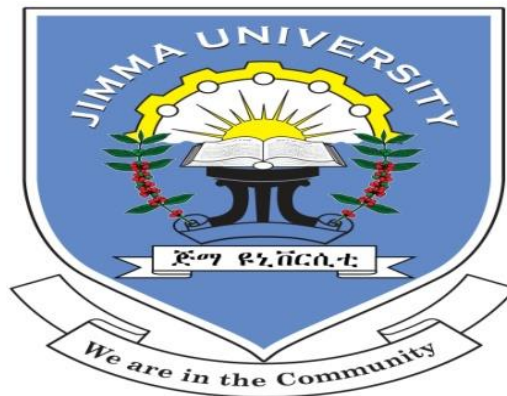


***THE OUTCOME OF SUPPLY CHAIN MANAGEMENT  
PRACTICES ON ORGANIZATIONAL PERFORMANCE IN  
PHARMACEUTICAL COMPANIES: IN CASE OF JIMMA.***

*A Thesis Submitted to the School of Graduate Studies of Jimma University in  
Partial Fulfillment of the Requirements for the Award of the Degree of Master  
of Logistic and Supply Chain Management (LSCM)*

**BY: TADELE GNARO WAYESSA**



**JIMMA UNIVERSITY  
COLLEGE OF BUSINESS & ECONOMICS  
MA PROGRAM**

**JUN, 2021**

**JIMMA, ETHIOPIA**

***THE OUTCOME OF SUPPLY CHAIN MANAGEMENT  
PRACTICES ON ORGANIZATIONAL PERFORMANCE IN  
PHARMACEUTICAL COMPANIES: IN CASE OF JIMMA.***

***BY: TADELE GNARO WAYESSA***

**Under the Guidance of**

**Mr. Megersa Wodejow (Ass. Prof.MBA)**

**And**

**Mr. Dereje Tefera (MBA)**

*A Thesis Submitted to the School of Graduate Studies of Jimma University in  
Partial Fulfillment of the Requirements for the Award of the Degree of Logistic  
and Supply Chain Management (MA)*

**JUN 19, 2021**

**JIMMA ETHIOPIA**

## **Certification**

This is to certify that the thesis entitles “The Outcome of Supply chain management practice on organizational performance on pharmaceutical companies In the case of Jimma” submitted to Jimma University for the award of the Degree of Master of Logistic and Supply Chain Management (MA) and is a record of confide research work carried out by Mr. *Tadele Gnaro Wayessa* under our guidance and supervision.

*Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree or diploma.*

*Main Adviser's Name*

*Date*

*Signature*

---

*Co-Advisor's Name*

---

*Date*

---

*Signature*

---

---

---

# Declaration

I hereby declare that this thesis entitled “The Outcome of Supply chain management practice on organizational performance on pharmaceutical companies: In the case of Jimma” has been carried out by me under the guidance and supervision of Mr. Megersa Wodejow Ass. Prof. (MBA ) and Dereje Tefera (MBA).

The thesis is original and has not been submitted for the award of any degree or diploma to any university or institutions.

Researcher’s Name

Date

Signature

---

---

---

## *Acknowledgement*

I thank our almighty God for enabling me to reach this level and complete my research study successfully. I would like also to extend my sincere appreciation to my Mr. Megersa Wodajow (Ass. prof, MBA) and Mr. Dereje Tefera (MBA) for advising me on my research proposal “The outcome of Supply Chain Management Practices on the Organizational Performance in pharmaceutical companies: in case of Jimma for the School of Graduate studies of Jimma University in partial fulfillment of the requirements for the award of the degree of master in Logistic and Supply Chain Management (LSCM).. The door to Mr. Dereje Tefera (MBA) office was always open whenever needed. He consistently helped me on the right direction whenever he thought I needed it.

I would also like to thank the experts who were involved in the validation and contribution of this survey research: Who for their expert opinion on this thesis overall improvement and these who contributed on facilitation of data distribution. Without their passionate participation and input, the validation survey could not have been successfully conducted. I would also like to acknowledge those support me for success of this thesis.

My special thanks to my dear wife, Ebsitu Temesgen for her endless patience, understanding and support throughout my graduate studies and this survey. I wish to thank the respondents for those have positive attitude which enhanced the collection of relevant data to facilitate this report.

Finally, I want to thank all people in one way or another who have provided me help and moral support, in the accomplishment of this study period. To all and sundry who contributed in making this work a success, I say God bless you all.

## **List of Acronyms**

SCM	Supply Chain Management
SRM	Supplier Relationship Management
CRM	Customer Relationship Management
SCF	Supply Chain Finance
QIS	Quality of Information Sharing
SCMP	Supply Chain Management Practice
OP	Organizational Performance
LIS	Level of Information Sharing
S.D	Standard Deviation
ROI	Return on Investment
LP	Lean Practice
SPSS	Statistical Package for Social Science

## ***Table of Contents***

<i>Acknowledgement</i> .....	ii
List of Acronyms .....	iii
<i>Lists of Figures</i> .....	vii
<i>Lists of Tables</i> .....	viii
CHAPTER ONE .....	1
1. INTRODUCTION .....	1
1.1. Background of the Study .....	1
1.2. Statement of the Problem.....	3
1.3. Basic Research Questions .....	6
1.4. Objective of the Study .....	6
4.1.1. General Objective of the Study.....	6
4.1.2. Specific Objective.....	6
1.5. Significance of the Study .....	7
1.6. Delimitation/Scope of the Study .....	8
Definition of Terms .....	8
1.7 Organization of the Study .....	9
CHAPTER TWO .....	10
2. LITERATURE REVIEW .....	10
2.1. Introduction.....	10
2.2. Theoretical Literature Review.....	10
2.2.1. Concept of Supply Chain Management .....	10
2.2.2. Supply Chain Management Process.....	20
2.3. Supply Chain Management Practices (SCMP) .....	23
2.3.1. Supplier Relationship Management .....	24
2.3.2. Customer Relationship Management .....	24
2.3.3. Level of Information Sharing.....	25
2.3.4. Quality of Information Sharing.....	26
2.3.5. Lean Practices (LP).....	27
2.3.6. Organizational Performance .....	28
2.4. Review of observed (Empirical) Studies .....	29
2.5. Identified Literature Gap.....	31

2.6.	Conceptual framework.....	32
CHAPTER THREE .....		33
3.	METHODOLOGY OF THE STUDY .....	33
3.1.	Description of the Study Area.....	33
3.2.	Research Method .....	33
3.3.	Research Design.....	34
3.4.	Unit of Analysis .....	34
3.5.	Description of the Study Population and Sampling .....	35
3.5.1.	Population.....	35
3.5.2.	Sample Size Determination.....	35
3.6.	Data Source and Type.....	36
3.7.	Measurement Instruments.....	36
3.8.	Data Collection and Analysis Procedure .....	37
3.9.	Data Analysis Techniques.....	37
3.10.	Pilot Study.....	38
3.11.	Face Validity Test.....	38
3.12.	Validity .....	38
3.13.	Reliability Analysis.....	39
3.14.	Model and Estimation Techniques.....	39
3.15.	Ethical Considerations.....	40
CHAPTER FOUR.....		41
4.	DATA ANALYSIS AND PRESENTATION .....	41
4.1.	Introduction.....	41
4.2.	Data Processing.....	41
4.3.	Descriptive Analysis .....	41
4.3.1.	Demographic Data of the Respondents.....	42
4.4.	Descriptive analysis on Independent Variables (SCMP) .....	44
4.4.1.	Strategic Suppliers' Partnership (SSP):.....	44
4.4.2.	Customer Relationship management (CSM) .....	46
4.4.3.	Level of Information Sharing (LIS) .....	47
4.4.4.	Level of Information Quality (LIQ).....	49
4.4.5.	Internal Lean Practices (LP): .....	51



4.4.6.	Descriptive Analysis on Dependent Variable (OP) .....	51
4.5.	Multiple Regression Assumptions.....	54
4.6.	Reliability Test for Survey Data .....	54
4.7.	Correlation Analysis .....	55
4.8.	Assumption Tests.....	57
4.8.1.	Normality Test .....	57
4.8.2.	Linearity Test.....	58
4.9.	Multiple Regression Analysis .....	59
4.10.	Regression Analysis for SCM Practices and Organizational Performance.....	61
CHAPTER FIVE .....		66
5.1.	SUMMERY, CONCLUSION AND RECOMMENDATION.....	66
5.2.	Summary of the Findings.....	66
5.3.	Conclusion .....	66
5.4.	Recommendation .....	68
5.5.	Implications and Limitation for Further Research .....	69
Reference .....		71
ANNEX 1 .....		74
APPENDIX.....		79

*Lists of Figures*

Figure 1: Supply Chain Management (Darilyn, 2008) ..... 20  
Figure 2: Functional Involvement in the supply Chain Management Processes (Darilyn, 2008) 22  
Figure 3: The regression model assumption of normality in the study..... 58  
Figure 4: The regression model assumption of linearity in the study ..... 59

*Lists of Tables*

Table 1: Sample Frame ..... 35

Table 2 :Reliability Test for Survey Data ..... 39

Table 3: socio-demography of the respondents ..... 42

Table 4: Department and years stayed ..... 43

Table 5: Descriptive statistics on strategic supplier relationships ..... 44

Table 6: Descriptive statistics on Customer Relationship..... 46

Table 7: Descriptive Statistics on Level of information sharing..... 48

Table 8: Descriptive Statistics on Level of information Quality ..... 49

Table 9: Descriptive Statistics on Internal Lean Practice ..... 51

Table 10: Descriptive Statistics on Organizational Performance..... 53

Table 11: Reliability Test for Survey Data ..... 54

Table 12: Correlation analysis ..... 57

Table 13: Model Summary ..... 60

Table 14: Coefficient Table for regression analysis ..... 62

## ***ABSTRACT***

The main goal of supply chain practice was to produce the right product or service, in the right quantity, at the right time and at minimal cost with the purpose of satisfying customer requirement and internal target as efficiently as possible. Supply chain management practices were initiatives that influence the whole supply chain. Even though, this practices have great influence on the organizational performance of any organization and it was affected by factors such as type of industry, firm size, and length of supply chain. Therefore, the general objective of this study was assessed and investigated the effects of supply chain management practices on the organization performance of Yiyi pharmaceuticals, Farees pharmaceuticals, Bama pharmaceuticals, Shanan Gibe pharmaceuticals, Badrug pharmaceutical, Jiren Pharmaceuticals, Tropical pharmaceutical and Oliyad pharmaceuticals. To meet the objectives of this research, the study adopted quantitative method and the relationships were tested using descriptive research method. The primary data was collected from 77 employees of pharmaceutical companies by using Likert scale type questioner as measuring instrument for collection of the employees' perception towards the variables then, the collected data were analyzed using descriptive statistics, correlational and multiple regression analysis and the study was used statistical package for social sciences (SPSS Version 21) to analyzed the quantitative data. The major finding of the study indicated that supply chain management practices (i.e. strategic supplier partnership, customer relationship, information sharing, information quality and lean practices) have positively and significantly related to the organizational performance of pharmaceutical companies. It can be concluded that there was a positive correlation between supply chain management practice and organizational performance of pharmaceutical companies. Therefore, pharmaceutical companies concenter the implementation of these supply chain management practices to take a proactive role in the management of their supply chain in establishing a strong position over its competitors and achieving its goals.

**Key words:** Supply Chain Management, Supplier Relationship Management, Lean Practice, Customer Relationship Management, Level of Information Sharing, Quality of Information Sharing.

# CHAPTER ONE

## 1. INTRODUCTION

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

### 1.1. Background of the Study

Due to the number of competing companies expanding both locally and globally, companies not only have to reestablish themselves to produce higher-quality products and services, to decrease wastes, and try respond to the market but also to handle their supply chain management efficiently. In addition, the organizations are facing different kinds of challenges in their effort of competing in today's dynamic global markets. To remain competitive, organizations must recognize the importance of supply chain practices that improve not only their own organizational performance. Yet, despite the significant advances in research and practices, many organizations continue to struggle to understand the complex issues associated with the coordinated planning and supply activities amongst the members of their supply networks (Lori & Daniel, 2011).

Christopher (1998) defined the supply chain as the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer.

Chopra and meindl (2001) "A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request".

Handfield & Nichols (1999)"A supply chain encompasses all activities associated with the flow and transformation of goods from the raw material stage, through to the end user, as well as the associated information flows". A supply chain may be defined as an integrated process wherein a number of various business entities like, suppliers, manufacturers, distributors and dealers,

retailers etc., work together in an effort to acquire raw materials, convert these raw materials into specified final products, and deliver these final products to retailers.

The Council of Supply Chain Management Professionals defines supply chain management as follows: “Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers (Ali et al, 2013).

According to Kasi (2005) ‘a supply chain was a set of activities (e.g. manufacturing, distribution) with inputs (e.g. raw materials) and outputs (e.g. finished goods) to achieve a common business objective (low cost, customer satisfaction, etc.)’. Many other definitions of supply chain management exist but the common theme in most is the focus on the external environment of an organization (Croom, Romano et al. 2000). Supply chains can be simple structures of time and frequency distributions but in general they tend to be complex, owing to the presence of multiple autonomous organizations, functions and people set within a dynamic environment (Van der Zee and Van der Vorst 2005). The objective of *supply chain management* is “to satisfy the end customer requirements” (Childerhouse and Towill 2000) and the focus is on how organizations utilize the processes, technology, and capability of suppliers to enhance their own competitive advantage. Supply chain management research generally focuses on improving the efficiency and competitive advantage of manufacturers by taking advantage of the immediate supplier's capability (Tan 2001).

Supply chain management is a concept that is gaining in popularity and importance and there is still much to investigate, since there is no a universally accepted definition yet. As a result of that, there are not many empirical researches on the benefits of supply chain management certainly studies and analysis will improve if a single definition would be adopted. The evolution of the recent competitive environment resulted in an even greater interest in the management of the activities external to the production system. The new focus of managers is addressed to the synchronization (coordinated) of the production system with the upstream and downstream activities of the firms. There are some key factors underlying the transition from a traditional management of the internal activities to an innovative handling of the internal processes in the broader environment of a supply chain (Marco, 2015).

The Supply Chain Management is “a set of coordinated decisions and activities” used to integrate in a more efficient way the suppliers, the manufactures, the warehouses, all transporters involved, the retailers, and the final customers, all this helping that the right product or service will be available and distributed at the right quantities, at the right prices, to the right locations, in the right condition, and at the right time, in order to minimize system-wide costs while trying to satisfy customer requirements (Same Li ,2014).

The objective for efficient SCM is reducing inventory, lead times and related costs in order to assure reliable and on-time deliveries from manufacturing units towards customers. The main goal of supply chain management is to produce the right products, in the right quantities, at the right time and at minimal cost with the purpose to satisfy customer requirements and internal targets as efficiently as possible.

The best supply chain practices are the initiatives that influence the whole supply chain, its parts or key processes (Cuthbertson & Piotrowicz, 2008). These practices are influenced by contextual factors such as type of industry, firm size, its position in the supply chain, type and length of supply chain (Li, S., Ragu-Nathan, B., Ragu-Nathan, T. & Rao, S. S., 2006). Despite the importance there is little empirical research on how practitioners define and incorporate supply chain management practices in to overall corporate strategy. Little is known about the specific practices or concerns of successful supply chain management implementations and its effect (Tan, 2002). The research in the area of SCM has not been able to offer much by way of guidance to help the practice of SCM. This has been attributed primarily to conceptual confusion and the lack of a theoretical framework in researching SCM (Li, S., Rao S, Ragu-Nathan T.S & Ragu, 2005). Therefore, in order to provide the empirical evidence for the research gap identified regarding supply chain practice and its effect on organizational performance, the researcher have review different empirical evidences. However, there is limited knowledge of how the supply chain management practices are affected the organizational performance.

## **1.2. Statement of the Problem**

For any business activity, such as supply chain management (SCM), which has strategic implications for any company, identifying the required performance measures on most of the

criteria essential and it should be an integral part of any business strategy. Many methods have been suggested over the years for SCM evaluation of any organization (Bhagwat et al., 2007). According to the key informant of the pharmaceutical company, tried to improve its organizational performance to meet the customers' needs and demands. It is required to improve the planning, distribution, supplier and customer relationship approaches of the company and it was also required to reduce the waste in the inventory by optimizing the supply chain practices of the company. Even though the supply chain is well reflected in the business strategy of pharmaceutical company, its predicting factor for organizational performance was not known and defined. It was not possible to identify the improvement areas on the company supply chain management practices and its relationship to the operational performance. Specially, the improvement in organizational performance of the company for the regularity of distribution of the right product/service, the right quality, at the right time depends on the effective implementation of supply chain management practices.

Globalization has expanded and was no longer confined to the local or regional level. Fresh produce can now be shipped to many parts of the world at competitive prices. Many research papers have been published in an attempt to develop SCM practices and to investigate their impact on operational, organizational, and supply chain performance. Researchers defined the following SCM practices: information sharing, long range relationships, advanced planning techniques, leveraging the internet, and supply and distribution network structures. They found a positive relationship between SCM practices and organizational performance with the moderating effect of supply chain role (Faith, 2015).

Supply chain inefficiencies lead to incur (suffer) additional cost and receive many complaints from the customers who lost their trust on the company. Some of these inefficiencies are: has suffered longer time lag in the process of delivering the goods to end customers, fragmented contract with suppliers and internal/external integration problem, which is all related to the organizational performance of the company. Located at the intersection of logistics, supply chain management, collaboration, and finance, SCF is an approach for two or more organizations in a supply chain, including external service providers, to jointly create value through means of planning, steering, and controlling the flow of financial resources on an inter-organizational level. While preserving their legal and economic independence, the collaboration partners are



committed to share the relational resources, capabilities, information, and risk on a medium to long-term contractual basis (Gema, 2012).

Practices of SCM will not only make impact on the overall performance of the organization, but also on the competitive advantage of the organization. These practices are supposed to improve the organization's competitive advantage using the price/cost, the quality, the delivery dependability, the time to market, and product innovation. Prior studies had identified that some of the components of SCM practices i.e. strategic partnership with the supplier have a major impact on various forms of competitive advantage (i.e. price/cost). For example, the strategic partnership with the supplier will help in improving the supplier performance, and will help to reduce the time to the market and will also results in the responsiveness and satisfaction of the customer. Information sharing will help to high level of integration of supply chain by making enable the organizations for the dependable delivery, also for introducing new product in market quickly. Sharing of information and the quality of information contributes positively towards the satisfaction of the customers and quality of partnership (Muhammad et al, 2013).

On the other hand the measures of organizational performance and supply chain management vary from organization to organization, they are essential for effective management of any organization. Supply chain management practices are affected by the global operations, the real challenge for managers of this new enterprise environment is to develop suitable performance measures and metrics to make right decisions that would contribute to an improved supply chain practices, competitiveness of the organization and its organizational performance. Some of the empirical studies only focus on upper tier supply chain i.e. suppliers (Addis, 2015) and some only focus on the lower level supply chain i.e. customers. Some studies like (Suhong, Li, *et al.*, 2004), (Mutuerandu, 2014), (Karimi & Rafiee , 2014), and (Mustefa, 2014) focus on both supplier and customer but the variables used as supply chain practices are varied depending on the organization selected on their study. However, it is absence of complete agreements using the supply chain practice variable and its effect on the performance of the organization. Most of the literature survey shows and suggests for future research on the selected topic which show the antecedences and consequences of supply chain management practice and

### **1.3. Basic Research Questions**

In this study, the following research problems are expected to be answered by assessing the following issues that mention as follows.

1. How the strategic supplier partnership influence the organizational Performance of pharmaceutical companies?
2. How the customer relationship management practice influence the organizational Performance pharmaceutical companies?
3. How the level of information sharing influence the organizational Performance pharmaceutical companies?
4. How the level of information quality influence the organizational Performance pharmaceutical companies?
5. How the lean practice management influence the organizational Performance pharmaceutical companies?

### **1.4. Objective of the Study**

#### **4.1.1. General Objective of the Study**

The general objective of this study was to assess the SCM practice and its influence on the organizational performance of pharmaceutical company.

#### **4.1.2. Specific Objective**

The specific objectives are to:-

1. To identify the supplier relationship of SCM practices and organizational performance
2. To investigate the customer relationship management practice and organizational performance
3. To investigate the relationship between level of information quality and organizational performance
4. To investigate the relation between internal lean practice and organizational performance
5. To identify the relationship between level of information sharing and organizational performance

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

The investigation results are important to the academicians, researchers, policy makers, for business practitioners, and management units in the case company. Specifically, the research helps to identify bottlenecks, waste, problems and improvement opportunities in the supply chain practices and its contribution for the organizational performance of pharmaceutical companies. This research will also contribute to narrow the gap in the literature on the generalization of the causal relationship between SCM practices and organizational performance. Also to understand how supply chain management practices affect the organizational performance, this study plays a vital role and shows management how supply chain management practices are significantly related and affect the performance (marketing and financial) of the organization. The study may also show management, supply chain management needs great attention (focus) to have more satisfied customers and suppliers.

Typically, a SC consists of four basic processes: acquiring customer orders, purchasing raw materials and components from suppliers, producing products, and fulfilling or executing customer orders. The performance of these basic processes determines the overall performance of the business. It is thus vital to study the nature of the relationship between the SCM and performance of the organizations (Faith, 2015).

Many companies are implementing supply chain management. But, they don't relate the effect of supply chain management practices with organizational performance and no evaluation is done. Because of this, proper emphasis is not given to the implementation of supply chain management by considering these issues that the study will have tries to narrow the gap. In general this study were have the following importance to support management of the company to see how supply chain management practices are related with the organizational performance, to helps management of the company to evaluate the already implemented supply chain management based on its effect on the performance of the organization and It serves as a spring board to conduct further and more detail study in the area and also serves as a reference for any interested management, staff or researcher.

## 1.6. Delimitation/Scope of the Study

It would be more important if more pharmaceutical companies and more SCM variables are included in the research. And also it would be more important it includes pharmaceutical companies in other cities of Ethiopia. But SCM has vast areas of managerial practices; it is difficult and unmanageable to study the whole areas of it. Therefore, the scope of the study is delimited to specific context i.e. on SCM practices and their impact on organizational performance. Because of this the study focuses on the effects of supply chain management practices on organizational performance of limited pharmaceuticals companies such as Yiyi pharmaceutical, Farees pharmaceuticals, Bama pharmaceuticals, Shanan Gibe pharmaceuticals, Badrug pharmaceutical, Oliyad pharmaceutical, Jiren pharmaceutical and Tropical pharmaceuticals companies found in Jimma town.

### Definition of Terms

**Supply Chain:** are all inter-linked resources and activities needed to create and deliver products and services to customers (Ali et al, 2013).

**Supply Chain Management:** Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers (Ali et al, 2013).

**Supplier Relationship Management:** is the supply chain management process that provides the structure for how relationships with suppliers are developed and maintained.

**Customer Relationship Management:** provides the structure for how the relationships with customers will be developed and maintained (Li et al., 2004).

**Level of Information Sharing:** refers to the extent to which critical and proprietary information is communicated to one's supply chain partner (Ayman, 2014).

**Quality of Information Sharing:** include such aspects as the accuracy, timeliness, adequacy, and credibility of information exchanged (Li et al., 2004).

**Internal Lean Practice:** Internal lean practices refer to consume less system resources uses with the same speed mass production and offers greater variety to customers

**Organizational Performance:** is the extent to which a firm achieves its market-oriented goals as well as its financial goals (Li et al., 2004).

### **1.7 Organization of the Study**

This paper was organized into five chapters. The first chapter include introduction which includes background of the study, statement of the problem, objective of the study, basic research questions, significance of the study and scope and limitation of the study. The second chapter deals with literature review from different sources. The third chapter involves methodologies used in the study. After finalizing the data collection of the research the fourth chapter presents data analysis and interpretation and also after finalizing the data analysis and data interpretation of the research and finally, the fifth chapter present the summary of major findings, conclusion and recommendation.

# **CHAPTER TWO**

## **2. LITERATURE REVIEW**

### **2.1. Introduction**

This part of the study provided the outline of literature specific to concepts or ideas of supply chain management practices and organizational performance. The relevant conceptual issues, theoretical, empirical literatures' related to the topic of the study are reviewed and based on the literature reviewed, the selected conceptual framework are also presented on this chapter.

### **2.2. Theoretical Literature Review**

#### **2.2.1. Concept of Supply Chain Management**

Supply chain is system of organizations, people, technology, activities, information and resources involved in moving a product or service from supplier to customer. Supply chain activities transform natural resources, raw materials and components into a finished product that is delivered to the end customer. The Council of Supply Chain Management Professionals defines supply chain management as follows: "Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies.

Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities

with and across marketing, sales, product design, and finance and information technology (Ali et al, 2013).

SCM is management of material, money, men, and information within and across the supply chain to maximize customer satisfaction/and to get an edge over competitors. Customers want products at the right place and at the right time. For this, there should be an excellent synchronization between the manufacturer and the customers. This was the origin of the “Barter system” as we all know. As things started becoming complicated, where one person had to reach many individuals for his needs, one of the individuals started management of gathering the products from different people and supplying to those who are in need and thus fulfilling his needs in return. This was the revolutionized form of the Barter system and today it is known as the supply chain management. Researchers found that the lack of commonly accepted definition of supply chain management and the problems associated with supply chain activities makes the understanding of supply chain management difficult. Supply chain management is an enormous topic covering multiple disciplines deploying many quantitative and qualitative tools. There are numerous definitions of SCM; few definitions discussed here would give an idea in a nutshell. For example, Supply chain management as “a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements” (Atul et al, 2007).

Supply chain management (SCM) research has evolved to a stage where analytical and empirical methodologies have allowed researchers to identify and validate basic SCM models and constructs.

Numerous studies have also investigated the effects of various SCM related practices affecting organizational performance. As SCM research continues to develop, many researchers are focusing on the cross-industry validity of previous findings. One of the aspects of interest is the effect of employing various “best practices” by organizations in different positions of the supply chain. This is a significant issue to address to determine whether commonly advocated practices are equally relevant across the length of the supply chain. While a few studies have examined the difference in effectiveness of SCM practices based on whether these are applied on the supply side or the distribution side of the supply chain, most of these studies have treated the supply and the distribution sides of the supply chain as one overall stage. Therefore, the treatment has been

largely based on a dyadic basis. Such an aggregated view of supply chain position masks a number of issues, which companies in specific supply chain roles may face. For instance, should distributors and retailers look at supply chain practices the same way?

From the dyadic standpoint, these two types of companies should face the same issues and supply chain practices adopted for one, should be equally effective for the other. However, this may not be the case since the distributor stage is an intermediate stage in the supply chain while the retailer stage is typically the final stage before the customer (Lori et al., 2011).

Introduction of new products with shorter life cycles, intensified competition in today's global markets, and the heightened expectations of customers have contributed to the development of new approaches to supply chain management. Traditionally, raw materials are procured and items are produced at one or more factories, distributed to warehouses for immediate storage, and then shipped to retailers or customers.

Therefore, in order to reduce costs and improve service levels, effective supply chain strategies must take the interactions at various levels of the supply chain into consideration. In recent years, the pressure to find consumer-responsive and cost efficient solution to supply chain issues in a market place has forced closer collaboration between retailers and manufacturers in order to combat the challenges that result from asymmetric information and the bullwhip effect. Many firms can no longer afford to have their supply chain located in a single country. If they do, they run the risk of becoming less competitive and delivering less value than they are capable of delivering. The main reason is that the location at which a firm chooses to source its raw materials, to hire its labor, to locate its manufacturing/operation facilities, and to serve demand can greatly influence a firm's cost-benefit measures and its investment decisions. While designing an effective global supply chain is a challenge, it can be a rewarding one because it can create more valuable products/services that a firm delivers. This growing concern has created an incentive for more effective and efficient design of supply chains and of management in utilizing consumer response. In a global market, supply chain management is more complex since suppliers and partners are located in different countries and the classical logistics of facility location, sourcing, and distribution are greatly influenced by political and economic factors. Varying tax and customs rules, production/operation expenses, multiple currencies and numerous transportation problems are among the challenges of linking a transnational supply chain (shri et al, 2016).



The supply chain includes suppliers, manufacturers, distributors, retailers, and customers. The customers are the main focus of the chain, since the primary purpose of the existence of any supply chain is to satisfy customer needs, in the process generating profit for itself SCM was initially related to the inventory management within a supply chain. This concept was later broadened to include management of all functions within a supply chain. SCM engages the management of flows between and among stages in a supply chain to minimize total cost.

This definition implies that SCM involves management of flows of products, information, and finance upstream and downstream in the supply chain (Mamun, 2010). Deferent scholars have defined supply chain management for instance Chopra defined it as follows “A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service” (Sunil Chopra, 2007) It also has been argued by (Suhong, Li, Ragu-Nathan, Ragu-Nathan T.S. & Rao S. , 2004) .The concept of SCM has received increasing attention from academicians, consultants, and business managers alike. Many organizations have begun to recognize that SCM is the key to building sustainable competitive edge for their products and/or services in an increasingly crowded marketplace. The concept of SCM has been considered from different points of view in different bodies of literature, such as purchasing and supply management, logistics and transportation, operations management, marketing, organizational theory, and management information systems. Various theories have offered insights on specific aspects or perspectives of SCM, such as industrial organization and associated transaction cost analysis, resource-based and resource-dependency theory, competitive strategy, and social–political perspective. According to Martin 1998, as it is cited by Addis (2015), Supply chain management is a philosophy of an integrated approach to manage the total flow of a distribution channel from the supplier to the ultimate customer (Ellram & Cooper, 1990). It is the management of upstream and downstream companies connecting inside and outside the company's operations with suppliers and customers to deliver value to key customers with a low cost supply chain as a whole (Martin, 1998).

In general, regarding the definition of SCM, the key elements of supply chain and its management from these definitions are therefore the upstream parties, the downstream parties and the integration of all the organizations involved, together with the internal function of an organization itself. The advent of information technology and intense global computation has enticed many world class manufacturing and service providers into adopting an integrated strategic approach to supply chain management. Although many supply chain management efforts have failed to achieve the desired results, it has become significant strategic tool for firms striving to achieve competitive success. (Tan, 2002) Deferent scholars have defined supply chain management for instance Chopra defined it as follows “A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service” (Sunil Chopra, 2007) It also has been argued by (Suhong, Li, Ragu-Nathan, Ragu-Nathan T.S. & Rao S. , 2004) .The concept of SCM has received increasing attention from academicians, consultants, and business managers alike. Many organizations have begun to recognize that SCM is the key to building sustainable competitive edge for their products and/or services in an increasingly crowded marketplace. The concept of SCM has been considered from different points of view in different bodies of literature, such as purchasing and supply management, logistics and transportation, operations management, marketing, organizational theory, and management information systems. Various theories have offered insights on specific aspects or perspectives of SCM, such as industrial organization and associated transaction cost analysis, resource-based and resource-dependency theory, competitive strategy, and social–political perspective. According to Martin 1998, as it is cited by Addis (2015), Supply chain management is a philosophy of an integrated approach to manage the total flow of a distribution channel from the supplier to the ultimate customer (Ellram & Cooper, 1990). It is the management of upstream and downstream companies connecting inside and outside the company's operations with suppliers and customers to deliver value to key customers with a low cost supply chain as a whole (Martin, 1998). In general, regarding the definition of SCM, the key elements of supply chain and its management from these definitions

are therefore the upstream parties, the downstream parties and the integration of all the organizations involved, together with the internal function of an organization itself. The advent of information technology and intense global computation has enticed many world class manufacturing and service providers into adopting an integrated strategic approach to supply chain management. Although many supply chain management efforts have failed to achieve the desired results, it has become significant strategic tool for firms striving to achieve competitive success. (Tan, 2002) Deferent scholars have defined supply chain management for instance Chopra defined it as follows “A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service” (Sunil Chopra, 2007) It also has been argued by (Suhong, Li, Ragu-Nathan, Ragu-Nathan T.S. & Rao S. , 2004) .The concept of SCM has received increasing attention from academicians, consultants, and business managers alike. Many organizations have begun to recognize that SCM is the key to building sustainable competitive edge for their products and/or services in an increasingly crowded marketplace. The concept of SCM has been considered from different points of view in different bodies of literature, such as purchasing and supply management, logistics and transportation, operations management, marketing, organizational theory, and management information systems. Various theories have offered insights on specific aspects or perspectives of SCM, such as industrial organization and associated transaction cost analysis, resource-based and resource-dependency theory, competitive strategy, and social–political perspective. According to Martin 1998, as it is cited by Addis (2015), Supply chain management is a philosophy of an integrated approach to manage the total flow of a distribution channel from the supplier to the ultimate customer (Ellram & Cooper, 1990). It is the management of upstream and downstream companies connecting inside and outside the company's operations with suppliers and customers to deliver value to key customers with a low cost supply chain as a whole (Martin, 1998). In general, regarding the definition of SCM, the key elements of supply chain and its management from these definitions are therefore the upstream parties, the downstream parties and the integration of all the organizations involved, together with the

internal function of an organization itself. The advent of information technology and intense global computation has enticed many world class manufacturing and service providers into adopting an integrated strategic approach to supply chain management. Although many supply chain management efforts have failed to achieve the desired results, it has become significant strategic tool for firms striving to achieve competitive success. (Tan, 2002) Deferent scholars have defined supply chain management for instance Chopra defined it as follows “A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service” (Sunil Chopra, 2007) It also has been argued by (Suhong, Li, Ragu-Nathan, Ragu-Nathan T.S. & Rao S. , 2004) .The concept of SCM has received increasing attention from academicians, consultants, and business managers alike. Many organizations have begun to recognize that SCM is the key to building sustainable competitive edge for their products and/or services in an increasingly crowded marketplace. The concept of SCM has been considered from different points of view in different bodies of literature, such as purchasing and supply management, logistics and transportation, operations management, marketing, organizational theory, and management information systems. Various theories have offered insights on specific aspects or perspectives of SCM, such as industrial organization and associated transaction cost analysis, resource-based and resource-dependency theory, competitive strategy, and social–political perspective. According to Martin 1998, as it is cited by Addis (2015), Supply chain management is a philosophy of an integrated approach to manage the total flow of a distribution channel from the supplier to the ultimate customer (Ellram & Cooper, 1990). It is the management of upstream and downstream companies connecting inside and outside the company's operations with suppliers and customers to deliver value to key customers with a low cost supply chain as a whole (Martin, 1998).

The objectives of supply chain thus will be, though it is also described differently between different scholars in the area , for example, Chopra (2007), describes the objective of supply chain as “To maximize the overall value generated. The value a supply chain generates is the difference between what the final product is worth to the customer and the costs the supply chain

incurs in filling the customer's request. For most commercial supply chains, value will be strongly correlated with supply chain profitability (also known as supply chain surplus), the difference between the revenue generated from the customer and the overall cost across the logistic providers to achieve direct store delivery without the need for receiving inspection (Stonage, 1996).

Furthermore, Mentzer (2001) the significant importance of SCM as "the systematic, strategic coordination of the traditional business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long term performance of the individual companies and the supply chain as a whole".

As cited by Addis (2015) SCM creates value for Organizations and permits the development of important competitive advantages by means of the relationships between suppliers and clients (Bordonaba -Juste and Cambra-Fierro, 2009). From this perspective, several studies have verified that integration and collaboration in the supply chain can provide important benefits to the companies involved Among these benefits are added value, the creation of efficiencies and client satisfaction (Stock et al, 2010; Chow et al, 2008), which are represented by the reduction in inventories, improvements in service delivery and quality and shorter product development cycles (Corbett C. J. *et al*, 1999).

SCM involves the coordination and configuration of different process that is necessary to make products available in a timely, reputable, and suitable condition. The distinctiveness of SCM could be achieved by identifying and making use of SCM practices, in organized way. SCM practices involve a set of activities undertaken by the organization to promote effective management of their supply chain. (Faisal, 2011)

Therefore, we can generalize that the basic objective of supply chain management is to "optimize performance of the chain to add as much value as possible for the least cost possible". In other words, it aims to link all the supply chain agents to jointly cooperate within the firm as a way to maximize productivity in the supply chain and deliver the most benefits to all related parties (Finch 2006).

Despite the importance and theoretical development of supply chain management, there is little empirical research on how practitioners define and incorporate supply chain management practices in to overall corporate strategy. While supply chain management efforts as some companies have resulted in improved competitiveness, similar results in other organization have

remained elusive. Little is known about the specific practices or concerns of successful supply chain management implementations (Tan, 2002) supply chain.

Tan also classified the objective of the supply in to two i.e. short and long term objective. The short term objective of supply chain management is to increase productivity and reduce cycle time, while the long term strategic goal is to increase customer satisfaction, market share and profit for all members of the virtual organization. (Tan, 2002)

As it is explained by Tan (2002).The evolution of supply chain management continued into the 1990s as organization further extended best practices in managing corporate resources to include strategic suppliers and logistic function. Instead of duplicating non-value adding activities such as receiving inspection, manufacturers trusted suppliers' quality control by purchasing from a handful certified suppliers (Inaman & Hubler, 1992) and retailers seamlessly integrate with the supply chain. While the lack of successful SCM efforts has been attributed to the complexity of SCM itself, research in the area of SCM has not been able to offer much by way of guidance to help the practice of SCM. This has been attributed primarily to conceptual confusion and the lack of a theoretical framework in researching SCM. It has been pointed out that the SCM phenomenon has not been well understood in the literature (Li, S., Rao S, Ragu-Nathan T.S & Ragu, 2005).

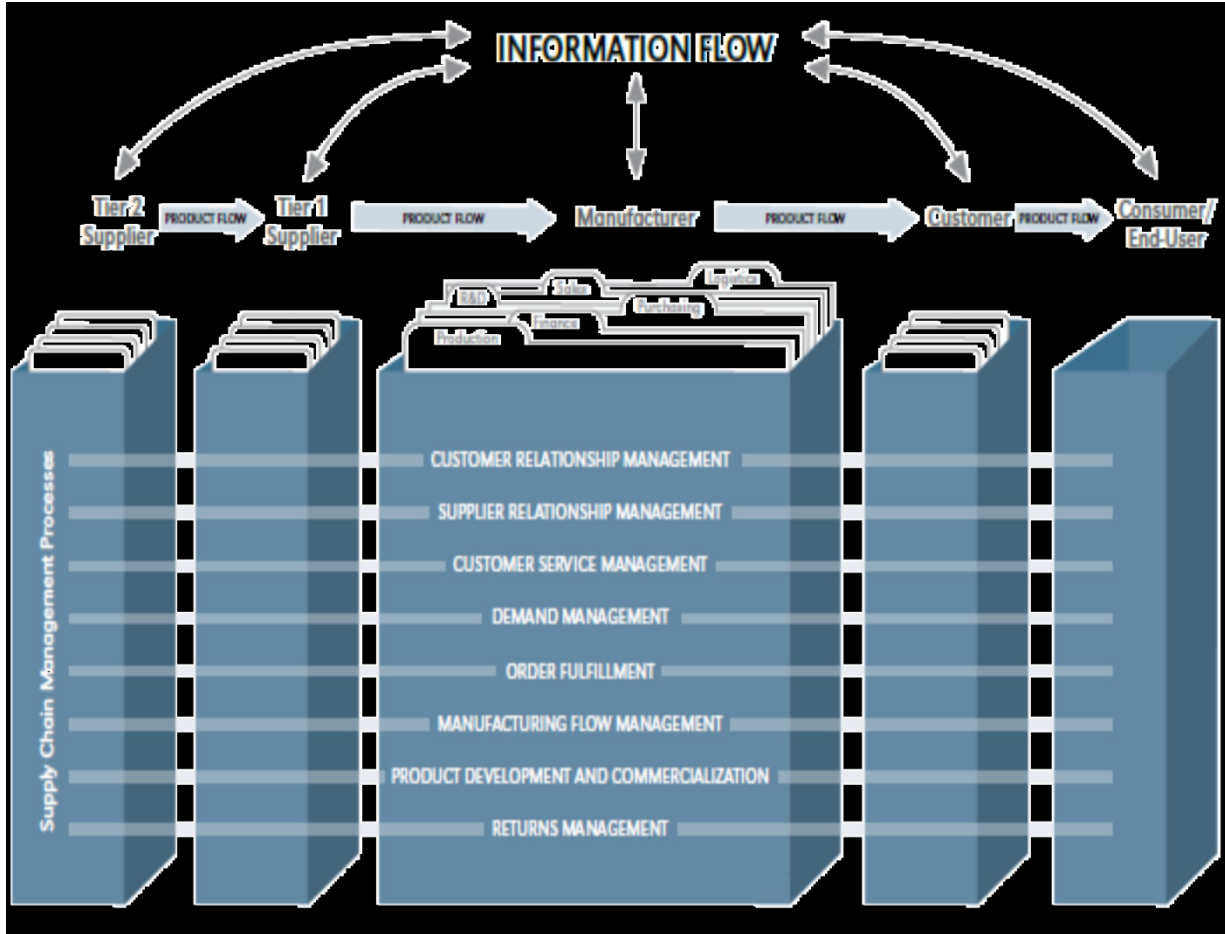
Introduction of new products with shorter life cycles, intensified competition in today's global markets, and the heightened expectations of customers have contributed to the development of new approaches to supply chain management. Traditionally, raw materials are procured and items are produced at one or more factories, shipped to warehouses for immediate storage, and then shipped to retailers or customers. Therefore, in order to reduce costs and improve service levels, effective supply chain strategies must take the interactions at various levels of the supply chain into consideration. In recent years, the pressure to find consumer-responsive and cost efficient solution to supply chain issues in a market place has forced closer collaboration between retailers and manufacturers in order to combat the challenges that result from asymmetric information and the bullwhip effect. Many firms can no longer afford to have their supply chain located in a single country. If they do, they run the risk of becoming less competitive and delivering less value than they are capable of delivering. The main reason is that the location at which a firm chooses to source its raw materials, to hire its labor, to locate its manufacturing/operation facilities, and to serve demand can greatly influence a firm's cost-

benefit measures and its investment decisions. While designing an effective global supply chain is a challenge, it can be a rewarding one because it can create more valuable products/services that a firm delivers. This growing concern has created an incentive for more effective and efficient design of supply chains and of management in utilizing consumer response. In a global market, supply chain management is more complex since suppliers and partners are located in different countries and the classical logistics of facility location, sourcing, and distribution are greatly influenced by political and economic factors. Varying tax and customs rules, production/operation expenses, multiple currencies and numerous transportation problems are among the challenges of linking a transnational supply chain (shri et al, 2016).

The supply chain includes suppliers, manufacturers, distributors, retailers, and customers. The customers are the main focus of the chain, since the primary purpose of the existence of any supply chain is to satisfy customer needs, in the process generating profit for itself SCM was initially related to the inventory management within a supply chain. This concept was later broadened to include management of all functions within a supply chain. SCM engages the management of flows between and among stages in a supply chain to minimize total cost. This definition implies that SCM involves management of flows of products, information, and finance upstream and downstream in the supply chain (Mamun, 2010).

-

Figure 1: Supply Chain Management (Darilyn, 2008)



### 2.2.2. Supply Chain Management Process

(Ronald, 2012) stated the eight supply chain management processes identified by the Global Supply Chain Forum:

- Customer Service Management- provides the firm’s face to the customer, including management of the PSAs, and provides a single source of customer information Demand management provides the structure for balancing the customers’ requirements with the capabilities of the supply chain.
- Product Development and Commercialization – provides the structure for developing and bringing to market new products jointly with customers and suppliers.



- Returns Management- includes all activities related to returns, reverse logistics, gatekeeping, and avoidance.
- Customer Relationship Management – provides the firm’s face to the customer, including management of the PSAs, and provides a single source of customer information.
- Supplier relationship management – provides the structure for how relationships with suppliers are developed and maintained, including the establishment of PSAs between the firm and its suppliers.
- Order Fulfillment- includes all activities necessary to define customer requirements, design the logistics network, and fill customer orders.
- Manufacturing Flow Management- includes all activities necessary to move products through the plants and to obtain, implement, and manage manufacturing flexibility in the supply chain.

Each SCM process has both strategic and operational sub-processes. The strategic sub-processes provide the structure for how the process will be implemented and the operational sub-processes provide the detailed steps for implementation.

Figure 2: Functional Involvement in the supply Chain Management Processes (Darilyn, 2008)

BUSINESS PROCESSES	BUSINESS FUNCTIONS						
	Marketing	Sales	Research & development	Logistics	Production	Purchasing	Finance
Customer relationship management	Marketing plan and resources	Account management	Technological capabilities	Logistics capabilities	Manufacturing capabilities	Sourcing capabilities	Customer profitability
Supplier relationship management	Capabilities required for competitive positioning	Sales growth opportunities	Material specifications	Inbound material flow	Integrated planning	Supplier capabilities	Total delivered cost
Customer service management	Prioritization of customers	Knowledge of customer operations	Technical service	Alignment of logistics activities	Coordinated execution	Priority assessment	Cost-to-serve
Demand management	Competitors' initiatives	Competing programs in customer space	Process requirements	Forecasting	Manufacturing capabilities	Sourcing capabilities	Trade off analysis
Order fulfillment	Role of logistics service in marketing mix	Knowledge of customer requirements	Environmental requirements	Network design	Made-to-order	Material constraints	Distribution cost
Manufacturing flow management	Differentiation opportunities from manufacturing	Knowledge of customer requirements	Design for manufacturability	Prioritization criteria	Production planning	Integrated supply	Manufacturing cost
Product development and commercialization	Product/service gaps in market	Customer opportunities	Product design	Logistics requirements	Process specifications	Material specifications	R & d cost
Returns management	Knowledge of marketing	Customer knowledge	Product design	Reverse logistics capabilities	Re-manufacturing	Material specifications	Revenue & costs

SUPPLIERS

CUSTOMERS

### **2.3. Supply Chain Management Practices (SCMP)**

SCM Practices are defined as a set of activities undertaken in an organization to promote effective management of its supply chain. SCM practices are multidimensional which affect the performance of partners in the supply chain. These SCM practices were seen and discussed by different researchers from different perspectives.

According to Haque, (2013), SCM practices are a fundamental to firm performance; in today's globalized business all firms get their competitive advantage by managing various challenges within the country and internationally and this devote substantial attention. As effective SCM provides benefits that go beyond the entities or the organization itself on both of its upstream and downstream sides and those firms may comprehend their potential of integrating their external relationship that is the firms external suppliers, the firm itself and the firms customer and also the firms internal operational practices with a view to enhancing their level of competitiveness and performance as well as customer satisfaction.

As it is argued by Krimi & Rafiee (2014), SCM practices have been defined as a set of activities undertaken in an organization to promote effective management of its supply chain. The empirical study include in their list of SCM practices concentrate on core competencies, use of inter-organizational systems such as EDI, and elimination of excess inventory levels by postponing customization toward the end of the supply chain. They Identify four aspects of SCM practice through factor analysis: supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity and JIT capability. They use supplier base reduction, long-term relationship, communication, cross functional teams and supplier involvement to measure buyer–supplier relationships (Zhao, X., & Lee, T. 2009). At it is cited by Addis (2015), SCM practices as a set of activities carry out in any organization to promote effective management of its supply chains; From this we can see that components of SCM practices includes supply and material management issues, operations, information technology and sharing (Information Communication Technologies) and customer service. Other components such as technology, cost, inventory management, competitiveness and external regulations, according to needs to be managed effectively to achieve to business goals of each supply chain members. It also leads to value creation to end customer (Charles, Diyuoh & Oppong, 2014)

SCM involves the coordination and configuration of different process that is necessary to make products available in a timely, reputable, and suitable condition. The distinctiveness of SCM could be achieved by identifying and making use of SCM practices, in organized way. SCM practices involve a set of activities undertaken by the organization to promote effective management of their supply chain. (Faisal, 2011)

### **2.3.1. Supplier Relationship Management**

Supplier relationship is defined as the long term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits. A strategic partnership emphasizes direct, long-term association and encourages mutual planning and problem solving efforts. Such strategic partnerships are entered into to promote shared benefits among the parties and ongoing participation in one or more key strategic areas such as technology, products, and markets. Strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. Suppliers participating early in the product-design process can offer more cost effective design choices, help select the best components and technologies, and help in design assessment. Strategically aligned organizations can work closely together and eliminate wasteful time and effort. An effective supplier partnership can be a critical component of a leading edge supply chain (Li et al., 2004).

### **2.3.2. Customer Relationship Management**

CRM comprises the entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction. Customer relationship management is an important component of SCM practices. Committed relationships are the most sustainable advantage because of their inherent barriers to competition. The growth of mass customization and personalized service is leading to an era in which relationship management with customers is becoming crucial for corporate survival. Good

relationships with supply chain members, including customers, are needed for successful implementation of SCM programs. Close customer relationship allows an organization to differentiate its product from competitors, sustain customer loyalty, and dramatically extend the value it provides to its customers (Li et al., 2004).

### **2.3.3. Level of Information Sharing**

Information sharing is defined as “The extent to which critical and proprietary information is communicated to one’s supply chain partner.” The advancements of information technology have greatly contributed to the evolution of sharing information throughout the SC. Regular exchanges of information enables SC parties to perform as a single body. Shared information has different kinds related to inventory, resources, products, demands, delays, and planning information. It may also include information about quality, logistics, customer and general market information, and design information. In order to yield best results, shared information has to be adequate, accurate, credible, and timely. Information sharing affects performance in terms of improved customer responsiveness, decreased costs, enhanced service levels, and reduced levels of complexity (Ayman, 2014).

We are living in the “information age”. The availability of information has been increasing at an exponential rate during the last decade. The explosion of information availability has given decision makers of supply chains a lot of possibilities and opportunities for improvements in their supply chain efficiency. As knowledge is power, information is power in supply chains. “It (information) provides the decision maker the power to get ahead of the competition, the power to run a business smoothly and efficiently, and the power to succeed in an ever more complex environment. Information plays a key role in the management of supply chain.” (Nahmias, 2001) The performance of a supply chain depends critically on how its members coordinate their decisions. Sharing information is the most basic form of coordination in supply chains. There are a number of new emerging technologies available to connect the members of a supply chain to support information sharing. Recent developments in corporate information technology, such as Enterprise Resource Planning (ERP) systems, allow information to be shared seamlessly between members of a supply chain (Hyun-cheol, 2010).

Information sharing has two aspects: quantity and quality. Both aspects are important for the practices of SCM and have been treated as independent constructs in the past SCM studies. Level (quantity aspect) of information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner. Shared information can vary from strategic to tactical in nature and from information about logistics activities to general market and customer information. Many researchers have suggested that the key to the seamless supply chain is making available undistorted and up-to-date marketing data at every node within the supply chain. By taking the data available and sharing it with other parties within the supply chain, information can be used as a source of competitive advantage. Researchers consider sharing of information as one of five building blocks that characterize a solid supply chain relationship. Supply chain partners who exchange information regularly are able to work as a single entity. Together, they can understand the needs of the end customer better and hence can respond to market change quicker. Others consider the effective use of relevant and timely information by all functional elements within the supply chain as a key competitive and distinguishing factor. The empirical findings reveal that simplified material flow, including streamlining and making highly visible all information flow throughout the chain, is the key to an integrated and effective supply chain (Li et al., 2004).

#### **2.3.4. Quality of Information Sharing**

Includes such aspects the accuracy, timeliness, adequacy and credibility of information exchanges While information sharing is important, the significance of its impact on SCM depends on what information is shared, when and how it is shared, and with whom. Literature is replete with example of the dysfunctional effects of inaccurate/delayed information, as information moves along the supply chain. Divergent interests and opportunistic behavior of supply chain partners, and informational asymmetries across supply chain affect the quality of information. It has been suggested that organizations will deliberately distort information that can potentially reach not only their competitors, but also their own suppliers and customers. It appears that there is a built-in reluctance within organizations to give away more than minimal information since information disclosure is perceived as a loss of power. Given these

predispositions, ensuring the quality of the shared information becomes a critical aspect of effective SCM, organizations need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion (Li et al., 2004).

### **Quality of the shared information of information sharing**

Literature is replete with example of the dysfunctional effects of inaccurate/delayed information, as information moves along the supply chain. Divergent interests and opportunistic behavior of supply chain partners, and informational asymmetries across supply chain affect the quality of information. It has been suggested that organizations will deliberately distort information that can potentially reach not only their competitors, but also their own suppliers and customers. It appears that there is a built in reluctance within organizations to give away more than minimal information since information disclosure is perceived as a loss of power. Given these predispositions, ensuring the quality of the shared information becomes a critical aspect of effective SCM. Organizations need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion. (Karimi & Rafiee , 2014)

### **2.3.5. Lean Practices (LP)**

Internal lean practices refer to consume less system resources uses with the same speed mass production and offers greater variety to customers. In other way James and Jones (2003) internal lean practices as Lean production associated with continuous pursuit of improving the processes, a philosophy of eliminating all non-value adding activities and reducing waste within an organization.

One of the fundamental ideas in internal lean practices is removed surplus (Hassanzadeh & Jafarian, 2010). The most famous of internal lean practices can be mentioned timely and lean produce. Production of lean and timely is production system that its aims are to optimize processes and production process by reducing waste and other inefficient factors (White, 1993).

Internal lean practices understanding for the study is waste elimination regarding to setup time, continuous improvement and just in time. (Mustefa, 2014)

### **2.3.6. Organizational Performance**

Although prior research suggests there is a direct link between the level of adoption of SCM practices and organizational performance, there have been various definitions of organizational performance, with some studies emphasizing organizational measures, while others stressing financial measures. For example, some studies use delivery dependability and time to market as performance measures, while firm performance defined by sales growth, market share growth and profitability are used in other studies.

Many studies have selected a combination of pertinent operational and financial measures to reflect overall organizational performance. For example, researchers use factor analysis to extract five components of performance related to delivery, cost, flexibility, procurement and quality. Others measure performance through four separate dimensions including perceived value, customer loyalty, market performance and financial performance. Similarly, others use six items for performance including product quality, customer service, competitive position, market share, average selling price and return on assets. Customer service performance followed by financial performance as the performance constructs and finally, operational performance via three levels of performance criteria: strategic, operational and financial. Strategic performance is measured by market share and sales growth, operational performance is measured by lead-time performance and financial performance is assessed through return on investments and return on sales (Lori et al., 2011). Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals. The short-term objectives of SCM are primarily to increase productivity and reduce inventory and cycle time, while long-term objectives are to increase market share and profits for all members of the supply chain. Financial metrics have served as a tool for comparing organizations and evaluating an organization's behavior over time. Any organizational initiative, including supply chain management, should ultimately lead to enhanced organizational performance. A number of prior studies have measured organizational performance using both financial and market criteria, including return on investment (ROI), market share, profit margin on sales, the growth of ROI, the growth of sales, the growth of market share, and overall competitive position (Li et al., 2004).

Many empirical studies have examined the relationship between supply chain management (SCM) and organizational performance. The relevant items adapted to measure organizational performance includes higher sales, higher accuracy in costing, and improved coordination



between departments, improved coordination with suppliers, and improved coordination with customers. Some other measures that are related to organizational financial performance may include return on investment, market share, and profit margin on sales, growth of return on investment, growth of sales, and growth of market share to measure organizational performance. While others use measures such as lead time, inventory turnover, product return, sales level, cost reduction and meeting customers' requirements to measure the operational performance (Lang, 2012).

#### **2.4. Review of observed (Empirical) Studies**

The previous researches in the area of the study explained the relationship of supply chain management practices and organizational performance from different perspective/dimensions and some of these researches finding their methodologies are summarized. (Li, et al, 2006) The concept of SCMP has been considered from different points of view in different bodies of literature for example, (Li, et al, 2006) assess the impact of supply chain management practices concept SSP, CR, LIS, QIS and postponement and on concept of performance competitive advantage and organizational performance with using sample and main methods 196 firms using structural equation modeling.

**Findings** higher levels of SCM Practice can lead to enhanced competitive advantage and improved organizational performance and competitive advantage can have a direct, positive impact on organizational performance.

(Mutuerandu, 2014) To assess the level of implementation of SCM practices in Haco Industries Ltd with SCMP Strategic supplier partnership, Customer relationship Information sharing training practices and study the relationship between SCM Practices and organizational performance in the same industries with performance concept: lowering its operational costs, reduction of lead time, high customer service levels, product quality, fast response to changes in the market and expanding its market share and sales with sample and main methods of 40 employees of the organization.

**Findings** there is a high level of practical implementation of SCM practices in Haco Industries Ltd and that they all had a positive effect on organization's performance.

(Addis, 2015) assess the impact of supply chain management practices on performance of pharmacies in governmental health facilities in Addis Ababa/Ethiopia with SCMP JIT supply, holding safety stock, few suppliers, close partnership with suppliers, close partnership with customers, level of information quality (IQ) and performance concept of price/cost, delivery dependability, product/ Service innovation, time to market and reduce inventory level With sample and main method from pharmacy officials in those 71 randomly selected health centers pharmacy at Addis Ababa and 8 governmental hospitals in Addis Ababa.

**Findings** SCM Practices have an impact on their operational performance. And also SCM related organizational Performance is impacted by SCM Practice directly and through operational performance (indirectly).

(Mustefa, 2014) To determine the underlying dimensions of supply chain management(SCM) practices and to empirically test a framework identifying the relationships among SCM practices, operational performance and SCM-related organizational performance with concept of SCM practices supplier partnership, customer relationship, level of information sharing, internal lean practice and concept of operational performance price/ cost , quality, delivery dependability and time to market and organizational performance: market share, return on investment, the growth of sales, profit margin on sales overall competitive position with the sample and main methods of 42 employees of the company Pearson correlation, and the causal relations were analyzed using regression analysis.

**Findings** it is concluded that there is strong relationship between SCM practices, operational performance and organizational performance.

As it can be realized on the different scholars studied the impact of the supply chain practice on firms' performance by taking different variables as supply chain practices. The study conducted by (Li, *et al.*, 2006), (Mutuerandu, 2014), (Karimi & Rafiee , 2014) and (Mustefa, 2014) investigated the impact of supply chain management practices on performance. The studies mainly focus on the impact of supply chain practices on competitive advantage and on organizational performance. The finding showed that the higher level of supply chain practices i.e. strategic supplier partnership, customer relationship, level and quality of information sharing can lead to enhanced competitive advantage and improved organizational performance and competitive advantage. The other study conducted by (Addis, 2015) has investigated the impact

of supply chain practices on the performance of pharmacies in governmental health facilities in Addis Ababa on performances of the pharmaceutical industries, the study only focus on upper tier of supply chain and information sharing with suppliers. Her findings showed that JIT, Holding safety stock, few suppliers, close partnership and level of information quality improve quality , product or service innovation, time to market and reduce price, operational costs and time to market, most of which is related to the operational performance of the organization.

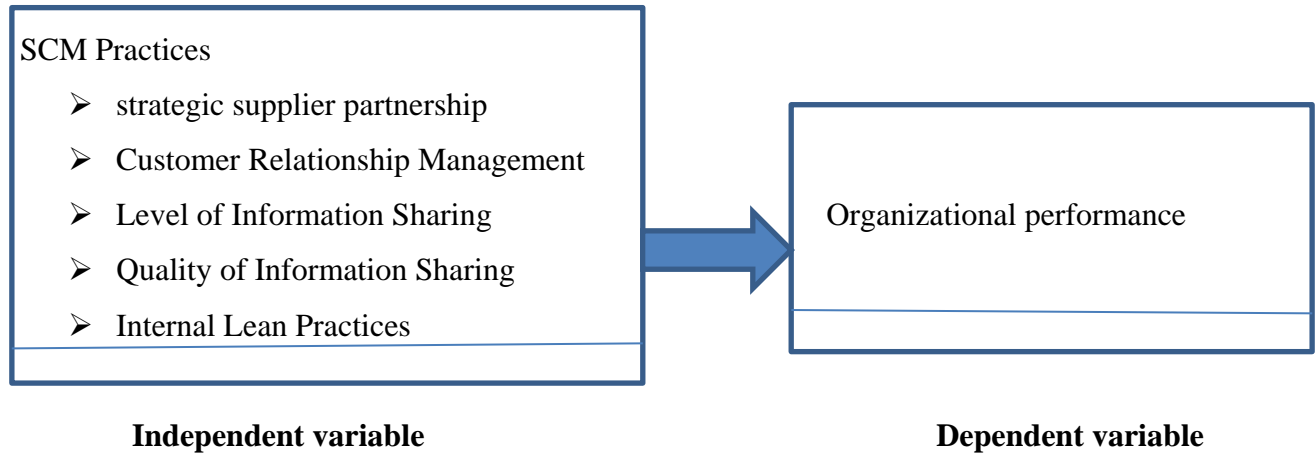
However, most of these studies consider the supply management practices i.e. strategic supplies partnership, customer relationship, level and quality of information sharing. When it comes to performance, its competitive advantage, operational and organizational performances are taken as the dependent variable. The findings of the reviewed empirical findings indicate that practices of supply chain management influence the performance of the organization and its competitive advantage.

## **2.5. Identified Literature Gap**

Even though the measures of organizational performance and supply chain management vary from organization to organization, they are essential for effective management of any organization. Supply chain management practices are affected by the global operations, the real challenge for managers of this new enterprise environment is to develop suitable performance measures and metrics to make right decisions that would contribute to an improved supply chain practices, competitiveness of the organization and its operational performance. Some of the empirical studies only focus on upper tier supply chain i.e. suppliers (Addis, 2015) and some only focus on the lower level supply chain i.e. customers. Some studies like (Suhong, Li, *et al.*, 2004), (Mutuerandu, 2014), (Karimi & Rafiee , 2014), and (Mustefa, 2014) focus on both supplier and customer but the variables used as supply chain practices are varied depending on the organization selected on their study. However, it is absence of complete agreements using the supply chain practice variable and its effect on the performance of the organization. Most of the literature survey shows and suggests for future research on the selected topic which show the antecedences and consequences of supply chain practice.

## 2.6. Conceptual framework

The proposed framework for this research is illustrated in Figure 2.3. The framework shows the impact of SCM practices on SC performance in terms of SC efficiency and SC effectiveness.



Own observation

Figure 2.3

In the conceptual framework, the independent variables which are believed to have impact on the performance of the selected company are strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and internal lean practices, Whereas the organizational performance is considered as dependent variable. The previous empirical studies conducted by (Ibrahim & Hamid, 2012), (Karimi & Rafiee , 2014), (Li, et al., 2006), (Mustefa, 2014), (Mutuerandu, 2014), (Suhong, Li, *et al.*, 2004), (Yohannes, 2014) , (Wagnera, S.M., et al., 2012) and (Fantazy KA, Kumar V & Kumar U, 2010) has showed that the higher level of supply chain practices implementation can lead to enhanced organizational performance of the organization. Therefore, based on this research finding how much effective implementation of supply chain practices influence organizational performance of the pharmaceutical companies in Jimma town will be tested.

# CHAPTER THREE

## 3. METHODOLOGY OF THE STUDY

This part described the methodologies that was used in the study; the choice of particular research approach and designs, unit of analysis for the study, data type and data source, data gathering techniques and data analysis techniques along with appropriate justification associated with each approach. The pilot study result for the measuring instrument was also presented on this chapter.

### 3.1. Description of the Study Area

The research was done in eight private pharmaceutical companies of Yiyi pharmaceuticals, Farees pharmaceuticals, Bama pharmaceuticals, Shanan Gibe pharmaceuticals, Badrug pharmaceutical, Jiren Pharmaceuticals, Tropical pharmaceutical and Oliyad pharmaceuticals in Jimma town.

### 3.2. Research Method

The research method of the study is deductive research method which is closely related to quantitative research. Therefore, in terms of methods, this research employed quantitative method while conducting the study that means to collect, to organize and to analyses the data. Quantitative research method involves studies that make use of statistical analysis to obtain finding. Creswell (2005) asserted that quantitative research is a type of educational research in which the researcher decides what to study, asks specific, narrow questions, collects numeric (numbered) data from participants, analyzes these numbers using statistics, and conducts the inquiry in an unbiased and objective manner. For data collection, a research question was developed to explore the effect of supply chain practice on the organizational performance and then theoretical model based on former theories and concepts will developed based on it. Close ended Likert type questioners were distributed to and collected from the selected employees of pharmaceutical company in Jimma and then it was summarized and analyzed in order to describe it and to make inference on the population.

Also the research method was quantitative research method; it was a means for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures.

The descriptive survey method is appropriate when a researcher intends to describe a situation as it was. It also offers a logical structure of the inquiry into the problem of study (Kothari, 2004). The design allowed the researcher to draw conclusions on the relationship between SCM Practices and organizational performance.

### **3.3. Research Design**

Research design is the framework that has been created to find answers to research questions. One type of non-experimental form of research is the correlational design in which investigators used the correlational statistic to describe and measure the degree or association between two or more variables or sets of scores. These designs have been elaborated into more complex relationships among variables found in techniques of structural equation modeling, hierarchical linear modeling, and logistic regression. (Creswell, 2005).

The other type of quantitative research design is the survey research. It provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. It includes cross-sectional and longitudinal studies using questionnaires for data collection with the intent of generalizing from a sample to a population (Fowler, 2008).

Therefore, the research designs engaged in this study are descriptive and explanatory. Descriptive research design is preferred for better describe the group of individuals over the set of variables. Correlations are applied to investigate the association of variables and the regression was used to show the cause and effect relationship between the dependent variables and the independent of supply chain management practices. The rationale behind selection of this method is to get an accurate representation of characteristics of a particular situation.

### **3.4. Unit of Analysis**

The unit of analysis was the major objects that are analyzed in the study. Therefore, the unit of analysis used in this survey is that employees involved in the supply chain management practice of the companies. The employees' perception towards the supply chain management practice and

organizational performance was collected using survey questioner and then the quantitative analysis was made based on the collected information.

### **3.5. Description of the Study Population and Sampling**

#### **3.5.1. Population**

Target Population of the study are Yiyi pharmaceuticals, Farees pharmaceuticals, Bama pharmaceuticals, Shanan Gibe pharmaceuticals, Badrug pharmaceutical, Jiren Pharmaceuticals, Tropical pharmaceutical and Oliyad Pharmaceuticals companies having the total of 104 employees from all the division based on the current each company profile.

The researcher used a sampling technique which is a mixture of deliberate and simple and random sampling technique. The purposive sampling technique will used in order to select the target population .Whereas; the simple random sampling techniques will used to take the respondents from the target population. These techniques are used to increase convenience of the study and the population is selected based on its reliability for the sources of data required and its convenience for data collection.

#### **3.5.2. Sample Size Determination**

The total number of employees of the companies'28 in Yiyi pharmaceuticals, 10 in Farees pharmaceuticals, 13 in Bama pharmaceuticals,18 in Shanan Gibe pharmaceuticals,11 in Badrug pharmaceutical,10 in Jiren Pharmaceuticals, 4 in Tropical pharmaceutical and 10 in Oliyad Pharmaceuticals companies each of total 104.

The sample size for this study is calculated by using the formula given by (Toro, 1967).

$$\begin{aligned}n &= N/ 1+ N (e)^2 \\n &= 104/1+104(0.05)^2 \\n &= 82\end{aligned}$$

**Where:**

- n = the sample size
- N = the population size
- e =Margin of error acceptable or Measure of precision is 0.05.

Table 1: Sample Frame

No	Selected companies	Number of target Population	Sample size
1	Yiyi Gibe pharmaceutical	28	$28/104 \times 100 = 34\%$ of 82=22
2	Farees Pharmaceutical	10	$10/104 \times 100 = 9.6\%$ of 82=8
3	Badrug Pharmaceutical	11	$11/104 \times 100 = 10.6\%$ of 82=9
4	ShenanGibe Pharmaceutical	18	$18/104 \times 100 = 17\%$ of 82=14
5	Bama Pharmaceutical	13	$13/104 \times 100 = 12.5\%$ of 82=10
6	Oliyad Pharmaceutical	10	$10/104 \times 100 = 9.6\%$ of 82=8
7	Jiren Pharmaceutical	10	$10/104 \times 100 = 9,6\%$ of 82=8
8	Tropical pharmaceutical	4	$4/104 \times 100 = 3.8\%$ of 82=3
	Total	104	82

From own observation

### 3.6. Data Source and Type

Primary data was used for the analysis of the study. The primary data was gathered using survey questionnaire from the selected sample respondents/employees of Yiyi pharmaceuticals, Farees pharmaceuticals, Bama pharmaceuticals, Shanan Gibe pharmaceuticals, Badrug pharmaceutical Jiren Pharmaceuticals, Tropical pharmaceutical and Oliyad Pharmaceuticals companies while implementing supply chain management. These companies are selected because of their huge scale of investment in the sector and their large number of distributed products. Of these companies, employees of companies that are close to supply chain management are used as target population of the study and secondary data was collected from the company oracle data base and Proceedings.

### 3.7. Measurement Instruments

As the measuring instrument, close ended Likert type questionnaires is used. Because this questionnaire type is selected because it is easy to administer to groups of people simultaneously;



it is easily understandable, less costly and less time consuming than other measuring instruments. Likert scale is a widely used rating scale which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements or questions i.e. from (1) strongly disagree to (5) strongly agree. The questionnaire are also includes some questions about educational back ground of respondents, experience of the respondents at their current position, employee level of the respondents.

### **3.8. Data Collection and Analysis Procedure**

The collected data will be analyzed by the use of Statistical Package for the Social Sciences (SPSS) version 21 and the results will be presented in tables, graphs, and correlation as well regression analysis. The data to be analyzed the following procedures will be used:

- ❖ 1st briefings on the questioners are given to the selected respondents before the distribution of the questioner and then questioner was distributed to the respondents.
- ❖ 2nd depending on the distribution time, the questions will collected from the respondents after a week.
- ❖ 3rd a reminder is made for the non- responding employees and lagged questioners will collected.
- ❖ 4th the questioners will be analyzed for usability of the questioners are made.
- ❖ Finally, the analysis of the data using different statistics on SPSS version 20 will be made and the paper will be produced.

### **3.9. Data Analysis Techniques**

Before analyzing the data, the quantitative data collected using questionnaires were cross checked for its completeness and consistency. Then, descriptive statistics, correlational and multiple regression models were used in order to analyze the data. The analysis of the data was doing using SPSS Version 21. Frequencies and percentages will be used to analyze respondents' demographic data. Mean, and standard deviation, were used for the assessment of the response of the employees of the organization. Correlation and Multiple regressions are used to test the relationship of the independent and dependent variables.

### **3.10. Pilot Study**

The close-ended Likert type questionnaires were selected from similar studies in the area. This questionnaire type is selected because it is easy to administered to groups of people simultaneously; it is less costly and less time consuming than other measuring instruments. Likert scale is a widely used rating scale which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements or questions i.e. from (1) strongly disagree to (5) strongly agree. The questionnaire were also includes some questions about educational back ground of respondents, employee level of the respondents, experience of the respondents at their current position. In order to cross check its completeness the researcher have used SCM literature and empirical review of the previous researches on the area of the study and additional content on the framework are included based on it. However, according to the research texts, in survey based research, before the questioners are administrated, it is important to validate the scales used for reliability and validity. Though, the questionnaires used for this survey are adopted form previous research with minor customization and its validity and reliability were tested. The researcher has made a pre pilot and pilot survey to test the questioner validity and reliability on current survey situations. Therefore, the test results are presented on the following topics. The employees of the organization Correlation and Multiple regressions were used to test the relationship of the independent and dependent variables.

### **3.11. Face Validity Test**

Even if most of the questioners were adopted form the similar researches on the area of the study and its validity were previously tested, to cross check its face validity after its modified questions as the measuring instrument, the questionnaire was given to three academicians for their remark. In addition, the questioner also distributed to five employees in different employment level on the selected organizations. Then, based on the observation of feedback of the academicians and respondents, the redundant and ambiguous items were either modified or eliminated.

### **3.12. Validity**

Validity is the extent to which a score on a scale or test predicts scores on some criterion measure (Cronbach & Meehl, 1955; as cited in Gleam & Rosemary, 2003). Based on the pilot

test data using 77 respondents, the Pearson the correlation between all independent variables and the dependent validity are shown on the following table.

### 3.13. Reliability Analysis

After the test of validity of the research instrument the next step is to cross check the constancy and reliability of the instruments. Reliability refers to the extent to which data collection techniques or analysis procedures yield consistent findings (Saunders, *et al.*, 2009). Cronbach's alpha used as a standard test for questionnaire accuracy. It is used to test the degree to which instruments items are homogeneous and reflect the same underlying construct(s). Every question using the Likert Scaling method must be tested for its reliability. Therefore, in the study, after verifying the construct and content validity, the questioners has been reproduced and distributed to a sample of 77 respondents for the pilot test and the test results of readability is presented on the following table

Table 2 : Reliability Test for Survey Data

Construct	Variables	Number of items	Cronbach's Alpha
SCM Practices	Strategic supplier partnership	6	0.749
	Customer relationship	5	0.725
	Level of information sharing	6	0.814
	Level of information quality	5	0.804
	Internal lean practices	2	0.489
Organizational Performance	Performance	7	0.782

Source: Survey data, 2021

### 3.14. Model and Estimation Techniques

In order to found the cause and effect relationship between dependent and independent variables, the study have used multiple regression model to measure the level of significant relationship between the dependent and independent variables. The model applied to show this influence will present as follows;

$$Y = \varepsilon + \beta_5 X_5 + \beta_4 X_4 + \beta_3 X_3 + \beta_2 X_2 + \beta_1 X_1 + \beta_0$$

**Where:**

Y = Organizational performance of pharmaceutical companies in Jimma

$\varepsilon$  = the error

X5= Internal lean practices

B5=Coefficient of regression for level of information quality

X4= Level of information quality

B4=Coefficient of regression for level of information

X3= Level of information sharing

B3=Regression coefficient for customer relationship

X2= Customer relationship

B2=Regression coefficient for strategic partnership

X1= Strategic supplier partnership

$\beta_1$  = Regression coefficient for strategic Supplier relationships

$\beta_0$  = Constant (value of Y when X1, X2, X3, X4 and X5= 0)

### **3.15. Ethical Considerations**

According to Leedy & Ormarod (2010), there are four ethical issues that need to be addressed in the process of undertaking a research: That are protection from harm, informed consent, right to privacy and honesty with professional colleagues. Therefore, the participants in this study was selected with full consent and informed to respond for questionnaires with confidence and understanding the purpose of the study; and the researcher were assure that as he were keep the information confidential and the data was used only for intended purpose. Also in order to keep the confidentiality of the data given by respondents, the subjects are assured that their responses were used only for the purpose of the study and their responses was treated in strictly confidential manner. An attempt was made first to explain the objectives and significance of the study to the respondents. The respondents were not required to write their name. The purpose of the study was disclosed in the introductory part of the questionnaire.

# **CHAPTER FOUR**

## **4. DATA ANALYSIS AND PRESENTATION**

### **4.1. Introduction**

This chapter was presented the data analysis and result interpretation of the research in order to presents the findings of this research on supply chain management practices on the organizational performance of Pharmaceuticals companies of Yiyi pharmaceuticals, Farees pharmaceuticals, Bama pharmaceuticals, Shanan Gibe pharmaceuticals, Badrug pharmaceutical, Jiren Pharmaceuticals, Tropical pharmaceutical and Oliyad Pharmaceuticals on its organizational performance that the collected data using quantitative method was tabulated and analyzed using descriptive and regression analysis statistical tools.

### **4.2. Data Processing**

About 77questioners are collected from out of 82 distributed questioners to the selected respondents that make 87.1% response rate and 12.9% non-response rate. There were more than 10% miss information and two were unreturned. However, in order to reduce the possible errors in the data administration, immediately after the collection of data the researcher has rinse out the outlier, missing values and discrepancies. Finally, 77 complete respondents' data are used for the survey analysis using SPSS version 21.

### **4.3. Descriptive Analysis**

In this part of analysis, the researcher has divided and describes it in to two parts. The first part focuses on the demographic information of the respondents with frequencies and percentage used for the analysis. The second part focused on the basic questions which are intended to acquire the perceptions and the feeling of the respondents towards supply chain management practices i.e. Strategic supplier partnership, customer relationship, level of information sharing, level of information quality and lean practices in the organizations and also focuses on the perceptions of the employees towards the organizational performance of the companies. Therefore, for the analysis mean and standard deviation are used to describe the findings

### 4.3.1. Demographic Data of the Respondents

The profile of the respondents' in the selected pharmaceutical companies of Yiyi pharmaceuticals, Farees pharmaceuticals, Bama pharmaceuticals, Shanan Gibe pharmaceuticals, Badrug pharmaceutical, Jiren Pharmaceuticals, Tropical pharmaceutical and Oliyad Pharmaceuticals companies are summarized in to two parts in this survey. The first one was about the respondents' gender, age, educational qualification, and their employee level in the organization, the second is about their experience and departments.

*Table 3: socio-demography of the respondents*

Variable	Category	Frequency	Percentage
<b>Gender</b>	Male	53	68.80%
	Female	24	31.20%
<b>Age</b>	Under 25 years old	11	14.30%
	25-35 years old	46	59.70%
	35-45 years old	12	15.60%
	Above 45 years old	8	10.40%
<b>Educational Qualification:</b>	Certificate/diplomas	25	32.90%
	Bachelor's degree	47	61.80%
	Post Graduate degree	4	5.30%
<b>Employee Level</b>	Other Staffs	45	59.20%
	Technical manger	16	21.10%
	General Manager	6	7.90%
	Store keeper	9	11.80%

*Source: Survey data, 2021*

According to the result in table 1, for the demographic characteristics are presented as follows. 53(68.8%) of the respondents are male and 24(31.2%) of the respondents are female 11(14.3%) of the respondents are blow 25 years old 46(59.7%) of the participants are 25 to 35 years old, 12(15.6%) of the participants are 35 to 45 years old and the rest 8(10.4) above 45 years old,

when we come to educational attainment of the respondent which was paramount in enabling the respondents to conceptualize issues related to resource utilization. This finding was in line with Katz (1992) finding that those with higher education are more successful as they have more knowledge and have modern supply chain management practice skills making them more conscious with related to organizational performance. That 25(32.9%) of them have certificate/ diploma, 47(61.8%) of the respondents have bachelor degree and 4(5.3%) of the respondents have master's degree. The other important factor on the respondents' demographic variable is the respondents' level of employment in the organization. In each pharmaceutical company, there are different levels of employment starting form staff level to the highest level of ranking. Out of the 77 valid responses on the survey, 45(59.2%) of the questioners were from staff level employees, 16(21.1%) are from the technical manager and 6(7.9%) are form the manger level of the employees and 9(11.7%). This implies that due to their detailed involvement on logistic and supply chain management practice of the company, the information gathered from them were accurate and relevant for the study.

Table 4: Department and years stayed

<b>Variable characteristics</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Years stayed at the sourcing and supply chain division</b>	Under two Years	15	19.5
	2-5 Years	44	57.1
	6-10 Years	8	10.4
	Above 10 years	10	13.0
<b>Your department</b>	Sourcing	44	57.1
	Logistics and Supply	33	42.9

Source: Survey data, 2021

When we see how long they have stayed in the company; 44(57.1%) of them have been working in the company for 2-5 years, 15(19.5%) of the participants have been working in the company years and 10(13.0%) of the respondents have been working above 10 years in the company and 8(10.4%) of the respondents have been working for 6- 10 years in the company. In logistic and supply chine division of each company, there are two departments, namely sourcing department, logistic and supply chain department, However, due to the employees detail involvement for the

companies supply chain of organizational activity, the researcher have selected only two department employees for this survey as the respondents'. So as it can be seen on the table the number of respondents' on the two selected department is proportionate. 44(57.1%) of them are from sourcing and the remaining 33(42.9%) is from logistic and supply department. This implies that the responses collected from them acquire detail and end to end information for the survey. Therefore, the findings can be generalizable for the organization.

#### 4.4. Descriptive analysis on Independent Variables (SCMP)

##### 4.4.1. Strategic Suppliers' Partnership (SSP):

To assess the strategic partnership of the pharmaceutical companies with the suppliers. The researcher looked at six variables like: actively involvement of key suppliers in new product development processes, participation of key suppliers in planning and goal-setting activities, role of the companies to improve their product quality, continuous improvement programs that include key suppliers regularly to solve problems jointly with companies and about consideration of quality as basic criterion in selecting suppliers. The summary of the analysis related to these variables were presented as in the following table.

*Table 5: Descriptive statistics on strategic supplier relationships*

	N	Mean	SD
We actively involve our key suppliers in new product development processes.	77	3.66	0.89
We include our key suppliers in our planning and goal-setting activities.	77	3.77	0.87
We have helped our suppliers to improve their product quality	77	3.86	0.91
We have continuous improvement programs that include our key suppliers.	77	3.94	0.95
We regularly solve problems jointly with our suppliers.	77	3.99	0.80
We consider quality as our number one criterion in selecting suppliers.	77	4.18	0.81

*Source: Survey data, 2021*



Regarding active involvement of key suppliers in new product development processes, the summary table above indicates that most companies (with average mean and standard deviation of (3.66 and (0.89) respectively) showed their agreement that they involve their key suppliers in the product development processes. When we look at the participation of key suppliers in planning and goal-setting activities, pharmaceutical companies use to include the stakeholders in the goal-setting and planning activities. In this case, the second row of table 4.3 illustrates that most pharmaceutical companies agreed that they allow the participation. The average mean of response was found to be (3.77) while the standard deviation was (0.87). The other issue under consideration was assessing the roles of the companies towards the improvement of their product quality. Concerning this, the data in the table 4.3 above revealed that the companies strive very much about the improvement of their product quality. Accordingly, the respondents agreed with the contributions of the improvement of product quality (average mean (3.86) and (0.91) standard deviation). Another issue was continuous improvement programs that include key suppliers, the most respondents of pharmaceutical companies agreed with continuous improvement programs, regarding this the data in the table 4.3 above in the fourth row naked that companies attempt greatly continuous improvement programs(average mean of (3.94) and standard deviation of (0.80), Regarding regular solving problems jointly with suppliers, the data on the table 4.3 above fifth raw shows that most respondents of pharmaceutical companies agreed solving the problem jointly by supplier with average mean of (3.99) and standard deviation of (0.80), and regarding to the sixth item, “whether the company consider quality first criterion in selecting suppliers”, majority of the respondents of pharmaceutical companies agreed that selecting the quality first criteria as illustrate on table 4.3 sixth raw above (with average mean and standard deviation of (4.18) and (0.81) respectively). As it is indicated on the table above based on the mean value, the variables for strategic partnership of pharmaceutical companies with suppliers vary from the highest 4.18, for the criteria for the selection of the supplier to the lowest (3.66) for involving suppliers for the new product and service development. Therefore, the implications of these results which the highest mean consider good quality as number one criterion in selecting suppliers. But lowest mean value which is 3.66 actively involve key suppliers in new product development processes and the companies should improve actively involve key suppliers in new product development processes and also the company has to work to improve the observed gap.

#### 4.4.2. Customer Relationship management (CSM)

To judge customer relationship management of the pharmaceutical companies the researcher looked at five items like: facilitate customers’ ability to seek assistance, evaluate the importance of our relationship with our customers. Periodically determine future customer expectations frequently to the extent which an organization developed a business process that provides the structure for how relationships with customers of that organization will be developed and managed. Frequently measuring and evaluating customer satisfaction on companies relationship with the customer, and interact with customers to set reliability, responsiveness, and other standards frequently with the respondent was asked five questions. The questions are selected to assess the company’s involvement in customer need, company’s feedback collection from customers, new products and services development based on the customers need and its speedy fulfillment of the customer orders, and on provision of products information as well as offering of technical assistance & training to users

*Table 6: Descriptive statistics on Customer Relationship*

	N	Mean	SD
We facilitate customers’ ability to seek assistance from us.	77	3.77	0.94
We periodically evaluate the importance of our relationship with our customers.	77	3.79	1,03
We frequently determine future customer expectations	77	3.83	1.02
We frequently measure and evaluate customer satisfaction.	77	3,99	0.94
We frequently interact with customers to set reliability, responsiveness, and other standards for us.	77	4.22	0.72

*Source: Survey data, 2021*

Regarding the facilitating customers’ ability to seek assistance from the companies, the summary table above indicated that most companies (with average mean and standard deviation of (3.77) and ( 0.94) respectively) showed their agreement that they involve the facilitating customers’ ability to seek assistance. Regarding the second item evaluate the importance of relationship with customer table 4.4 second raw above showed that most respondents of pharmaceutical companies agreed that evaluating the importance of relationship with customers with average

mean of (3.79) and standard deviation of (0.103) respectively, the other issue company determination for the future customer expectations, table 4.4 row three showed that most respondents of pharmaceutical companies agreed frequently determined customer expectation with average mean of (3.83) and standard deviation of (1.02), respectively the fourth item on table 4.4 fourth row above that frequently measuring and evaluating customer satisfaction, the data shows most respondents of pharmaceutical companies agreed measuring and evaluating customer satisfaction frequently with average mean of (3.99) and standard deviation of (0.94) and while frequently interact with customers to set reliability, responsiveness, and other standards .the summary table 4.4 above indicated that most companies (with average mean and standard deviation of (4.22) and ( 0.72) respectively) showed their agreement that they interact with customers to set reliability, responsiveness, and other standard. Also as it is indicated on the table above the highest mean value is observed for preparation of frequently interact with customers to set reliability, responsiveness, and other standards for based on customer need which was (4.22). However, lowest mean which was (3.77) for facilitating customers' ability to seek assistance. This implies that, pharmaceutical companies provide good frequently interact with customers to set reliability, responsiveness, but the facilitating customers' ability to seek assistance is lower in pharmaceutical companies. Therefore, the company has to work to improve the observed gap.

#### **4.4.3. Level of Information Sharing (LIS)**

To assess the level of information sharing of the pharmaceutical companies the researcher looked at six items like: the trading partners keep information about events or changes that affect the other partners, the trading partners keep information fully about issues that affect business, the trading partners exchange information that helps establishment of business planning, the partners share business knowledge of core business processes as well with us and inform trading partners in advance of changing needs. In this case to clarify more the level of information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner. Shared information can vary from strategic to tactical in nature and from information about logistics activities to general market and customer information. To verify organizational level of information sharing with the trading partners, six questions are provided to the respondents and their answer are summarized on the following table.

*Table 7: Descriptive Statistics on Level of information sharing*

	N	Mean	SD
We and our trading partners keep each other informed about events or changes that may affect the other partners.	77	3.61	0.96
Our trading partners keep us fully informed about issues that affect our business.	77	3.69	0.95
We and our trading partners exchange information that helps establishment of business planning.	77	3.73	0.85
Our trading partners share business knowledge of core business processes with us.	77	3.75	0.89
Our trading partners share business knowledge of core business processes with us.	77	3.78	0.93
We inform trading partners in advance of changing needs	77	4.02	0.83

*Source: Survey data, 2021*

Regarding the level of information sharing of the pharmaceutical companies the trading partners keep information about events or changes that affect the other partners, the trading partners keep information fully about issues that affect business, the trading partners exchange information that helps establishment of business planning, the partners share business knowledge of core business processes as well with us and inform trading partners in advance of changing needs

Regarding, the trading partners keep information about events or changes that affect the other partners, the summary table 4.5 first row above indicates that most respondents of pharmaceutical companies agreed (with average mean and standard deviation of (3.61) and (0.96) respectively), the second item that the trading partners keep information fully about issues that affect business, the participants showed their agreement that they involve keep information fully about issues that affect business (with average mean and standard deviation of (3.69) and (0.95) respectively), the 3rd item that the trading partners exchange information that helps establishment of business planning, the information of respondents indicates that exchange of information helps establishment of business planning with average mean of (3.73) and standard deviation of (0.85), Another issue under consideration was assessing the role trading partners share business knowledge of core business processes, Concerning this, the data in the table 4.5

4<sup>th</sup> row above shows most respondents agreed with average mean (3.75) and standard deviation (0.89), regarding the fifth item trading partners share business knowledge of core business processes, the data on the table 4.5 above fifth row shows that most respondents of pharmaceutical companies agreed sharing business knowledge to core business process as shows with the average mean of (3.78) and standard deviation (0.93) and the last item that inform trading partners in advance of changing needs, the summary table 4.5 sixth row above indicates that most companies (with average mean and standard deviation of (3.66) and (0.89) respectively) showed their agreement that they informing exchange partners in advancing of changing need. Therefore, as it is indicated on the table above the highest mean value is observed for preparation of that inform trading partners in advance of changing needs which is (4). However, lowest (3.78) mean is for us and our trading partners keep informed about events or changes that may affect the other partners. This implies that, pharmaceutical companies provide good informing trading partners in advance of changing needs but we and our trading partners keep informed about events or changes is lower in pharmaceutical companies. Therefore, the company has to work to improve the observed gap.

#### 4.4.4. Level of Information Quality (LIQ)

Ensuring the quality of the shared information becomes a critical aspect of effective SCMP in any organization. In order to assess the quality of information sharing in companies, five variables such aspects as the accuracy, timeliness, adequacy, accuracy and reliability of information exchanged were used and the results are presented on the following table.

**Table 8: Descriptive Statistics on Level of information Quality**

	N	Mean	SD
Information exchange between our trading partners and us is adequate	77	3.66	0.98
Information exchange between our trading partners and us is complete.	77	3.74	0.92
Information exchange between our trading partners and us is accurate	77	3.77	0.92
Information exchange between our trading partners and us is reliable.	77	3.78	0.93

Information exchange between our trading partners and us is timely.	77	3.93	0.92
---	----	------	------

Source: Survey data, 2021

Regarding adequate Information exchange between trading partners and stockholders, the summary table 4.6 first row above indicates that most companies (with average mean and standard deviation of (3.66) and (0 .98) respectively) showed their agreement that they exchange adequate information,. About the second item as information exchange in between was complete the table 4.6 second row above reveal that most respondents of pharmaceutical companies agreed that complete information exchange (with average mean and standard deviation of (3.74) and (0 .92) respectively), the other issue Information exchange between trading partners and suppliers was accurate, in this case the table 4.6 3<sup>rd</sup> row indicates that most company respondents were agreed with average mean of (3.77) and standard deviation of (0.92), the fourth item which was n information exchange between trading partners was reliable, regarding this the table 4.6 4<sup>th</sup> row indicates most pharmaceutical companies respondents were shows their agreement with average mean of (3.78) and standard deviation (0.93) while frequently interact with customers to set reliability, responsiveness, and other standards .the summary table 4.4 above indicates that most companies (with average mean and standard deviation of (4.22) and 90 .720 respectively) showed their agreement that they interact with customers to set reliability, responsiveness, and other standard determination for the future customer expectations, table 4.4 raw three demonstrate most respondents of pharmaceutical companies agreed frequently determine customer expectation with average mean of (3.83) and standard deviation of (1.02), the fourth item on table 4.4 fourth row above that frequently measuring and evaluating customer satisfaction, the data shows most respondents of pharmaceutical companies agreed measuring and evaluating customer satisfaction frequently with average mean of (3.99) and standard deviation of (0.94) and while information exchange between trading partners and suppliers were timely, the summary table 4.6 fifth row above indicates that most companies (with average mean and standard deviation of (3.93) and (0 .92) respectively) showed their agreement that the information exchange were in timely. Therefore, as it is indicated on the table above the highest mean value is observed for preparation of Information exchange between our trading partners and us is timely which (3.93) are. However, lowest mean value which is (3.66) Information exchanges between our trading partners and us is adequate. This implies that, pharmaceutical

companies provide good Information exchange between our trading partners and us is timely needed but Information exchange between our trading partners and us is adequate is lower in pharmaceutical companies. Therefore, the company has to work to improve the observed gap.

#### 4.4.5. Internal Lean Practices (LP):

To assess internal lean practice (LP) that associated with continuous pursuit of improving the processes like: the firm produces only what is demanded by customers when needed (e.g. JIT) and the firm reduces process set-up time. The philosophy of eliminating all non-values adding activities and reducing waste within an organization. Therefore, to find out the lean practice of organization, two questions were asked for its employees and the findings are summarized as follows.

Table 9: **Descriptive Statistics on Internal Lean Practice**

	N	Mean	SD
Our firm produces only what is demanded by customers when needed (e.g. JIT)	77	3.78	0.79
Our firm reduces process set-up time	77	3.94	0.67

*Source: Survey data, 2021*

As it is showed on the table 4.7 first raw for the 1st firm produces only what is demanded by customers when needed hat majority of the respondents agreed with average mean of (3.78) and standard deviation of (0.79), while the second raw item that was secure reduces process set-up time illustrate most respondents of pharmaceutical companies agreed as indicates on above table 4.7 with average mean of (3.94) and standard deviation of (0.67) respectively. Therefore, as it is indicated on the table above the highest mean value is observed for preparation of the services based on customer need which is (3.94). However, lowest (3.78) mean is for the reduction of process setup time. This implies that, pharmaceutical companies provide its product and services whenever needed but the equipment setup time for delivery of services is lower in pharmaceutical companies. Therefore, the company has to work to improve the observed gap.

#### 4.4.6. Descriptive Analysis on Dependent Variable (OP)

Organization performance was conceptualized as the dependent variable in the study. Seven questionnaire items reflecting reliability, responsiveness, flexibility, cost, and efficiency were

therefore used to measure the pharmaceutical companies prevailing levels of performance. Responses were also produced on a 5-point likert scale with the following options. 1–strongly disagree; 2–disagree; 3- neutral; 4-agree; 5-strongly agree. In this case to assess the organizational performance (OP) of the pharmaceutical companies, the researcher looked at seven variables like: growth of sales is significantly increasing, the company’s profit margin on sales is significantly increasing ,return on investment is significantly increasing, the company’s market share is significantly increasing, the company’s customers’ satisfaction is significantly increasing, the company’s supplier’s satisfaction is significantly increasing, and the company’s employees’ satisfaction is significantly increasing. These were used to measure “how well an organization achieves its market-oriented goals as well as its financial goals” (Li et al., 2004). This measure was assessed using 7 items. These 7 items were answered a 5-point Likert-type that organizational performance was achieved through planning accuracy, delivery of goods and services to customers in a way that meet and even going beyond the expectation of the customers.



Table 10: **Descriptive Statistics on Organizational Performance**

<b>Descriptive Statistics for organizational performance</b>			
	N	Mean	SD
Our employees satisfaction is significantly increasing	77	3.47	1,16
Our suppliers satisfaction is significantly increasing	77	3.74	1.01
Growth of return on investment is significantly increasing	77	3.96	0.78
Our customers satisfaction is significantly increasing	77	3.97	0.86
Our market share is significantly increasing	77	4.09	0.79
Our profit margin on sales is significantly increasing	77	4,10	0.88
Growth of sales is significantly increasing	77	4.23	0.81

*Source: Survey data, 2021*

Regarding growth of sales is significantly increasing, the summary table 4.8 first row above indicates that most respondents the companies agreed (with average mean and standard deviation of (3.47) and (1.16) respectively) showed their agreement that growth of sales is significantly increasing. When we look at supplier’s satisfaction was significantly increasing the second item table 4.8 indicate that most participants of pharmaceutical companies agreed (with average mean(3.74) and standard deviation of (1.01) showed their agreement, the another issue Growth of return on investment is significantly increasing on table 4.8 3<sup>rd</sup> row as indicated most respondents agreed with average mean of (3.96) and standard deviation of (0.78) shows their agreement that Growth of return on investment is significantly increasing, the 4<sup>th</sup> issue was customers satisfaction is n of increasing as shown on the table 4.8 4<sup>th</sup> row above most respondents agreed with average mean of (4.97) and standard deviation of ( 0.86) as the company’s customers’ satisfaction is significantly increasing, the 5<sup>th</sup> item that was the company’s market share is significantly increasing as it is indicated on the table 4.8 5<sup>th</sup> row above most respondents agreed with average mean of (4.09) and standard deviation of (0.79) that on the company’s market share is significantly increasing, The other sixth item that was the company’s supplier’s satisfaction is significantly increasing that most respondents agreed as above table 4.8 6<sup>th</sup> row indicating with average mean of (4.10) and standard deviation of (0.88) and the last which is growth of sales is significantly increasing as illustrated on table 4.8 7<sup>th</sup> row most respondent of pharmaceutical companies agreed as companies growth of sales increasing

with indication of average mean and standard deviation of (4.23) and (0.81) respectively. Therefore, as it is indicated on the table above the highest mean value is observed as the Growth of sales is significantly increasing which is (4.23). However, lowest (3.47) mean is for the reduction employees satisfaction is significantly increasing. This implies that, pharmaceutical companies provide its product and services whenever needed but the equipment setup time for delivery of services is lower in pharmaceutical companies. Therefore, the company has to work to improve the observed gap.

#### 4.5. Multiple Regression Assumptions

In order to get the reliable and dependable result of the analysis, all the assumptions of the multiple regressions should be fulfilled before making the regression analysis interpretation. Therefore, before going to answer the research questions, the researcher have tested the following pre regression assumptions and the assumption results are presented on the following topics of this research paper.

#### 4.6. Reliability Test for Survey Data

Before the data collected are used for testing the relationship between variables, the researchers have tested the reliability of the collected data using the Cronbach alpha reliability test. It measures the extent to which item responses obtained at the same time correlate highly with each other and the widely accepted social science cut off point is that alpha should be (0.70) or higher for a very good of items to be considered a scale (Field, 2009)

Table 11: Reliability Test for Survey Data

Construct	Variables	Number of items	Cronbach's Alpha
SCM Practices	Strategic supplier partnership	6	0.749
	Customer relationship	5	0.725
	Level of information sharing	6	0.814
	Level of information quality	5	0.804
	Internal lean practices	2	0.489
Organizational Performance	Performance	7	0.782

Source: Survey data, 2021

As can be seen custom SPSS created data on Table 4.9, the calculated coefficient Cronbach's alpha for this study was found to be more than 0.7 for all variables, which is settling the variables to be internally consistent for each variable for lean practice. A general accepted rule is that  $\alpha$  of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level. However, values higher than 0.95 are not necessarily very good, since they might be an indication of redundancy (Hulin, Netemeyer, and Cudeck, 2001). Reliability analysis (Cronbach's Alpha) was carried out on each of the dimensions of questionnaire which were then compared to the conventional cut-off point of 0.70. A Cronbach's alpha higher than 0.7 indicates internal consistency on the instrument (Field, 2005; Pallant, 2013). The reliability of the questionnaire for this research was also statistically calculated using Cronbach's Alpha. In the study of testing the amounts of Cronbach's Alpha was calculated at 97% of the questionnaire. And each dimensions result shows Cronbach's Alphas ranging from 0.489 to 0.814. These alpha coefficients are all higher than the conventional level of 0.70, suggesting that each subscale used in the study had acceptable internal consistency and hence reliable in measuring what they were designed to measure as shown in the table 4.10 above.

Validity is the extent to which it gives the correct answer (Kirk and Miller, 1986). It indicates the degree to which an instrument measures what it is supposed to measure. Questionnaire papers were modified according to literatures within the specific topic and were reviewed by professionals and academicians.

#### **4.7. Correlation Analysis**

A correlation analysis was performed to determine if there were any relationships between the independent variables (supply chain management practices i.e. strategic supplier partnership, customer relationship, information sharing, information quality and lean practices) and the dependent variable (organizational performance). To analyze the relationship between variables descriptive techniques are used. As described by Amin (2005) descriptive statistics provides us with the techniques of numerically and graphically presenting information that gives an overall picture of the data collected. To analyze data Pearson's correlation analysis was used and the correlation is significant at 0.01 values. In order to interpret the results of the correlation there

are standards. According to Somekh and Lewin (2005) the criterion for evaluating the magnitude of a correlation was as follows: There is relationship among the supply chain management a correlation analysis was performed to determine if there were any relationships between the independent variables (supply chain management practices i.e. strategic supplier partnership, customer relationship, information sharing, information quality and lean practices) and the dependent variable (organizational performance). As shown in table 4.10 below, the Strategic supplier partner has relationship with Customer relationship , level of information sharing , level of information (LIQ), internal lean practice(ILP), and organizational performance(OP)  $r = 0.493$ ,  $0.439$ ,  $0.463$ ,  $0.526$  and  $0.513$  respectively. In other hands, customer relationship (CR) has a relationship with level of information sharing (LIS), level of information quality (LIQ), internal lean practice (ILP) and organizational performance (OP) with(  $r=0.663$ ), ( $0.638$ ) , ( $0.407$ ) and ( $0.656$ ) respectively and level information sharing (LIS) has a relationship with level information quality (LIQ) and internal lean practice (ILP) and organization performance (OP) with  $r=(0.742)$ , ( $0.430$ ) and ( $0.429$ ) respectively and level of information quality (LIQ) has a relationship with internal lean practice (ILP) and organizational (OP) with  $r= (0.589)$  and ( $0,610$ ) respectively and internal lean practice (ILP) has relationship with organizational (OP) with  $r=(0.591)$ . When their relationship compared, the relationship between level information quality (LIQ) and level information sharing (LIS) ( $0.742$ ) is higher than the relationship between level information sharing (LIS) and customer relationship CR, ( $0.663$ ), the relationship between organizational performance (OP) and customer relationship (CR) ( $0.656$ ), organizational performance (OP) and level information relationship (LIQ) ( $0.61$ ).

Table 12: Correlation analysis

Correlations		SSP	CR	LIS	LIQ	ILP	OP
SSP	Pearson Correlation	1					
CR	Pearson Correlation	0.493**	1				
LIS	Pearson Correlation	0.439**	0.663**	1			
LIQ	Pearson Correlation	0.463**	0.638**	0.742**	1		
ILP	Pearson Correlation	0.526**	0.407**	0.430**	0.589**	1	
OP	Pearson CorrelationI	0.513**	0.656**	0.429**	0.610**	0.591**	1

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

*Survey data, 2021*

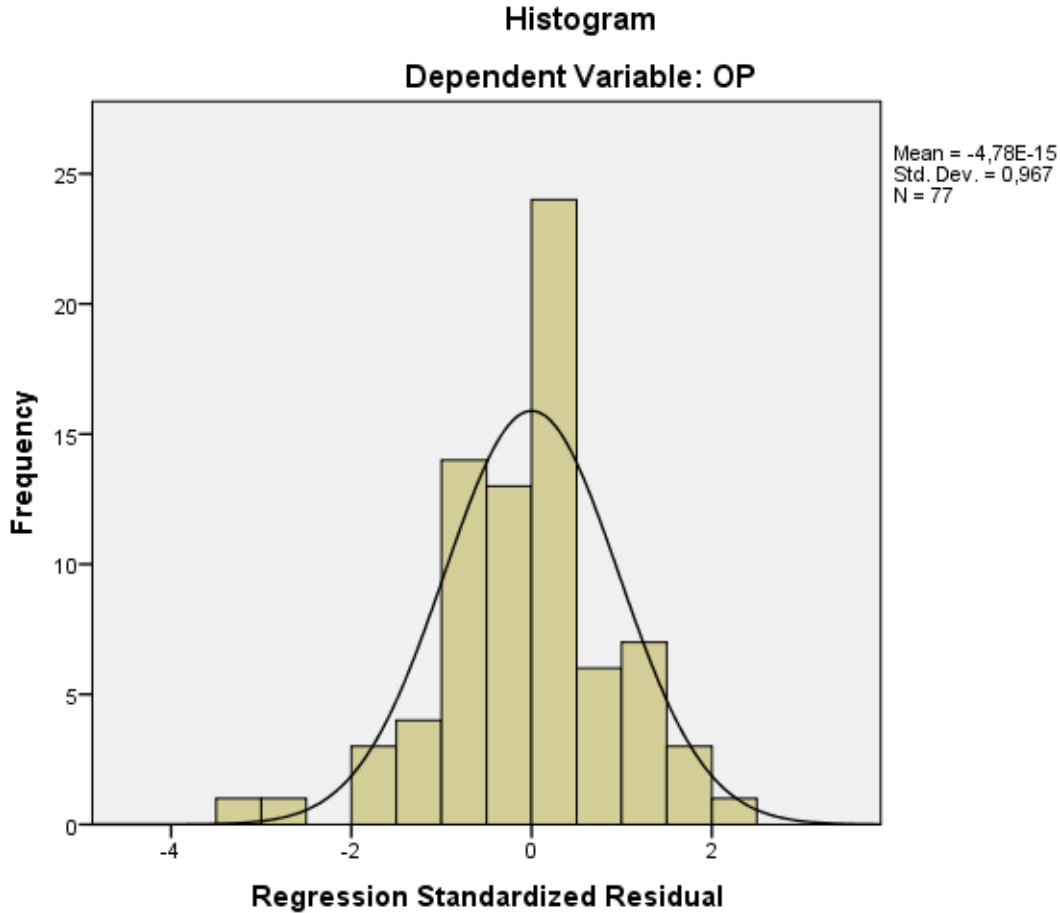
## 4.8. Assumption Tests

Before applying the multiple linear regression analysis to test the effect of supply chain management practice on Organizational performance, some tests were conducted in order to ensure the appropriateness of data analysis as follows:

### 4.8.1. Normality Test

The researcher used histogram method of testing the normality of the data. Histogram is bell shaped which lead to infer that the residuals (disturbance or errors) are normally distributed. The residuals should be normally distributed about the predicted dependent variable score. As shown on figure 4.17 below, dependent Variable is normally distributed for each value of the independent variables

Figure 3: **The regression model assumption of normality in the study**



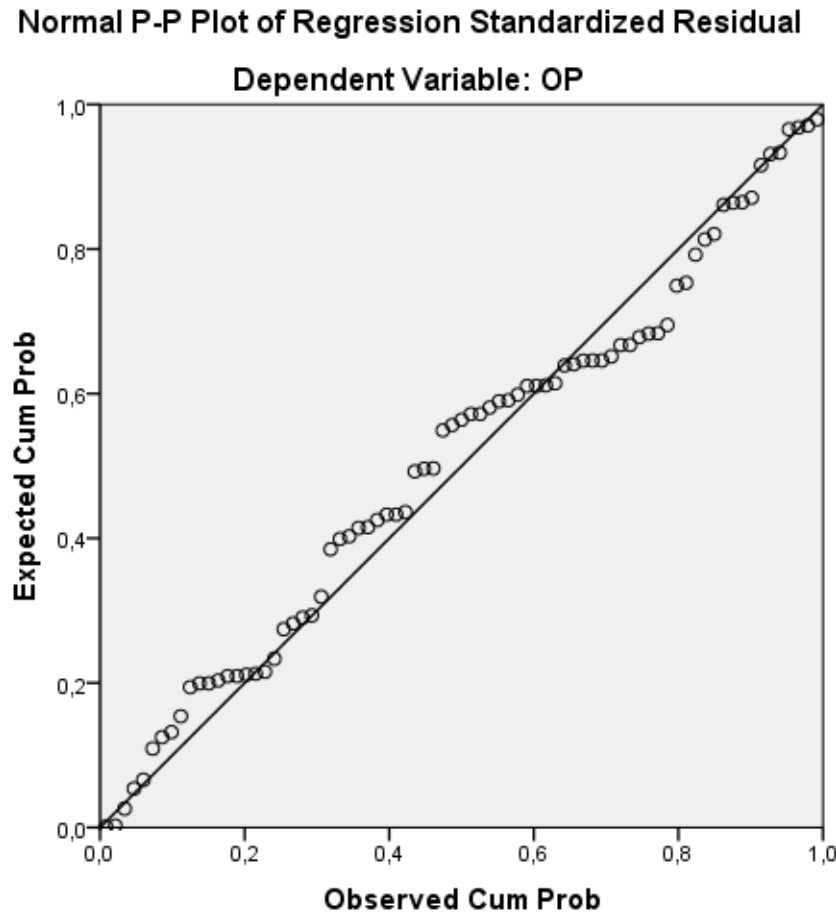
Source: Survey data, 2021

#### 4.8.2. Linearity Test

Linearity refers to the degree to which the change in the dependent variable is related to the change in the independent variables. To determine whether the relationship between the independent variables; (supply chain management practices i.e. strategic supplier partnership, customer relationship, information sharing, information quality and lean practices) and the dependent variable (organizational performance). is linear; plots of the regression residuals through SPSS version 21 software had been used. In case of linearity, the residuals should have a straight line relationship with predicted dependent variable scores.

As shown on figure below, the change in the dependent variable is more of related to the change in the Independent Variables. Therefore, there is no linearity problem on the data for this study and residual follow at straight line.

Figure 4: **The regression model assumption of linearity in the study**



*Source: Survey data, 2021*

#### **4.9. . Multiple Regression Analysis**

Upon the completion of the correlation analysis and different model tests (linearity, normality, , regression analysis were run to find any association between the independent variables (supply chain management practices i.e. strategic supplier partnership, customer relationship, information sharing, information quality and lean practices) and the dependent variable (organizational performance). According to Hair.et al. (2007), multiple regression analysis is a

.khi form of general linear modeling and is an appropriate statistical technique when examining the relationship between a single dependent variable and several independent variables (predictors). Table 4.11 below shows, the R value obtained by regression was (0.775) and the Adjusted R square value was 0.572 which means that (57.2%) variations in organizational performance have been explained by the supply chain management jointly and (39.1%) was due to other factors.

Table 13: **Model Summary**

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.775 <sup>a</sup>	.601	.572	.391

a. Predictors: (Constant), LIS, ILP, SRM, CR, LIQ

b. Dependent Variable: OP

*Survey data, 2021*

The Analysis of Variance (anova) results of the regression between predictor variables and organizational performance shows that, the probability value of 0.001 ( $p < 0.05$ ) indicates the relationship was highly significant in predicting how the supply chain management practice i.e. Strategic supplier Partnership, customer relationship, level of information sharing, quality of information sharing and lean practice explain Organizational performance. The most important part of the table is the F-ratio, which is a test of the null hypothesis that the regression coefficients are all equal to zero. Because R<sup>2</sup> is not a test of statistical significance (it only measures explained variation in Y from the predictor Xs), the F-ratio is used to test whether or not R<sup>2</sup> could have occurred by chance alone. In short, the F-ratio found in the anova table measures the probability of chance departure from a straight line as shown in table 4.13 below.



Table 4.13. Anova table

**ANOVA<sup>a</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	16,361	5	3,272	21,351	,000 <sup>b</sup>
Residual	10,881	71	,153		
Total	27,242	76			

a. Dependent Variable: OP

b. Predictors: (Constant), LIS, ILP, SRM, CR, LIQ

Source: Survey data, 2021

For this survey data shown on the table 4.13, F is 21,351, which is significant at  $p < 0.001$  (because the value in the column labeled Sig. is less than 0.001). This result tells us that there is less than a 0.1% chance that an F-ratio this large would happen, if the null hypothesis proposed about F-ratio were true. Therefore, we can conclude that our regression model results in significantly better prediction of organizational performance and that the regression model overall predicts the organizational performance significantly well. In other hands, the P-value can explain the variation in the dependent variable, that is when the P-value is less than 0.05 the independent variables do a good job explaining the variation in the dependent variable. Whereas, when the P-value is greater than 0.05 then, the independent variables do not explain the variation in the dependent variable. To this effects, since P-value is 0.001 ( $p < 0.05$ ), supply chain management practice do a good job explaining the variation in the dependent variable (organizational performance).

#### **4.10. Regression Analysis for SCM Practices and Organizational Performance**

The collected data from the employees of pharmaceutical companies were used to make the inferential analysis of the study. The researcher conducted a multiple regression analysis so as to test the relationship among independent variables and dependent variable. This regression analysis is conducted to know by how much the independent variable explains the dependent variable. In other hand the coefficient of regression analysis used in order to know which of the predictors' i.e. SSP, CR, IS, IQ or LP has contributed significantly to our understanding of Y (organizational performance), the following table shows Coefficients when we explore each predictor's beta (i.e., standardized regression coefficient) and its level of significance. The Beta Coefficient (B) result shows the strength of the effect of each

individual independent variable to the dependent variable (organizational performance) as shown in table 4.14 below

Table O14: **Coefficient Table for regression analysis**

**Coefficients**

Model	Unstandardized Coefficient		Standardized Coefficients	T	Sig	95,0% Confidence Interval for	
	B	Std.Error	Beta			Lower Bound	Upper Bound
1(Constant)	0.934	0.345		2.707	0.008	246	1.622
SSP	0.111	0.093	0.113	1.190	0.238	-0.075	0.297
LIQ	0.246	0.110	0.287	2.231	0.029	0.026	0.465
ILP	0.266	0.093	0.284	2.854	0.006	0.080	0.452
CR	0.416	0.093	0.486	4.488	0.000	0.231	0.600
LI	-0.255	0.111	0.277	2.298	0.024	-0.477	-0.034

a. Dependent Variable: OP

Source: Survey data, 2021

In other hands, based on the table 4.14 above, the Beta value (B) of SSP is .011 which means that as SSP increase by 1 percent, the Organizational performance will increase by 11.1% keeping the other factors constant. Similarly, the Beta value (B) of LIQ is 0.246 which implies that as LIQ increase by 1 percent, the Organizational performance will increase by 24.6% assuming the other variable is held constant. the Beta value (B) of LIP is 0.266 which shows as LIS increase by 1 percent, the Organizational performance will increase by 26.6% keeping other factors constant. CR increase by 1 percent, the Organizational performance will increase by 41.6%. LI increase by 1 percent, the Organizational performance will decrease by-0.25.5% generally, based on the regression coefficient (B) results, customer relationship can predict more Organizational performance than other variables keeping other constant

The model applied to show this influence was presented as follows

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$$

**Where:** Y = Organizational performance of pharmaceutical companies

$\beta_0$  = Constant (value of Y when X1, X2, X3, X4 and X5)

$\beta_1$  = Regression coefficient for strategic Supplier relationships

X1= Strategic supplier partnership

B2=Regression coefficient for strategic partnership

X2= Customer relationship

B3=Regression coefficient for customer relationship

X3= Level of information sharing

B4=Coefficient of regression for level of information

X4= Level of information quality

B5=Coefficient of regression for level of information quality

X5= Internal lean practices

$\varepsilon$  = the error

**Therefore  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$**

$$Y = 0.934 + 0.111X_1 + 0.416X_2 + -0.255X_3 + 0.246X_4 + 0.266X_5 + 0.391$$

Form the above equation, if X1 differed by one unit (and X2, X3, X4, X5 did not differ) Y (organizational performance of pharmaceutical companies) was differing by B1 units, on average. The same holds for the other variables. Therefore, for our model if the strategic supply chain partnership increases by 1%, on average, the organizational performance of pharmaceutical companies were increased by 0.111 %. Similarly,  $\beta_1$  was interpreted as the difference in the predicted value in organizational performance for each one-unit difference in X1 if X2, X3, X4, X5 remains constant. So compared to a one percent increase in the customer relationship of pharmaceutical companies, we would expect the organizational performance of the company was increase by 0.832% having constant the other variables. In addition, holding or keeping the other variables constant, for one percent increase in organizational performance, 0.765% is form the information sharing, 0.984% is form information quality and 1. 33% form lean practice of the organization.

### **The outcomes based on Research Questions**

1. Based on the finding of the study, the researcher has answered for the following research questions which were **1<sup>st</sup>How the strategic supplier partnership influence the organizational Performance pharmaceutical companies?** Based on generated data, strategic supplier partnership has a positively and significantly influence the organizational performance of pharmaceutical companies, where the t- statistic value was

calculated to be 1.19 at  $p$  value  $< 0.05$ . The value of the coefficient of strategic supplier partnership was also found to be 0.111 which means that, keeping other things constant, a unit change in strategic partnership cause 11.1% increase in organizational performance of the company. **2<sup>nd</sup> How the customer relationship influence the organizational Performance of pharmaceutical companies?** The coefficient of customer relationship was 0.416, which means a unit change in this variable increases organizational performance by 41.6%, keeping other variables constant. The  $t$ -statistic value of customer relationship was 4.49 significant at  $p$  value  $< 0.05$ , which makes the customer relationship and organizational performance has positive and statistically significant relationship. **3<sup>rd</sup>.How the level of information sharing influence the organizational Performance of pharmaceutical companies?** It is also found that level of information sharing has a positively and significantly influence the organizational performance of pharmaceutical companies, where the  $t$ - statistic value was calculated to be 2.29 are significant at  $p$  value  $< 0.05$ . The value of the coefficient of customer relationship was also found to be 0.255 which means that, keeping other things constant, a unit change in level of information sharing causes 25.5% increase in organizational performance of the company. **4<sup>th</sup> How the level of information quality influence the organizational Performance of pharmaceutical companies?** Based on the finding level of information quality has also a positively and significantly influence the organizational performance of pharmaceutical companies, where the  $t$ - statistic value was calculated to be 2.23 are significant at  $p$  value  $< 0.05$ . The value of the coefficient of customer relationship was also found to be 0.246 which means that, keeping other things constant, a unit change in level of information quality causes 22.3% increase in organizational performance of the company and **5<sup>th</sup> How the lean practice influence the organizational Performance of pharmaceutical companies?** Level of lean practice has also a positively and significantly influence the organizational performance of pharmaceutical companies, where the  $t$ -statistic value was calculated to be 2.85 are significant at  $p$  value  $< 0.05$ . The value of the coefficient of customer relationship was also found to be 0.266 which means that, keeping other things constant, a unit change in lean practice causes 26.6% increase in organizational performance of the company.

In general, the survey result showed that there is a significant and positive relationship between independent variables of supply chain practices and the organizational performance of pharmaceutical companies.

Therefore, as it is indicated on the above figure, by improving the supply chain management practices i.e. strategic supplier partnership, customer relationship, level of information sharing, level of information quality and lean practices of pharmaceutical companies, the organizational performance of the organization could significantly and positively improved. The finding of this survey is consistence with the findings of the other empirical researches findings on the area of the study. The relationship between strategic supplier partnership, customer relationship, level of information sharing, level of information quality finding also is supported by (Li, S., et al., 2005), (Mutuerandu, 2014)y, (Karimi & Rafiee , 2014), (Charles, *et al.*, 2014), (Li, *et al.*, 2006) (Mutuerandu, 2014) and (Mustefa, 2014). The finding for the relationship between lean practice and organization performance are supported by the finding of (Mustefa, 2014)

# CHAPTER FIVE

## 5.1. SUMMERY, CONCLUSION AND RECOMMENDATION

In this section, the summery conclusions of the research findings that have been analyzed and discussed in the previous chapter are briefly presented. Furthermore, based on the findings of this study possible recommendations are made.

### 5.2. Summary of the Findings

The main objective of this study was to assess the outcome of supply chain management practices on the organizational performance of pharmaceutical companies and also it is to assess the implementation of supply chain practices and organizational performance in the company. The results are show that the supply chain management practices (Strategic supplier relationship, customer relationship, level information sharing, level of information quality and Lean practice) has significant impact on the organizational performance of pharmaceutical companies. The findings of the survey also shows that that 57.2% of corresponding change in determining organizational performance of pharmaceutical companies was the results of the change in supply chain practices of all the five predictor variables jointly. The test of overall significance of all the five variables jointly i.e. strategic supply chain relationship, customer relationship, level of information sharing, level of information quality and lean practices are significant at .05 level which found out that the model used for this survey is also to be significant

### 5.3. Conclusion

Base on the finding using the data collected and by using multiple regression analysis, the results showed that the outcomes of supply chain management practices on the organizational performance of pharmaceutical companies are significantly and positively related with the organizational performance of the company. Specifically,

- Strategic supply chain relationship and organizational performance are significantly and positively related, so strategic supply chain relationship is one of the main predictor of the organizational performance of pharmaceutical companies. As strategic relationship of pharmaceutical companies considered quality as number one criteria for supplier selection and the company jointly solve problems with the suppliers. Pharmaceutical

companies' do not involve suppliers in the continuous improvement programs, on planning and goal setting as well as in product and service development.

- Customer relationship and organizational performance are also significantly and positively related. A pharmaceutical company evaluates the customer satisfaction and facilitates the interaction for customer assistance. influence
- The relationship between the level of information sharing and organizational performance are positive and significant. Pharmaceutical companies inform the suppliers about the changing need, proprietary information and any issues. However, pharmaceutical companies plan together with its suppliers.
- The relationship between the level of information quality and organizational performance are also positive and significant. Pharmaceutical companies have complete, adequate and reliable information exchange with the suppliers. However, pharmaceutical companies do not have on time information exchange with its suppliers.
- Lean practice and organizational performance relationship are positive and significant in pharmaceutical companies. The company provides products and services whenever needed by the customer. However, the company has problem to set up time for delivering product and service to the customer.
- Further study is crucial in order to give a strong conclusion regarding to outcome of supply chain Management practices on organizational performance by minimizing different limitations of this study. The results presented in this study contribute to the companies' to focus on quality of information sharing and customer relationship management in order to build up their organizational performance. Since the major findings indicates that the quality of information sharing has positive and significant influence on organizational performance.
- The researcher suggests that quality of information sharing and customer relationship management must be in the best attention of business organizations to take a proactive role in the management of their supply chain in establishing a strong position over its competitors and achieving their goals. Beyond limitations of the study, validity and reliability were tested using values of Cronbach's alpha more than 0.7 is good. The alpha values in this study are greater from 0.7. Therefore, it had very good reliability for the questionnaires.

- Based on the descriptive statistics finding, on the average pharmaceutical companies supply chain management practices has more than average level of implementation level and the supply chain practice of the company and its organizational performance also shown more than average level of performance. However, due to inefficiencies of the supply chain management practice the company do not reached at its top operational level, still the company has the problem in some aspects of supply chain management practices in the company. Therefore, based on the observed findings the researcher has tried to answer to all the research question of the study.

#### **5.4. Recommendation**

The following recommendations can be drawn from the analysis and conclusions made.

- Strategic supply chain partnership of pharmaceutical companies will improve if the company involves suppliers in the continuous improvement programs, on planning and goal setting as well as in new product and service development.
- Customer relationship will be improved if the company's determination for the customer satisfaction improved together with other customer relationship variables.
- Pharmaceutical companies better to involve suppliers in planning stage in order to meet the customer needs and to improve the pharmaceutical company's level of information sharing.
- The level of information quality in pharmaceutical companies will be improved if on time information exchange of the company with its suppliers improved. Therefore, pharmaceutical companies should improve on time and accurate information exchange with the suppliers.
- The Company has to work more on solving the problem in product set up time for delivering service to the customer.
- The companies should further increase their quality of information sharing performance through enhancing the time, accuracy, completeness, adequacy and reliability of the information exchanged.



- The companies should further increase their customer relationship management performance
- Further study should be done by increasing more number of pharmaceutical companies and increasing the number of independent variables to get more accurate findings
- This research was limited to a small sample; future research should attempt to sample from a larger population of pharmaceutical company in an attempt to increase sample size and diversity. A larger and more diverse sample will enable future research to integrate a greater number of statistical analysis techniques, improve the reliability and validity of the instrument, and generate more significant findings.
- Future research should attempt to collect data on each of the key SCM practices in an attempt to determine the relationship each of the practices has with organizational performance. This will provide vital insight into which practices appear to be most significant to creating and improving organizational value and whether this appears to vary between companies.

## **5.5. Implications and Limitation for Further Research**

Even if there are many SCM practices, this research limits itself only on five practices namely: strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and lean practice. In terms of organizational performance the study was delimited to operational; which was measured by price/ cost, quality, delivery dependability and time to market because of financial and time related factors and the other limitation survey used as the only data collection method so it may have its own negative influence in the study and the other uninterested of respondent and filling the data properly not. While these results are valuable, the limitation of this study must also be considered. Potential limitations of this research are not considering the responses of the other tier supply chain members i.e. suppliers and customer, only taking the organizational performance as the performance measures, and not considering the other contextual factors i.e. type of industry, firm size and supply chain length. In addition, the data for the study only consisted of responses from single respondents in an organization which may be a cause for possible response bias. Therefore, the results have to be interpreted taking this limitation into account. Future studies can examine the proposed

relationships by bringing some contextual variables and additional dimensions into the model in order to fill the observed gap.

However, by validating a multi-dimensional effective measure of the construct of SCM practice and by demonstrating its efficacy with organizational performance, the present study provides important insights for pharmaceutical company's management. It can be used as the useful tool for evaluating the strength and weakness of the current SCM practices of the company. This study also provides empirical evidence to support conceptual and prescriptive statements in the literature regarding the impact of SCM practices.

## Reference

- Addis, T., 2015. *The Impact of supply chain management practices on performance of pharmacies in governmental health facilities in Addis Abeba.*, Addis Ababa University School of Commerce: Unpublished Master's Thesis.
- Ali R. (2013): "Relation Between Supply Chain Efficiency and Supply Chain Finance," *International Research Journal of Applied and Basic Sciences*, 4(2): 416-423.
- Atul B. and Satish V. (2007): "Domain of Supply Chain Management – A State of Art," *Journal of Technology Management and Innovation*, 2 (4), 109-121.
- Ayman B. & Noor O. (2014): "The Impact of Supply Chain Management Practices on Supply Chain Performance in Jordan: The Moderating Effect of Competitive Intensity," *International Business Research*, 7(3), 13-17
- Bhagwat R. and Sharma M. (2007): "Performance measurement of supply chain management: A balanced scorecard approach," *Computers & Industrial Engineering* 53, 43-62
- Chopra, S. & Meindl, P., 2007. *Supply Chain Management Strategy, Planning and Operation*. 3rd ed. New Jersey: Prentice Hall.
- Chopra, S. & Meindl, P., 2007. *Supply Chain Management Strategy, Planning and Operation*. 3rd ed. New Jersey: Prentice Hall.
- Faisal, T., 2011. A Study of total quality management and supply chain management practices.. *International Journal of Productivity and Performance Management*, 60(3), pp. 268-288.
- Faith M. (2015): "Supply Chain Management Practices and Operational Performance of Mega Agribusiness Firms in Nairobi City County".
- Fantazy KA, Kumar V & Kumar U, 2010. Supply management practices and performance in the Canadian hospitality industry. *Int. J. Hosp. Manage.*, 29(4), pp. 685-693.
- Gema P. (2012): "Sustainable Supply Chain Financing: How Financial Institutions Could Enhance Supply Chain Sustainability," Georgetown University Washington, D.C.
- Haque, R. I., 2013. Effects of Supply Chain Management Practices on Customer Satisfaction: Evidence from Pharmaceutical Industry of Bangladesh. *Global Business and Management Research*, 5(2), pp. 120-136.

- Hyun-cheol P. (2010): “Information Sharing in Supply Chain Management: A Literature Review on Analytical Research,” *California Journal of Operations Management*, 8(1), 110-116.
- Ibrahim, D. S. B. & Hamid, A. A., 2012. Supply Chain Management Practices and Supply Chain Performance Effectiveness. *International Journal of Science and Research (IJSR)*, 3(354), pp. ISSN (Online): 2319-7064
- Ilkka S. (2012): “Empirical Study of Measuring Supply Chain Performance,” proceedings of the 13rd Management International Conference Budapest, Hungary, 223-283
- Karimi, E. & Rafiee, M., 2014. Analyzing the Impact of Supply Chain Management Practices on Organizational Performance through Competitive Priorities (Case Study: Iran Pumps Company). *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(2225-8329), pp. 1-15.
- Karimi, E. & Rafiee, M., 2014. Analyzing the Impact of Supply Chain Management Practices on Organizational Performance through Competitive Priorities (Case Study: Iran Pumps Company). *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(2225-8329), pp. 1-15.
- Lang L. and Cheng L. (2012): “The Effect of Service Supply Chain Management Practices on the Public Healthcare Organizational Performance,” *International Journal of Business and Social Science*, 3 (16), 216-224.
- Li S. & Subba R. (2004): “The impact of supply chain management practices on competitive advantage and organizational performance”, *The International Journal of Management Science*, 34(2), 107–124.
- Li S. & Subba R. (2004): “The impact of supply chain management practices on competitive advantage and organizational performance”, *The International Journal of Management Science*, 34(2), 107–124.
- Li, S., Ragu-Nathan, B., Ragu-Nathan, T. & Rao, S. S., 2006. The impact of supply chain management practices on competitive advantage and organizational performance. *Omega The International Journal of Management Science*, Volume 34, pp. 107-124.
- Li, S., Rao S, Ragu-Nathan T.S & Ragu , 2005. Development and validation of a measurement instrument for studying supply chain management practices. *Journal of Operations Management*, Volume 23, p. 618–641.

- Lori , S. C. & Daniel , R. H., 2011. The moderating effect of supply chain role on the relationship between supply chain practices and performance. *International Journal of Physical Distribution & Logistics Management*, 41(2), pp. 104-134.
- Makena N. (2014): “Impact of Supply Chain Management Practices on Organizational Performance: A Case Study of Haco Industries Limited (Kenya),” *IOSR Journal of Business and Management*, 16(4), 62-64
- Mamun H. (2010): “Supply Chain Management: Theory And Its Future Perspectives,” *International Journal of Business, Management and Social Sciences*, 1(1), 79-87.
- Marco A. (2015): An analysis of Supply Chain Finance in Europe: unexploited potential and future improvements.
- Muhammad N. (2013). The Impact of Supply Chain Management Practices on the Overall Performance of the Organization, Proceedings of 3rd International Conference on Business Management, School of Business and Economics University of Management and Technology, Lahore, Pakistan.
- Mutuerandu, M. N., 2014. Impact of Supply Chain Management Practices on Organizational Performance: A Case Study of Haco Industries Limited (Kenya). *IOSR Journal of Business and Management (IOSR-JBM)*, 6(4), pp. 62-64.
- Shri J and Anil K. (2016): “Impact of Supply Chain Management Strategies on Changing Market Condition,” *IOSR Journal of Business and Management (IOSR-JBM)*, 18(1), 109-111.
- Suhong, Li, Ragu-Nathan, Ragu-Nathan T.S. & Rao S. , 2004. The impact of supply chain management practices on competitive advantage and organizational performance. *The international Journal of management science*.
- Tan, K., 2002. Supply chain management: Practices, concerns, and performance issues.. *Journal of Supply Chain Management.ABI/INFORM Global*, 38(1), p. 4.
- Yamane T. (1967): “An introductory Analysis,” 2nd edition, Newyork: Harper and Row.
- Yohannes, A., 2014. *An assessment of supply chain management practices and its challenges on competitiveness: the case of mugher cement*, s.l.: Unpublished Master’s thesis, Addis Abeba University School of commerce..

# ANNEX 1

-QUESTIONER OF THE SURVEY

**JIMMA UNIVERSITY**

**BUSSINESS AND ECONOMICS COLLEGE**

**DEPARTMENT OF MANAGEMENT**

**MASTERS OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

**FOR PARTIAL FULFILLMENT OF THE DEGREE OF MASTER**

**IN**

**LOGISTIC AND SUPPLY CHAIN MANAGEMENT**

**QUESTIONNAIRE**

Dear respondents, the purpose of this questionnaire is to gather data on the effect of supply chain management practices on the organizational performance: In the case of Jimma pharmaceutical companies. The study is purely for academic purpose and thus not affects you in any case. So, your genuine, frank and timely response is vital for successfulness of the study. Therefore, I kindly request you to respond to each items of the question very carefully.

In order to investigate the effect of SCM practices on pharmaceutical companies' performance, the researcher prepare the following questions, please tick (x) on the appropriate question number to indicate the extent to which you agree or disagree with each statement.

The item have five-point Likert type scales, the scales have the following meaning

1. Strongly Disagree

2. Disagree,

3. Neutral,

4. Agree,

5. Strongly Agree

### ***General Instructions***

There is no need of writing your name and where answer options are available please tick (x) in the appropriate box.

## Contact Address

If you have any query, please do not hesitate to contact me and I am available as per your convenience at (Mobile: 0980-209582'). *Thank you for spending your precious time in advance!*

Part one: Demographic Questions Please put (x) inside the given space

### 1. Gender

Male  Female

### 2. Age

Under 25 years old  25-35 years old  
 Above 35-45 years old  Above 45 years old

### 3. Educational Qualification:

Certificate/diplomas  Bachelor's degree  
 Post Graduate degree  Doctorate degree

### 4. Employee Level

Staff  Technical manger  
 Manager  Store keeper

### 5. Years stayed at the sourcing and supply chain division:

Under two Years  2-5 Years  
 6-10 Years  Above 10 years

### 6. Your department

Sourcing  Logistics and Supply

1. Strategic supplier partnership (SSP)		Strongly Agree (5)	Agree (4)	Neutral (3)	Dis-agree (2)	Strongly Disagree (1)
1.1	We consider quality as our number one criterion in selecting suppliers.					
1.2	We regularly solve problems jointly with our suppliers.					
1.3	We have helped our suppliers to improve their product quality					
1.4	We have continuous improvement programs that include our key suppliers.					
1.5	We include our key suppliers in our planning and goal-setting activities.					
1.6	We actively involve our key suppliers in new product development processes.					
2. Customer relationship(CR)		Strongly Agree (5)	Agree (4)	Neutral (3)	Dis-agree (2)	Strongly Disagree (1)
2.1	We frequently interact with customers to set reliability, responsiveness, and other standards for us.					
2.2	We frequently measure and evaluate customer satisfaction.					
2.3	We frequently determine future customer expectations					
2.4	We facilitate customers' ability to seek assistance from us.					
2.5	We periodically evaluate the importance of					



	our relationship with our customers.					
<b>3. Level of information sharing (IS)</b>						
		<b>Strongly Agree (5)</b>	<b>Agree (4)</b>	<b>Neutral (3)</b>	<b>Dis-agree (2)</b>	<b>Strongly Disagree(1)</b>
<b>3.1</b>	We inform trading partners in advance of changing needs					
<b>3.2</b>	Our trading partners share business knowledge of core business processes with us.					
<b>3.3</b>	Our trading partners keep us fully informed about issues that affect our business.					
<b>3.4</b>	Our trading partners share business knowledge of core business processes with us.					
<b>3.5</b>	We and our trading partners exchange information that helps establishment of business planning.					
<b>3.6</b>	We and our trading partners keep each other informed about events or changes that may affect the other partners.					
<b>4. Level of information quality (IQ)</b>						
		<b>Strongly Agree (5)</b>	<b>Agree (4)</b>	<b>Neutral (3)</b>	<b>Dis-agree (2)</b>	<b>Strongly Disagree (1)</b>
<b>4.1</b>	Information exchange between our trading partners and us is timely.					
<b>4.2</b>	Information exchange between our trading partners and us is accurate					

<b>4.3</b>	Information exchange between our trading partners and us is complete.					
<b>4.4</b>	Information exchange between our trading partners and us is adequate					
<b>4.5</b>	Information exchange between our trading partners and us is reliable.					
<b>5. Internal lean practices:</b>		<b>Strongly Agree (5)</b>	<b>Agree (4)</b>	<b>Neutral (3)</b>	<b>Dis-agree (2)</b>	<b>Strongly Disagree (1)</b>
<b>5.1</b>	Our firm reduces process set-up time					
	Our firm produces only what is demanded by customers when needed (e.g. JIT)					
<b>6.Organizational Performance</b>		<b>Strongly Agree (5)</b>	<b>Agree (4)</b>	<b>Neutral (3)</b>	<b>Dis-agree (2)</b>	<b>Strongly Disagree (1)</b>
<b>6.1</b>	Growth of sales is significantly increasing					
<b>6.2</b>	Our profit margin on sales is significantly increasing					
<b>6.3</b>	Growth of return on investment is significantly increasing					
<b>6.4</b>	Our market share is significantly increasing					
<b>6.5</b>	Our customers satisfaction is significantly increasing					
<b>6.6</b>	Our suppliers satisfaction is significantly increasing					
<b>6.7</b>	Our employees satisfaction is significantly increasing					

## APPENDIX

Table 1A. Strategic supplier partnership

<b>Strategic supplier partnership (SSP)</b>	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree
We consider quality as our number one criterion in selecting suppliers.	1	2	7	39	28
	1.3%	2.6%	9.1%	50.6%	36.4%
We regularly solve problems jointly with our suppliers.	0	4	13	40	20
	0.0%	5.2%	16.9%	51.9%	26.0%
We have helped our suppliers to improve their product quality	0	8	14	36	19
	0.0%	10.4%	18.2%	46.8%	24.7%
We have continuous improvement programs that include our key suppliers.	2	5	10	39	21
	2.6%	6.5%	13.0%	5.6%	27.3%
We include our key suppliers in our planning and goal-setting activities.	0	8	16	39	14
	0.0%	10.4%	20.8%	50.6%	18.2%
We actively involve our key suppliers in new product development processes.	1	8	18	39	11
	1.3%	10.4%	23.4%	50.6%	14.3%

Table 2A. Customer relationship

<b>Customer relationship(CR)</b>	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree
We frequently interact with customers to set reliability, responsiveness, and other standards for us.	0	2	7	40	28
	0.0%	2.6%	9.1%	51.9%	36.4%
We frequently measure and evaluate customer satisfaction.	1	5	13	33	25
	1.3%	6.5%	16.9%	42.9%	32.5%
We frequently determine future customer expectations	1	9	14	31	22
	1.0%	11.7%	18.2%	40.0%	28.6%
We facilitate customers' ability to seek assistance from us.	1	9	12	40	15
	1.3%	11.7%	15.6%	51.9%	19.5%
We periodically evaluate the importance of our relationship with our customers.	2	9	11	36	19
	2.6%	11.7%	14.3%	46.8%	24.7%

Table 3A. Level of information sharing

<b>Level of information sharing</b>	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree
We inform trading partners in advance of changing needs	2	2	7	47	19
	2.6%	2.6%	9.1%	61.0%	24.7%
Our trading partners share business knowledge of core business processes with us.	0	8	18	36	15
	0.0%	10.4%	23.4%	46.8%	19.5%
Our trading partners keep us fully informed about issues that affect our business.	3	5	17	40	12
	3.9%	6.5%	22.1%	51.9%	15.6%
Our trading partners share business knowledge of core business processes with us.	1	7	16	37	16
	1.3%	9.1%	20.8%	48.1%	20.8%
We and our trading partners exchange information that helps establishment of business planning.	1	7	14	45	10
	1.3%	9.1%	18.2%	58.4%	13.0%
We and our trading partners keep each other informed about events or changes that may affect the other partners.	1	12	14	39	11
	1.3%	15,60%	18.2%	50,60%	14.3%

Table 4A. Level of information quality

<b>Level of information quality</b>	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree
Information exchange between our trading partners and us is timely.	2	4	11	40	20
	2.6%	5.2%	14.3%	51.9%	26.0%
Information exchange between our trading partners and us is accurate	2	5	16	40	14
	2.6%	6.5%	20.8%	51.9%	18.2%
Information exchange between our trading partners and us is complete.	2	6	15	41	13
	2.6%	7,8%	19.5%	53.2%	16.9%
Information exchange between our trading partners and us is adequate	0	12	18	31	16
	0.0%	15.6%	23.4%	40.3%	20.8%
Information exchange between our trading partners and us is reliable.	2	6	13	42	14
	2,60%	7.8%	16.9%	54.5%	18.2%

Table 5A. Internal lean practices

<b>Internal lean practices</b>	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree
	0	3	10	52	12
Our firm reduces process set-up time	0.0%	3.9%	13.0%	67.5%	15.6%
Our firm produces only what is demanded by customers when needed (e.g. JIT)	2	3	13	51	8
	2.6%	3.9%	16.9%	66.2%	10.4%

Table 6A. Organizational Performance

<b>Organizational Performance</b>	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree
	1	3	3	40	30
Growth of sales is significantly increasing	1.3%	3.9%	3.9%	51.9%	39.0%
	2	1	11	36	27
Our profit margin on sales is significantly increasing	2.6%	1.3%	14.3%	46.8%	35.1%
Growth of return on investment is significantly increasing	1	3	10	47	16
	1.3%	3.9%	13.0%	6.,0%	20.8%
	0	5	6	43	23
Our market share is significantly increasing	0.0%	6.5%	7.8%	55.8%	29.9%
	0	7	8	42	20
Our customers satisfaction is significantly increasing	0.0%	9.1%	10.4%	54.5%	26.0%
	1	11	12	36	17
Our suppliers satisfaction is significantly increasing	1.3%	14.3%	15.6%	46.8%	22.1%
	6	13	8	39	11
Our employees satisfaction is significantly increasing	7.8%	16.9%	10.4%	50.6%	14.3%