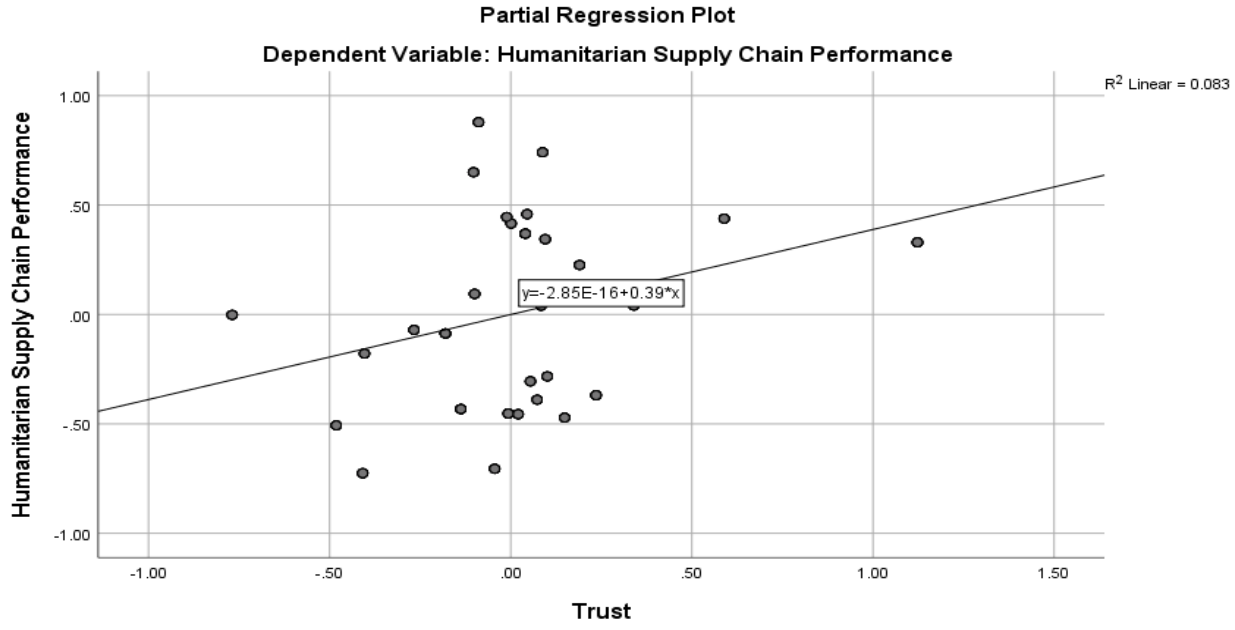


Figure 5: Partial Regression Plot (2)

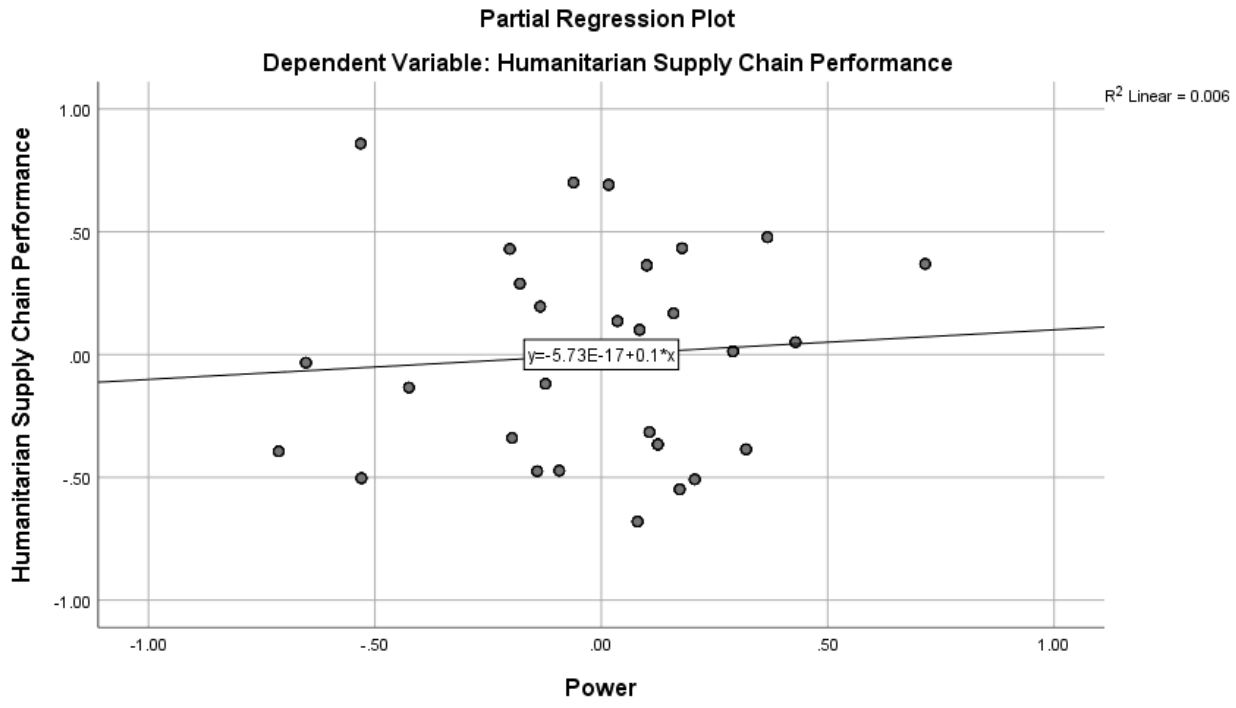


Figure 6: Partial Regression Plot (3)

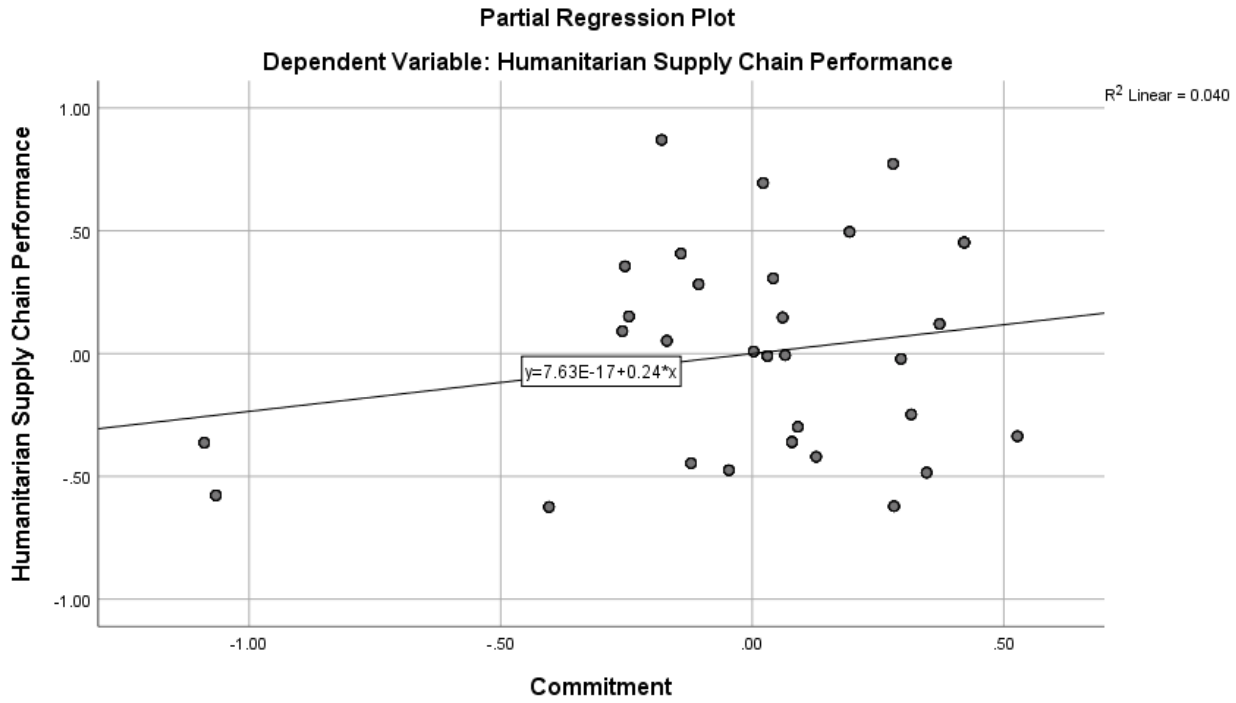


Figure 7: Partial Regression Plot (4)

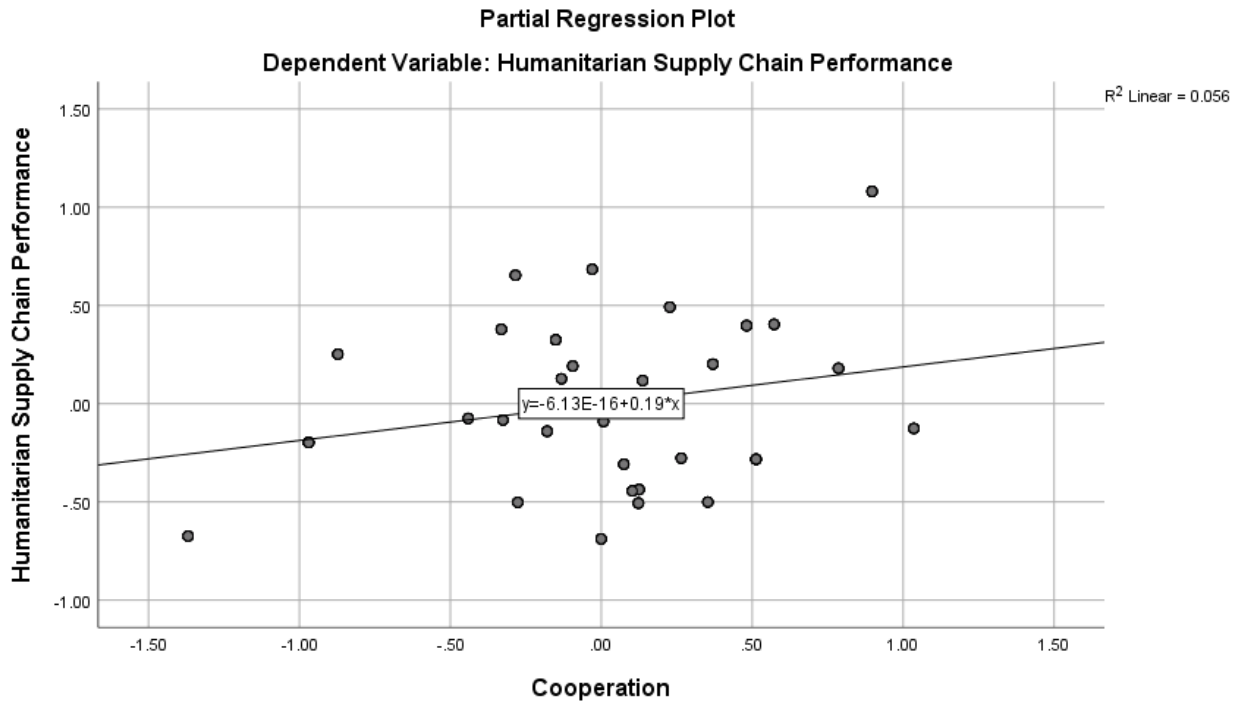


Figure 8: Partial Regression Plot (5)

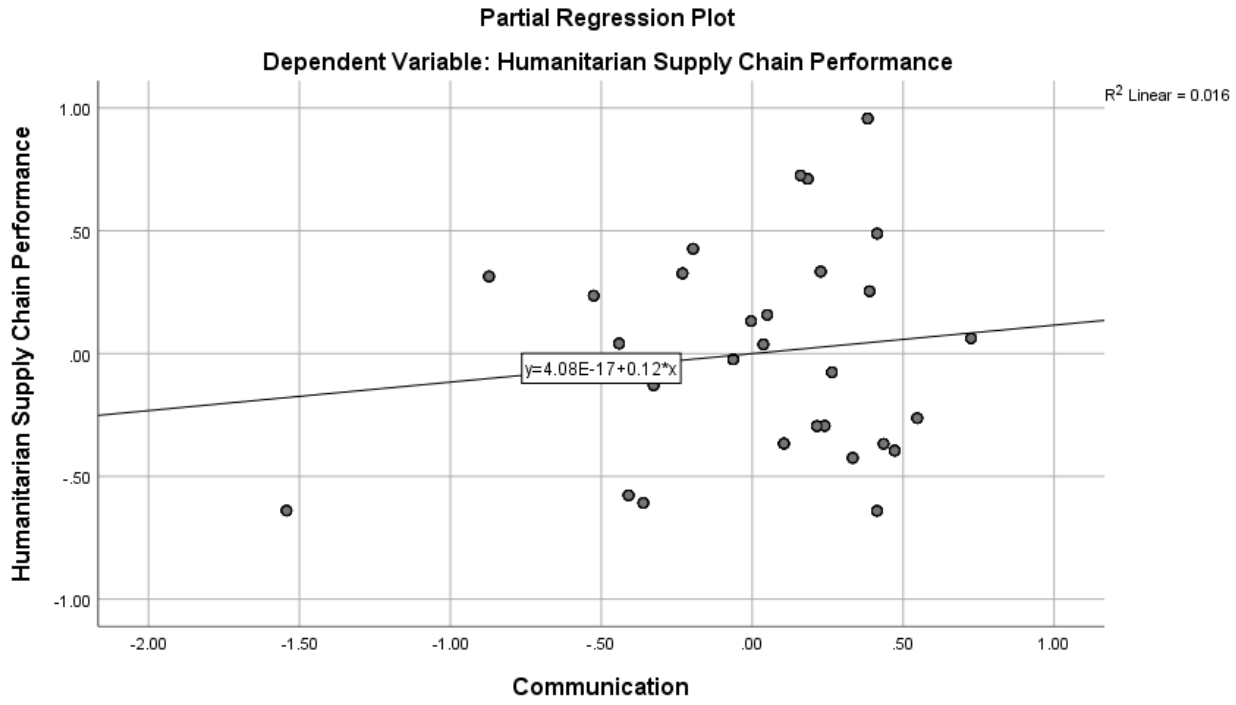


Figure 9: Partial Regression Plot (6)

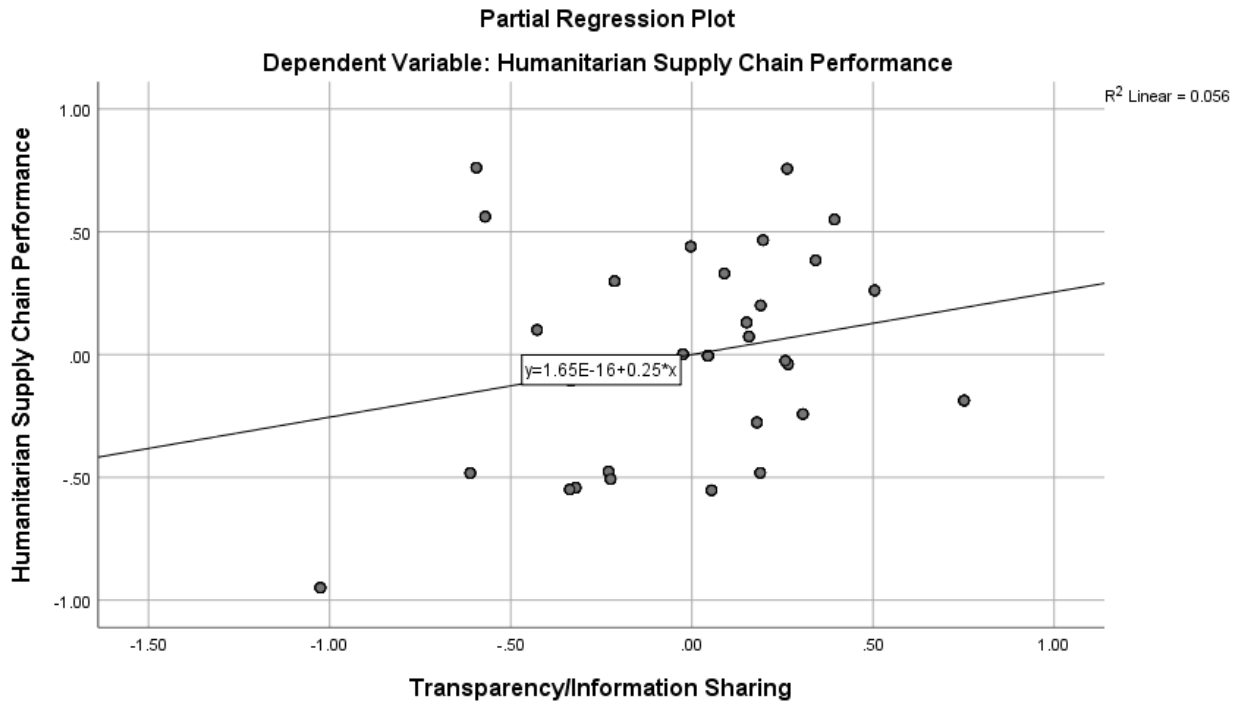
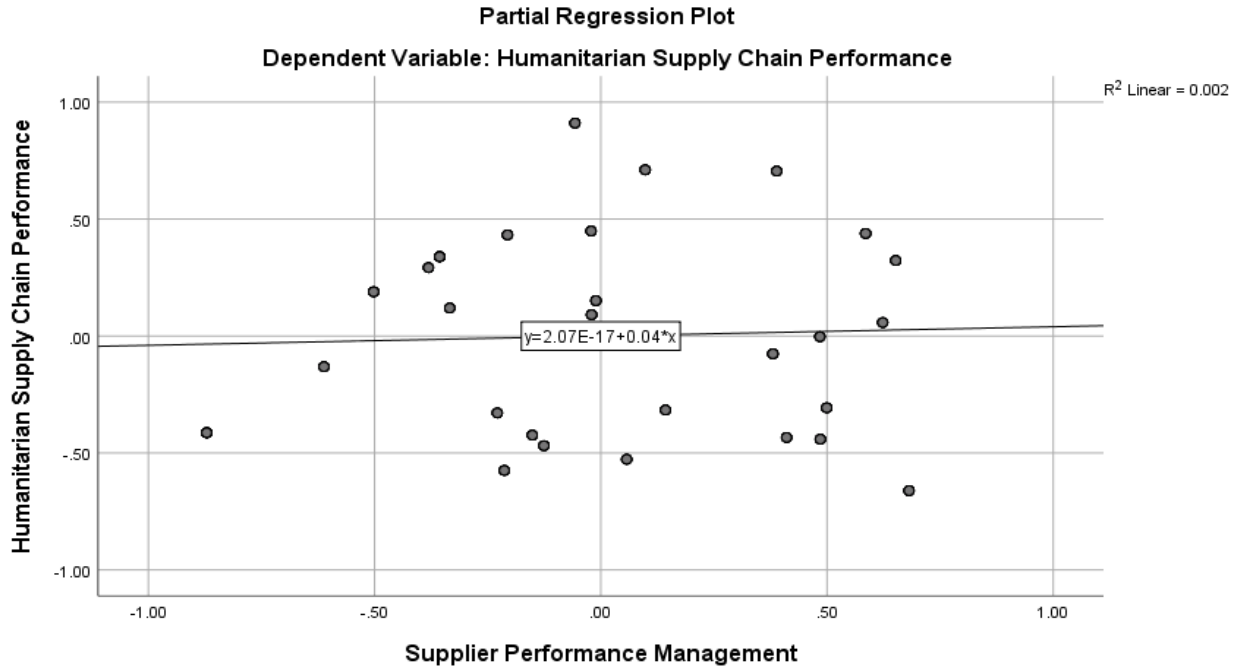


Figure 10: Partial Regression Plot (7)



Appendix 4: Questionnaire

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

Dear Respondents:

I would like to express my earnest appreciation for your generous time, honest and prompt response. This thesis entitled ***"The Effect of Supplier Relationship Management on Humanitarian Supply Chain Performance at World Vision Ethiopia***" The researcher is Meseret Lemma who is currently a master student in Logistic and Supply Chain Management at Addis Ababa University.

The research is aimed at investigating whether the practice of supplier relationship management in World Vision Ethiopia necessarily lead to humanitarian supply chain performance and improved humanitarian supply service performance. As a result, the effectiveness of the research is highly dependent on your contribution of providing accurate & reliable data. Information gathered will be treated with utmost confidentiality and will not be used for any other purpose (the secrecy of the information you provide is strictly protected). Please, note that participation in this research is entirely voluntary.

For further information, please contact Meseret Lemma @ +251913266567

Section I: Demographic Profile

INSTRUCTION: This part of the questionnaire asks your personal information. Please, respond to each question by putting a tick (✓) mark in the appropriate box that represents your personal profile.

1. **Gender**

   ☐ Male ☐ Female

2. **Age**

   ☐ Below 20 years ☐ 20-39 Years ☐ 40-59 years ☐ 60years and above

3. **Educational Qualification**

   ☐ Certificate ☐ Diploma ☐ Bachelor's Degree

   ☐ Master's Degree ☐ PhD. above

4. **Work Experience in World Vision Ethiopia (WVE)**

   ☐ Below 1 year ☐ 1-5 years ☐ 6-10 years

   ☐ 11-15 years above 15 years ☐

5. **Monthly Income**

   ☐ Below 1,000 Birr ☐ 1,000 – 4,999 Birr ☐ 5,000 – 9,999 Birr

   ☐ 10,000 –19,999 Birr ☐ 20,000 – 49,999 Birr ☐ 50,000 Birr & above

Section II: Please, put a tick (✓) mark in the appropriate box against the statements presented below.

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

Please, carefully read the question before selecting an alternative.

S.N	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Trust	**1**	**2**	**3**	**4**	**5**
1	WVE and its suppliers demonstrate trust in all aspects of relationship and keep promises of each other.					
2	WVE follows strict ethical principles and procedures of supply relationship in a consistent and reliable way.					
3	The organization's promise are reliable and fulfills its obligations to its suppliers.					
4	The organization's staffs are excellent in supply service delivery.					
5	The organization's staff always makes extra effort to understand suppliers' needs and provides relevant solutions.					
6	The organization's staff possesses excellent supply relationship management skills.					
	Power					
7	There is a stronger collaborative practice of risk management and learning exists between WVE and its suppliers.					
8	Information sharing, openness and long-term contracts are vital for WVE and its suppliers.					
9	WVE suppliers' production/service delivery is tailored to fit the situation and they					

	properly respond to market changes.					
	Commitment					
10	There is high level of commitment between the parties (WVE and its suppliers) that can lead to achievement of both individual as well as joint goals.					
11	WVE always demonstrates full commitment and adaptability towards its suppliers.					
12	The suppliers always demonstrate full commitment and adaptability towards its customer (WVE).					
	Cooperation					
13	There exists buyer-supplier relationship characterized by cooperation that comprises exchange of both market-oriented and technical ideas.					
14	There exists cooperation that can result in lead-time reduction as well as substantial savings in the material flows.					
15	There is full cooperation between WVE and its suppliers.					
	Communication					
16	WVE provides timely and trustworthy information to its suppliers.					
17	Information communicated by WVE is always accurate.					
18	There is higher level of interaction and communication between the two parties.					
19	The information flows between WVE and its suppliers are bi-directional.					
	Transparency/Information Sharing					
20	My organization always shares information with suppliers.					
21	My organization has put in place measures for effective information sharing with suppliers.					

22	Our suppliers always inform us in advance when they expect disruptions in supplies.					
23	My organization rewards suppliers who shares information.					
24	At WVE, procurement employees freely interact with our suppliers.					
	Supplier Performance Management					
25	WVE is keen on suppliers of critical commodities.					
26	WVE has put in place mechanisms to evaluate the performance of its suppliers.					
27	WVE has mechanisms to ensure suppliers conform to quality standards.					
28	WVE has mechanisms to ensure suppliers comply with standard prices.					
29	WVE has mechanisms to ensure suppliers conform to lead-time standards.					
	Humanitarian Supply Chain Performance					
30	WVE delivers defect free supplies to beneficiaries.					
31	Beneficiaries are satisfied with the quality of the organization's supplies.					
32	Our humanitarian supplies reach beneficiaries in time.					
33	At WVE, there are no cases of delayed supplies.					
34	WVE beneficiaries get humanitarian supplies when promised.					
35	WVE has reduced significantly the cost of delivering humanitarian supplies.					
36	WVE has greatly minimized the time between the order and the availability of supplies to beneficiaries.					
37	WVE has adequate warehouses and trucks to timely deliver the supplies to where it is needed.					
38	WVE uses versatile equipment.					
39	WVE's suppliers have good flexibility performance.					