ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

EVALUATING EFFECT OF SUPPLY CHAIN MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE IN THE CASE OF ETHIOPIAN PHARMACEUTICAL MANUFACTURING (EPHARM)

BY: YORDANOS SEYOUM BEKELE

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A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIRMENTS FOR THE DEGREE OF MASTER OF MARKETING MANAGEMENT

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DECLARATION

I, The Undersigned, Declare That This Thesis Is My Original Work, Prepared Under The Guidance Of **Dr. Getie Andualem**. All Sources Of Materials Used For The Thesis Have Been Duly Acknowledged. I Further Confirm That The Thesis Has Not Been Submitted Either In Part Or In Full To Any Other Higher Learning Institution For The Purpose Of Earning Any Degree

Yordanos Seyoum Bekele _____

Name **Signature & Date**

ENDORSEMENT

This Thesis Has Been Submitted To St. Mary's University, School Of Graduate Studies For Examination With My Approval As A University Advisor.

Dr. Getie Andualem
Advisor

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Signature & Date

Table of Contents

LIST OF TABLE

LIST OF FIGURES

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Primarily, I Want To Specially Thank The Almighty GOD For Giving Me The Inspiration To Start And Patience To Finalize This Thesis Work. Secondly, I Am Greatly Indebted To My Advisor, Dr. Getie Andualem, For His Professional Guidance, Advice And Unlimited Patience In Reading Through My Drafts And Suggesting Workable Alternatives, My Profound Appreciation To You Moreover, It Will Not Be Out Place Here To Express Special Thanks To My Family And Friends For There Consistent And Continuous Advises, Support, And Encouragements.

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List of Acronyms

SCM	Supply Chain Management
SC	Supply Chain
SCF	Supply Chain Finance
GMP	Good Manufacturing Practice
FDI	Foreign Direct Investment
R&D	Research And Development
EPHARM	Ethiopian Pharmaceuticals Manufacturing Sh. Co
POO	Point-Of-Origin
POC	Point Of– Consumption
CSCMP	Council Of Supply Chain Management Professionals
PSA	Product And Service Agreements
ECR	Efficient Consumer Response
VIF	Variance Inflation Factor
SRM	Supplier Relationship Management
CRM	Customer Relationship Management
LIS	Level Of Information Sharing
OP	Organizational Performance
SPSS	Statistical Package For Social Science
ANOVA	Analysis Of Variance

Abstract

This study is aimed to explain and evaluating effect of supply chain management practices (supplier relationship management, customer relationship management, level of information sharing) on organizational performance of Medtech pharmaceuticals, Zaf pharmaceuticals andby taking the case of Ethiopian pharmaceutical manufacturing (Epharm) a conceptual frame work was used as a guidance to evaluate the relationship between the supply chain management practice and the organizational performance.The study was employed through descriptive research design in which selection of respondents were done using purposive sampling technique, which is a non-probabilistic sampling technique & mainly relied on primary data. Questionnaire is designed and distributed to the total sample size of 278 & analyzes the data collected through questionnaire using spss version 20 software .The finding showed that supplier relationship management, customer relationship management and level of information sharing are found to have a positively statistically significant on organizational performance which means significant influence on organizational performance since p-value is less than 0.05.or all these variables affects the organizational performance of Ethiopian pharmaceuticals manufacturing (Epharm). It is essential for the pharmaceutical manufacturing to pay more attention for the supply chain management practice by considering their significant effect on organizational performance.

Key words: **Supply Chain Management, Supplier Relationship Management, Customer Relationship management, Level Of Information Sharing.**

CHAPTER ONE

1.1. Background of the Study

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 pharmaceutical industry supply chain according to Viglo (2014), covers Drug research, development, manufacture; distribution and application through a range of healthcare services, together with all the ancillary businesses that help these different stages function effectively. Fundamentally, the pharmaceutical industry is a business that is about health and therefore about people.

The pharmaceutical and healthcare industry, in the opinion of Viglo(2014), is hugely complex because it involves so many markets, products, processes and intermediaries.Changes in one area impact upon the others and environmental factors such as pricing, regulatory change or actions by competitors, impact the whole supply chain in ways that are not easily understood or properly managed.

The pharmaceutical industry delegates distribution to third-party logistics providers and wholesalers and is less advanced in terms of channel management compared with other sectors. One technique is todeliver the most innovative products straight to retail pharmacies, hospitals, and specialist clinicswithout using wholesalers. In fact, with repeat prescriptions, drug companies could even supply directly to some patients. Wholesalers, would still have a large role in distributing mass-market drugs with high volumes and could make a far larger contribution by assuming responsibility for packaging such products and managing their distribution on a regional, rather than a national basis (Ali et al,2013).

Alternatively companies may choose to manage the funds used to support pharmaceutical distribution and channel management more effectively. By relying on wholesalers to distribute their products and using incentives and bonuses as motivation, pharmaceutical companies can manage the performance of their wholesalers and third-party logistics providers. To do so, he indicated that, pharmaceutical companies must create stronger relationships with retail pharmacies and hospitals that distribute their products andfocus on the needs of patients through channel-to-market innovations(Ali et al,2013).

If they create strong relationships, companies can expect to control the channels, see marginsrecover, enjoy better market intelligence, accelerate the point at which sales peak, reduceplanning inaccuracies and limit counterfeiting. There are no short cuts and there is no single solution when it comes to building a capable supply chain (Ilkka, 2012).

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 and 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. SCM It includes divisions from the management concepts of previous decades. Many definitions for SCM have been presented. SCM has been and is still regarded as a synonym for logistics, supply and SC control (Ilkka, 2012).

Supply chain has become one of the top priorities on the strategic agenda of industrial andservice businesses. The main purpose of any supply chain management system is to get the right product, in the right quantity, in the right quality, to the right place, at the right time (Ali et al,2013).
In present-day there is the assumption that SC's should compete instead of companies being the SC's success mainly determined by the marketplace. Therefore, Supply Chain Management (SCM) is considered a strategic factor for the better attainment of organizational goals such as enhanced competitiveness, improved customer service and increased profitability. However, to ensure a better SCM it is important to develop a performance measurement system that properly reflects the real SC's performance (Ilkka, 2012).

According to Ernesto santibanez et al 2010, the lack of appropriate SC metrics may compromise customer satisfaction, sub-optimization of the organization performance, missed opportunities to outperform the competition and conflicts within the SC. Performance measurement is therefore crucial to better SCM . It can facilitate inter-understanding and integration among the partners in the SC while revealing the effects of strategies and potential opportunities in SCM .
Today the broader definition determined by the Global Supply Chain Forum is generallyaccepted as a

norm “Supply Chain Management (SCM) is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders” (Ilkka, 2012).

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 is essential and it should be an integral part of any business strategy(Ali et al,2013).

The pharmaceutical supply chain can complicate or enable future growth. The supply chain canbe used to accelerate time to market, maximize revenue from new products, block generic competition and protect patients from counterfeit drugs. By engaging in supply chain transformation and adopting an integrated approach to supply chain management, businesses will be able to position themselves to compete in the rapidly changing marketplace. If managed properly, the supply chain can be a significant source of added value to any pharmaceutical company’s bottom line(Ali et al,2013).

Many methods have been suggested over the years for SCM evaluation of any organization. However, a balanced approach to evaluate SCM is a source of increasing cost and concern to management as traditional methods focus only on well-known financial measures, which are best, suited to measure the value of simple SCM applications. Unfortunately, evaluation methods that rely on financial measures are not well suited for newer generation of SCM applications.These complex supply chains typically seek to provide a wide range of benefits, including many that are intangible in nature. As a result, we suggest that it may be appropriate to use a balanced approach to measure and evaluate supply chains (Lusine H 2007).

The current financial and economic situation is making increasingly necessary the collaborationbetween all the most critical supply chain partners, since it is no longer sufficient to approach the business in a individual logic; in addition, the recent financial and liquidity problems are still affecting almost all countries in the world (Lusine H 2007).

This situation is asking to extend the collaborative approach also to finance in order to introduce innovative solutions, reducing the gap between the physical and the financial supply chain; SCF is a set

of non-canonical financial schemes based on the exploitation of the relationships between the supply chain partners and aimed to build a win-win situation for all the actors involved. SCF is a quite recent discipline and it is not well structured yet, since there are no universally accepted terminologies and classifications of its tools; moreover, its potential is strongly affected by the features and conditions of the different countries. In fact, the future developments of SCF depend on the number of players able to benefit from these solutions and their relevance in the economic system (Jorge 2009).

The profitability of the supply chain could be improved drastically via better deliveryperformance (improved responsiveness and reliability of deliveries, fewer stock outs, higher product quality, more receiver-friendly loads) and increased information availability (better demand insight, more predictable order cycles, accurate, real-time) at the operational level and a reduction of time-to market at the tactical and strategic level(Ali et al,2013).

1.1.1 Background of the Organization (EPHARM)

Ethiopian Pharmaceutical Manufacturing (EPHARM) was established in 1972 as a public company by the Ethiopian government and investors from England. During the Derg regime it was fully nationalized. In 2002, it was reorganized as Ethiopian Pharmaceuticals Manufacturing Share Company. Currently, EPHARM has eight product lines and is engaged in the production of about 62 varieties of medicines for the local market. As far as the Supply and marketing chain is concerned almost all the inputs used in the production process are imported from abroad through open tender from approved suppliers. It supplies all of its production output to the local market using both private and state-owned intermediaries (Pharmaceutical Fund and Supply Agency, PFSA). The latter accounts for 65% of total demand, and distribute the products to government hospitals and health centers (Sutton and Kellow, 2010).

The government of Ethiopia is focusing to increase the number of manufacturing companies by 13 according to the five years growth and transformation plan of Food, Medicine and Health care Administration and control Authority of Ethiopia (EPA, 2018).

In order to introduce efficiency in the supply chain of pharmaceuticals management system in Ethiopia, Ethiopian Pharmaceuticals Manufacturing Sh. Co. (EPHARM) is a pioneer in the pharmaceutical

manufacturing industry of Ethiopia. Its headquarter is located in Nifas Silk Lafto subcity, Addis Ababa. EPHARM is currently producing different dosage forms, which makes it peculiar from many of the local pharmaceuticals manufacturers. EPHARM has been producing high quality and price- competitive drugs that have addressed the critical health problems of the Ethiopian people for more than fifty years.To manufacture high quality, customer-focused, affordable, and research-based pharmaceutical products using modem technology to ensure sustainable profitability and maintain broad market share both nationally and globally (EPHARM 2018).

The efficiency of pharmaceutical supply chains in Ethiopia is relatively low, with logistics and transportation costs comprising high amount relative to the processing cost Distribution is also hindered by inadequate infrastructure and a fragmented logistics industry, as well as geographical barriers, uneven economic development, and state-related operators privileged by monopolistic regulations at both national and regional levels(FMOH,2010).

ZAF Pharmaceuticals PLC is a pharmaceutical company established in the year 1991 in Addis Ababa, Ethiopia. The company started its business activities with an initial capital of 50 thousand USD. Currently the company is operating with a paid up capital of 3million USD. The main business activity of the company includes but not limited to: − Import and distribution of Safe quality Medicines Medicines((Human and Veterinary), Veterinary) Medical supplies and Medical equipment's − Import distribution of Infant formulas − Represent and advise interested suppliers in all governmental tenders At present the company has a market authorization to import and distribute more than 300 different medicines and medical supplies/ equipment's from different Multinational and generic companies(zafpharma2018).

1.2 Statement of the Problem

Supply chain Performance measurements are becoming more and more important when SCM is coming into focus. Evaluating supply chain performance helps an organization to Identify success, to identify whether the organization understand its processes, to Identify whether the company is meeting customer requirements, to Identify blockages and where improvements are necessary, to ensure decisions are based on facts,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 thecriteria is 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 (Rajesh etal., 2007).

Due to the number of rival companies expanding both locally and globally, companies not only have to reestablish themselves to produce higher-quality products and services, decrease waste and are able to respond to the market but also to handle their supply chain management efficiently. 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, but also coordinate with their supply chain partners to improve their joint 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 (Makena, 2014).

Evaluating the Effect of supply chain performance in organization is not as such simple Supply chain activities like sourcing, producing, inventory and distribution and the associated factorsthat affect the ability of supply chain performance and meet the maximum service level provided by the company. The pharmaceutical industry is not renowned for its supply chain management capabilities, unlike many other highly publicized industries that have profitably exploited their supply chains (Lusine H 2007).

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 contributes positively towards the satisfaction of the customers and quality of partnership (Muhammad et al, 2013).

Almost all local manufacturing of medicine in Ethiopia is limited to secondary manufacturing that involves combining various active ingredients and processing bulk medicines into dosage forms. This exposes the firms to a high level of foreign exchange risk and long lead-times for raw materials. Most pharmaceutical manufacturers have a low level of capacity compared with their foreign counterparts that leads to the company not to achieving economies of scale (Lusine H 2007).

Moreover, apart from related studies, no study has been conducted in supply chain managnment practice on the study area (EPHARM) After it become privatized within the focus area for this study cognizant of all these study opportunities and the gab that exists, the principal investigator of this study, has reached agreements with major stakeholders to take up the challenges of doing a thorough investigation on supply chain management practice in the study area in order to identify the strength and limitation, reasons for positive deviations, and based on the study findings to evaluate supply chain managnment practice concerning a practice implemented by Ethiopian pharmaceutical manufacturing (EPHARM)and find out whether the Manufacturer has met the supply chain management to their interested party under all the supply chain management practice.

1.3 Basic Research Questions

In this paper, the following research problems are expected to be answered.

- Is there supplier relations management practice effect on organizational performance?
- Is there customer relationship management practice effect on organizational performance?
- Is there level of information sharing effect on organizational performance?

1.4. Objective of the Study

1.4.1. General Objective

The general objective of this study is toEvaluating Effect of Supply Chain Management Practices on Organizational PerformanceIn the case of Ethiopian pharmaceutical manufacturing .

1.4.2. Specific Objective

- To Examine the effect of supplier relations management practice effect on organizational performance
- To Determine the effect of customer relationship management practice on organizational performance

- To Determine the effect of level of information quality on organizational performance

1.5. Significance of the study

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 firms (Faith, 2015).

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 of the organization. Thus, this study aids management of the company to see how supply chain management practices are related with the organizational performance and needs great attention to have more satisfied customers and suppliers. The intention of the study is to evaluate the performance of the SCM in EPHARM

It helps management of the company to evaluate the already implemented supply chain management based on its effect on the performance of the organization. It serves as a spring board to conduct further and more detail study in the area. It also serves as a reference for any interested management, staff or researcher.

1.6. Scope of the Study

The pharmaceutical industry is not well-known for its supply chain management capabilities, unlike many other highly publicized industries that have profitably exploited their supply chains.It is thus critical to explore the current supply chain distribution trends in the pharmaceutical industry of EPHARM Ethiopia. The study focuses on the effects of supply chain management on organizational performance of Medtech Ethiopia pharmaceuticals, ZAF pharmaceutical ,and EPHARM Employee. And 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 if it includes pharmaceutical companies in other cities of Ethiopia.

1.7 Organization of the Study

The study is organized in to five chapters. The first part is an introduction which consist background of the study, problem statements, objectives, significance of the study, and scope of the study. The second

part addresses review of related literatures which consists theoretical backgrounds, review of previous empirical studies and conceptual frameworks. The third chapter consists of the research methodology which is applied in the study. Thereafter Chapter four focuses on the results of analysis and discusses findings. Finally, the researcher portrays the conclusions drawn from the findings and gives relevant recommendations on the basis of the conclusions; which is presented in Chapter five.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Concept of Supply Chain Management

Supply chain management spans all movement and storage of raw materials, work-in-process inventory and finished goods from point-of-origin (POO) to point of– consumption (POC). SCM is a conscious and deliberate control, integration, and management of the business functions (Atul et al, 2007).

SCM contributes and affects that supply flow through the business for the purpose of improving performance, costs, flexibility which bring the ultimate benefits of the end customers or consumers. The supply chain function includes many sub-areas such as: forecasting and planning, purchasing and procurement, logistics, operations, inventory management, transportation, warehousing, distribution, customer service etc. However, it is difficult to find a standard model of Supply Chain Management operating in the business community particularly in the pharmaceutical sector (Atul et al, 2007).

Supply chain management **(**SCM**)** is the oversight of materials, information and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. Supply chain management involves coordinating and integrating these flows both within and among companies (Atul et al, 2007).

SCM is both a horizontal business function (i.e. managing the supply chain in a business) and a vertical industry sector (i.e. businesses involved in managing supply chains on behalf of their clients). A company may operate as a supply chain services provider within the vertical supply chain industry sector. But each of the clients serviced by a company will employ supply chain staff within their business operating on a horizontal basis across their organizations (shri et al, 2016).

Supply chain as postulated by Viglo(2014), “is the network of organizations that are involved, through upstream and downstream linkages, in the different process and activities that produce value in the form of products and services delivered to the ultimate consumer”. supply chain management is the management of a network of retailers, distributors, transporters, storage facilities and suppliers that participate in the sale, delivery and production of a particular product”.

Handfield and Nichols (1999) defined pharmaceutical supply chain as “the integration of all activities associated with the flow of and transformation of raw materials through to the end-user, as well as associated information flows, through improved supply chain relationships to achieve a sustainable competitive advantage”.

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,2013citedin Habtamu,2017).

SCM is management of material, money 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(shri et al, 2016).

Jacques (2018) define supply chain management as “the integration of key business processes among a network of interdependent suppliers, manufacturers, distribution centers, and retailers in order to improve the flow of goods, services, and information from original suppliers to final customers, with the objectives of reducing system-wide costs while maintaining required service levels”.

The Council of Supply Chain Management Professionals (CSCMP, 2018) defines SCM as:“SCM encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities, including coordination and collaboration with suppliers, intermediaries, third-party service providers, and customers” Gonzalez,(2010) define SCM as the management and integration of the entire set of business processes that provides products, services and information that add value for customers.

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.

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 (shri et al, 2016).

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 (shri et al, 2016).

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 (Atul et al, 2007).

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 (Atul et al, 2007).

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 (Atul et al, 2007).

The pharmaceutical supply chain is somehow different from other supply chains of physicalGoods because of its urgency, importance, storage, transportation, regulation etc. The following figures help understanding the SCM in pharmaceutical sector (Atul et al, 2007).

2.1.2 Supply Chain Management Process

(Ronald, 2012cited in Habtamu,2017)) stated the eight supply chain management processes identified by the Global Supply Chain Forum: Customer Relationship Management – provides the firm's face to the customer, including management 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 the firm and its suppliers.

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 (Atul et al, 2007).

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 (Atul et al, 2007).

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. 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 (Atul et al, 2007).

2.2. Empirical Review

2.2.1 Supply Chain Management Practices

SCM practices have been defined as a set of activities undertaken in an organization to promote effective management of its supply chain. 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(Huy Truong,2006)(WIJETUNGE W.A.D.S,2017) describes the evolution of SCM practices, which include supplier partnership, outsourcing, cycle time compression, continuous process flow, and information technology sharing. Keah Choon Tan (2001). use purchasing, quality, and customer relations to represent SCM practices, in their empirical study. In their list of SCM practices concentration on core competencies, use of inter-organizational systems and elimination of excess inventory levels by postponing customization toward the end of the supply chain.

Keah Choon Tan (2001) identify six aspects of SCM practice through factor analysis: supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity. Jagdish Ahirwar, et al (2004) use supplier base reduction, long-term relationship, communication, cross-functional teams and supplier involvement to measure buyer–supplier relationships. Generally, SCM practices are categorized into demand management, customer

relationship management, supplier relationship management, capacity and revenue management, service performance, information and technology management, service supply chain finance and order process management Lang Ling Yap, et al., (2012)

Supplier integration is 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" (Huy Truong,2006). As such, integration results in improved decision making, enhanced knowledge sharing, aligned capabilities, built learning routines, and increased performance of SC partners (Olivier Lavastreet al., 2014). Customer integration is demand management practices through long-term customer relationship, satisfaction improvement, and complaint management (Keah Choon Tan (2001).

The fundamental aspect of customer relationship is the focus on key customers to understand their needs and requirements and to satisfy them.Information sharing is defined as "The extent to which critical and proprietary information is communicated to one's supply chain partner" Huy Truong,(2006). 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 (Kushwaha,2018).Shared information has different kinds related to inventory, resources, products, demands, delays, and planning information . Information sharing affects performance in terms of improved customer responsiveness, decreased costs, enhanced service levels, and reduced levels of complexity.

Internal integration is defined as "the degree to which a manufacturer structures its own organizational strategies, practices and processes into collaborative, synchronized processes, in order to fulfill its customers' requirements and efficiently interact with its suppliers. Internal integration deals with integrating and linking information among different organizational departments, creating an easy access to inventory information, developing an easy accessed integrated database that encompasses main operational data, integrating production processes using advanced information systems, and linking production and marketing departments using computerized planning systems (Keah Choon Tan (2001).

SCM practices involve a set of activities undertaken in an organization to promote effectivemanagement of its supply chain. The short-term objectives of SCM are to enhance productivity, reduce inventory and

lead time. The long-term objectives of SCM are to increase market share and integration of supply chain..

SCM practices, performance and challenges in different industry of Ethiopia were studied in different theses. The results of different researches in the practices of SCM in different commercial sectors of Ethiopia are poor. Wondmineh (2013) studied the practice of SCM in Ethiopian pharmaceutical companies. It was found that, SCM practices in Ethiopian pharmaceutical firms are weak and not considering SCM as a strategic tool for competition.

In addition, Habtamu , (2011) studied the effect of SCM practice in organizational performance of pharmaceutical company. The result of the thesis shows similar to other studies in the country i.e. the practice of SCM in pharmaceutical company is almost poor and need improvements on the sector.

Adane (2017) also studied the SC performance in pharmaceutical industry study as a case study of APF. The result of this study shows that most of the employees of the company don't have awareness of SCM. The company also don't use supply chain cost analysis rather than using the traditional accounting system. The company need to create alignment between existing performance measurement tools and the strategy of the company. The study advocated that a lot of emphasis need to be directed to supply chain management and performance measurement based on balanced approach and the factory should maintain the effort made on customer perspective and learning and growth perspective to enhancing performance of their supply chain which are still need to be improved.

In reviewing and consolidating the literature, three distinctive dimensions, including supplier relationship management,customer relationship and level of information sharing are selected for measuring SCM practice.

2.2.2 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 (Huy Truong,2006).

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 (Huy Truong,2006).

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 (Huy Truong,2006).

2.2.3 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 (Huy Truong,2006).

2.2.3.1 Customer - Supplier Relationship Management:

Customer satisfaction is absolute for staying abreast in competitive environment that can be achieved only by quickly responding to customer needs. Furthermore, a management action plan is presented for future adoption of ECR strategy by similar business operations Authors recommended flexible supply chain by involving change in layouts, establishing faster set-ups and by developing partnership with vendors for quicker response.

It is concluded that long-term relationships between customer and supplier can lead to higher satisfaction. (Ernesto santibanez gonzalezet al ,2010) provided a framework for developing supply chain metrics that translates performance into shareholder value.

2.2.4 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(Huy Truong,2006).

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 (Suhong liaet al, 2006).

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 (Huy Truong,2006).

2.4.5. 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 operational 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 (Huy Truong,2006).

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. 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 (Huy Truong,2006).

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, profit margin on sales, growth of return on investment, growth of sales, and growth of market share to measure organizational performance (Huy Truong,2006).

2.4. Conceptual framework

The following conceptual framework were developed for this study. It shows the overall effect of independent variables (supplier relationship Management, customer relationship Management&level of information sharing) on the independent one which is Organizational performance.

Independent variable **Dependent variable**

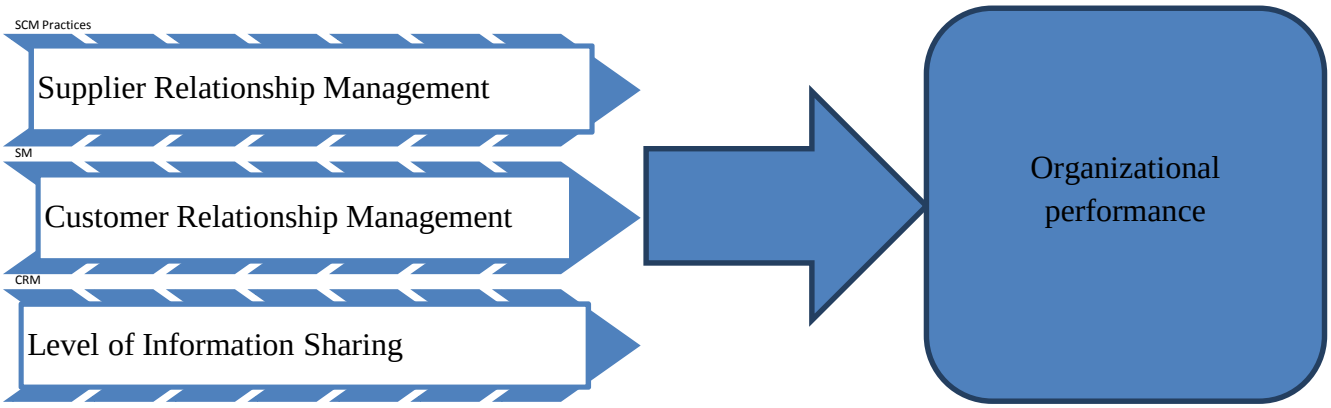


Figure 2: The researcher's Conceptual Framework (modified from Ayman, 2014 and Li et al, 2004)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Area

This study is developed toEvaluating Effect of Supply Chain Management Practices on Organizational Performance In the case of Ethiopian pharmaceutical manufacturing (EPHARM) using Key Performance indicators whichdetermine the relationship between three supply chain management practices and organizational performance. Questionnaire were developed and distributed to the employees of case study organization(EPHARM), Medtech Ethiopia pharmaceuticals, ZAF Pharmaceuticals and the selection criteria for the local importer is based on the purchasing ability of EPHARM Products and high customer flow and this study identify the performance and come up with the finding and recommendation on the best practices .

3.2 Research design

In order to achieve the stated objective, the study will focus on the following areas. Given the complex nature of issues that are of interest quantitative research methodologies used in analyzing the data through administered questionnaires. Creswell (2005) indicated that quantitative analysis is the one in which the researcher primarily uses for developing the cause and effect relationship between known variables of interest that yield statistical data.

3.3. Sources of Data

There are two types of data i.e. primary and secondary data that were used in the study. The primary data that was collected are by using questionnaires which are comprised of close ended questions . Questionnaires were used to collect primary data from different departments of Meditech Ethiopia ,Zaf pharmacutical and EPHARM employees.

The questionnaire is developed in order to gain vital information regarding the existing pharmaceutical supply chain management in EPHARM. The questionnaire is developed aiming for respondents of educational level of Diploma and above.

Moreover In order to improve my study and strength my findings, articles, academic journals, and useful texts were used from different sources, such as library, journals, academic books and relevant documents from the factory and concerned government bodies of the industry.

3.4. Target Population of the Study & Sampling Techniques

3.4.1 Population of the Study

The population of this study includes the employee of Medtech Ethiopia pharmaceuticals, ZAF Pharmaceuticals, and EPHARM. Based on this the study the researcher determine the sample size from these selected company. The choice of employee respondents from these companies were only focused on Druggist, Pharmacist, Chemist, and Logistics and supply chain departments. The total employee of Medtech Ethiopia pharmaceuticals, ZAF Pharmaceuticals, and EPHARM involved in above focused area were 911.

N1. No. of employees choice from EPHARM =370

N2. No. of employees choice from Medtech Ethiopia pharmaceuticals = 292

N3. No. of employees choice from ZAF Pharmaceuticals = 249

Therefore, the size of the study population is NT=NT1+NT2 + NT3;

NT=370 + 292 + 249 = 911

Where NT means total population

3.4.2. Sample Size

Therefore, the sample size that was selected out of 911 total populations based up on sampling technique. The sample size the study determined by the simplified formula of Cochran, (1977). Hence, the sample size will be calculated based on 95% leveled confidence and 0.05% error tolerance;

$$n = \frac{N}{1+N(e)2}$$ Where: - n = is the desired sample size

N= is the size of the population is the limit of

e= error tolerance

N=911

e=0.05

Therefore the sample size of the study:

$$n = \frac{N}{1 + N(e)2}$$

n=911/1+911 (0.05)2 =277.955: approximately 278

Therefore, the sample size is 278 individual.

3.4.3 . Sampling Techniques

This study has used purposive sampling technique, which is a non-probabilistic sampling technique. The reason to use purposive sampling technique is because it is more appropriate for this study, since it enabled the researcher to select the sample based on his own judgment.Judgenmental sampling ,also known as purposive sampling is an extension to the convenience sampling in this procedure respondant are selected according to some characteristics required from the sample element, for example a respondent should be a Druggist, Pharmacist, Chemist, or those who are working on Logistics and supply chain.

3.5. Methods of Data Collection

The study mainly relied on primary data. The primary data was collected via a structured questionnaire administered to Druggist, Pharmacist, Chemist, or those who are working on Logistics and supply chain. Questionnaires allow greater uniformity in the way questions are asked, ensuring better compatibility in the responses. The questionnaire was divided into three parts. Part 1 for the respondent's demographic characteristics, part 2 & part 3 contained questions on research objectives.

3.6. Data Analysis Techniques

A descriptive statistical analysis method and SPSS are going to be used to analyze. Different gathered data was analyzed using the software SPSS version 20. The effect of supply chain management on organizational performance of companies was analyzed using tables.

As a statistical tool, correlation will be employed to analyze the collected data and to find out the relationship of supply chain management practices with that of organizational performance and also regression analysis will be used to analyze the Data.

Different data which are collected using closed ended questionnaire was analyzed using statistical tools like regression and correlation. Additionally,demographic factors were analyzed descriptively.

The data collected from questionnaire were summarized using SPSS software and presented by descriptive (percentage, frequency & mean) & inferential (correlation & multiple linear regression) statistics. Regression analysis and correlation analysis will be used to determine the association between dependent and each of the independent variables

The quantitative type of data is obtained through questionnaire and analyzes using the Statistical software's, to present a profile of the respondents, to identify the mean and standard deviation of the variables. Then, simple Regression analysis is used to analyze the data and find out Effect of Supply Chain Management Practices on Organizational Performance Ethiopian pharmaceutical manufacturing.

According to Bryman, (1988) indicates that to analyze the dependent and independent variables and develops the following model specification:

$$Yit = \beta 0 + \Sigma \beta K Xit + \varepsilon it$$

Where:

- Yit represents the dependent variables for time period t.
- β0 is the intercept.
- βK represents the coefficients of the Xit variables.
- Xit, represents the explanatory variables for time period t.
- εit is the error term.

Based on the above general empirical research and other similar researches this study adopted the following Regression Model equation to find out the Effect of Supply Chain Management Practices on Organizational Performance In Ethiopian pharmaceutical manufacturing The equation is stated as follows:

$$Y = \alpha + b_1x_1 + b_2x_2 + b_3x_3 + {}_+ \varepsilon$$

Where, y is the measure value of organizational performance or the value of dependent variable.

α = Constant term (coefficient of intercept)

b1, b2, and b3 are coefficient of the independent variables (regression coefficient).

X1 = Supplier Relationship Management

X2=Customer Relationship Management

X3 =Level of Information Sharing

3.7. Diagnostic Tests

According to Cochran, (1977) in the classical linear regression model it need to be test the classical linear regression model assumptions in order to maintain the data validity and robustness of the regressed result of the research. As result, this study tested the following classical linear regression model assumptions.

3.7.1. Normality assumptions test

Residuals are normally distributed about the predicted scores on the dependent variable. In multiple linear regressions, the response variable is numerical while the predictor variables may be either numerical or categorical in nature and therefore, the normality assumption is tested on the response variable. The most commonly applied tests for normality is tested graphically using histogram and k density normal test Cochran, (1977). Also this study measured Normality assumptions test graphically using histogram and k density normal test

3.7.2. Linearity Assumptions

According to Cochran, (1977), In linear regression analysis it is assumed that there is a linear relation between the predictors and the dependent variable. This study measured the linearity by testing the goodness of fit of the model by conducting ANOVA test.

3.7.3. The Multicollinearity Assumptions

Multicollinearity refers to the situation in which independent variables are highly correlated; resulting in a paradoxical effect, whereby the regression model fits the data well, but none of the independent

variables has a significant impact in predicting the dependent variable The existence of multicollinearity is tested by calculating the Variance Inflation Factor (VIF) where a VIF coefficient greater than 10 indicates the presence of multicollienarity (Cochran, 1977)). This study measured the Multicollinearity Assumptions test by calculating the Variance Inflation Factor (VIF).

3.8. Validity and Reliability Test

According to Bryman (1988), Validity means that we are measuring what we want to measure. There are different types of validity measurements including, face validity - whether at face value, the questions appear to be measuring the objective of the study. This study was undertaken a pre-test on selected employees from Medtech Ethiopia pharmaceuticals, ZAF Pharmaceutical and the case study organization EPHARM to check the validity of the questionnaire and corrections were made based on the feedback collected. Those respondents who were part of the pilot test were not included in the actual conduct of the study. The content validity also assured when the questionnaire was prepared based on extensive reading of literature review. While preparing the questionnaire ambiguous or vague wordings were avoided to ensure that respondents would read and answer the question consistently on different occasions in the same context. To assess the goodness of the instrument measures, the instrument was subjected to the construct validity and reliability tests.

It is mandatory that assessors and researchers should estimate the quantity to add validity and accuracy to the interpretation of their data. The term reliability is defined as consistency of measurement or stability of measurement over a variety of conditions in which basically the same results should be obtained (Cochran, 1977).

3.9. Ethical Research Considerations

In order to keep the confidentiality of the data given by respondents, the subjects are assured that their responses will be used only for the purpose of the study and their responses is treated in strictly confidential manner. An attempt is 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. Furthermore, the researcher tried to avoid misleading or deceptive statements in the questionnaire. Lastly, the questionnaires were distributed only to voluntary participants.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. RELIABILITY ANALYSIS

The reliability of the questionnaire items were tested by Cronbachs alpha. The result was summarized as follows; A summary of the reliability statistics of the data from the SPSS version 20 Cronbach's alpha coefficient is the most popular and commonly used technique to estimate reliability or internal consistency of assessments and questionnaires in the behavioral sciences coefficients Sekaran, (2003. Reliability of the items/questions has been checked and rechecked before the distribution of questionnaires was analyzed by using Alpha Test. The accepted alpha value is ranging from 0.70-0.95, Cochran (1977).

Table 4.1 Test of Reliability

Variables	Number of Items	Cronbach's Alpha
Supplier Relationship Management	8	0.903
Customer Relationship Management	13	0.983
Level of Information Sharing	4	0.729
Organizational Performance	7	0.776

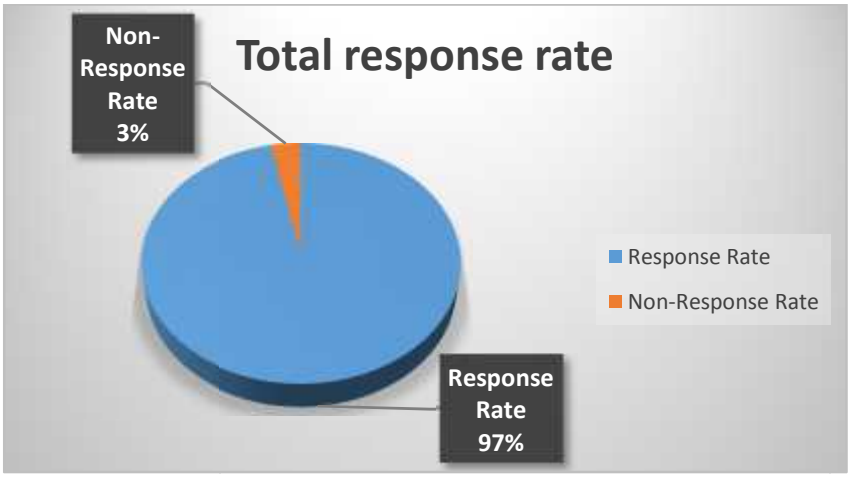
Source: SPSS result, 2018

Since the value of chronbach alphas for this study is above 0.7 for all scale variables, the data collected from respondents was reliable and consistent with the scale. In simple term the result is confirmed the reliability and consistency of the questionnaire.

4.2 Response Rate

Sample proportion allocation among the three selected company based on their staffs members who work related to Druggist, Pharmacist, Chemist, and Logistics and supply chain departments. So to have appropriate representative of the total sample size (278) divided to; 113 questioners distributed to employees of EPHARM, 89 questioners distributed to employees of Medtech Ethiopia pharmaceuticals and 76 questioners distributed to employees of ZAF Pharmaceuticals.

From the total distributed in EPHARM, 111 respondents have filled and returned the questionnaire, from the total distributed in Medtech Ethiopia pharmaceuticals, 85 respondents have filled and returned the questionnaire and from the total distributed in ZAF Pharmaceuticals, 73 respondents have filled and returned the questionnaire. Thus, Out the totals distributed that are 278 questionnaires, 269 respondents have filled and returned the questionnaire. This represented a response rate of 97%, which is valid and used for analysis.



Source: Own, computed from survey data, 2018

Figure :2 Total response rate

4.3 Demographic information

Descriptive statistics were used for demographic information of the respondents that are gender, Age, education qualification, work Experience and profession in charge of the respondents.

Table 4.2 Demographic Characteristics of Respondents

Demographic characteristics		Frequency	
		In Number	**In percent**
Gender	Male	175	65.1
	Female	94	34.9
	Total	**269**	**100**
Age	Less than 25 Years	27	10
	26-34 Years	124	46.1
	35-44 Year	83	30.9
	45-54 Years	27	10
	Over 54Years	8	3
	Total	**269**	**100**
Educational Qualification	Diploma	27	10
	Degree	135	50.2
	Master's Degree	67	24.9
	Doctorate degree and above	40	14.9
	Total	**269**	**100**
Work experience	1-5 Years	67	24.9
	6-10 Years	121	45.0
	11-15 Years	40	14.9
	Over 15 Years	41	15.2
	Total	**269**	**100**
Profession of in charge or coordinator	Druggist	27	10
	Pharmacist	129	48
	Chemist	59	21.9
	Logistics and supply chain	54	20.1
	Total	**269**	**100**

Source: Own, computed from survey data, 201

The above table 4.2, Indicated about gender of the respondents and from the participated respondents 175 (65.1%) are male and the remaining 94 (34.9%) of respondents are Female. This shows that numbers of male respondents are greater than female respondents.

Regarding the age of the respondents 27 (10%) of the respondents are from age less than 25 years, 124 (46.1%) of the respondents are under age group between 26 – 34 years, the age category of 83 (30.9%) of the respondents are between 35 – 44, age category 27 (10%) of the respondents are between 45-54, the age category of rest 8 (3%) respondents are over 54 years. As result of this, the researcher can say this is good advantage to have them for analysis in detail because these ages are more responsible and rational on their behavior.

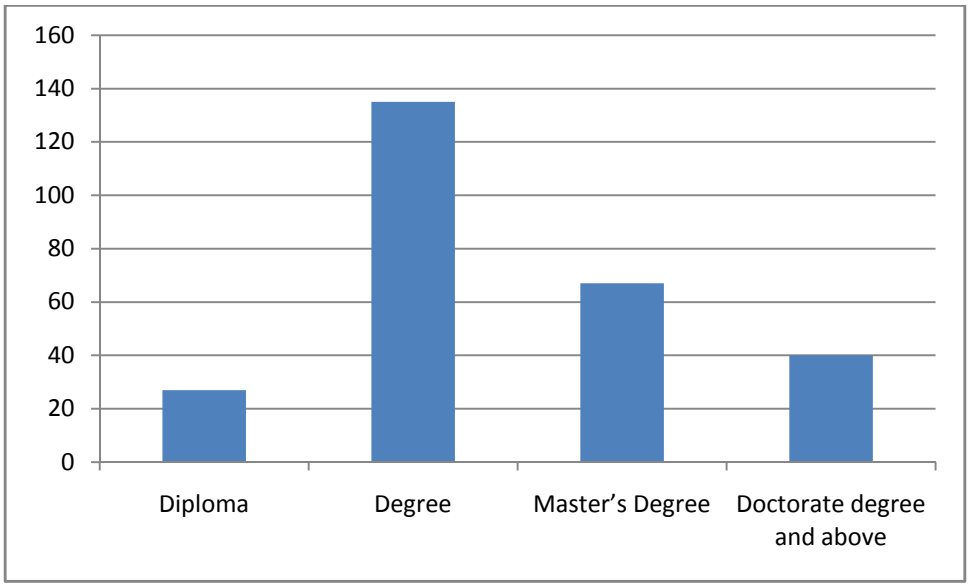


Figure 2 –Response by Educational Qualification

As indicated the education qualification of respondent on table 4.2 and Figure 2 the qualification of respondents, 27(10%) of them are who have Diploma, 135 (50.2%) of the respondents are categorized who have Degree, 67(24.9%) of respondents are categorized under who have Master's Degree, and the rest 40 (14.9%) of respondents are Doctorate degree holder and above. This shows that the respondents have more sound education Level and this is good advantages for the researcher because peoples on this Education Level are understand and respond the questioners properly.

The above table 4.2, indicate that the work experience of respondents, 67(24.9%) of them were found from 1 to 5 years of service, on the other hand 121 (45%) of respondent between the service years of from 6 – 10, 40 (14.9%) of respondent respond on who have a work experience between from 11 – 15, and the rest 41 (15.2%) were over 15 years of work experience. As the data indicated majority of the respondents were found between 6 – 10 years' experience. With regard to the pharmaceuticals supplies, it can be said that the most of the respondents are well experienced.

Concerning the Profession of in-charge/coordinator/ of the respondents the result indicate that 27 (10%) of the respondents are druggist, 129 (48%) of the respondents are pharmacist, 59 (21.9%) of the respondents are chemist and the rest respondents working under the profession of Logistics and supply chain.

4.4. Descriptive Analysis

This section discus about the descriptive statistics for data which was gathered through questionnaires to evaluating effect of supply chain management practices on organizational performancein Ethiopian pharmaceutical manufacturing.

Table .4.3 Supplier Relationship Management Frequencies

$Supplier Relationship Management Frequencies		Responses	
		N	Percent
Supplier Relationship Management	strongly Disagree	129	6.0%
	Disagree	149	6.9%
	Neutral	463	21.5%
	Agree	577	26.8%
	Strongly Agree	831	38.7%
Total		2149	100.0%

Source: SPSS result, 2018

As shows in Table 4.3 above, the frequencies of the response on Supplier Relationship Management, 6% of response were strongly Disagree, 6.9 % of responses were Disagree, 21.5% of the responses were Neutral, 26.8% of the responses were Agreed and rest 38.7% of responses were Strongly Agree

Table .4.4 Customer Relationship Management Frequencies

$Customer Relationship Management Frequencies		Responses	
		N	Percent
Customer Relationship Management	strongly Disagree	283	8.1%
	Disagree	706	20.2%
	Neutral	793	22.7%
	Agree	726	20.8%
	Strongly Agree	989	28.3%
Total		3497	100.0%

Source: SPSS result, 2018

Table 4.4 on the above, the frequencies of the response on Customer Relationship Management, 8.1% of response were strongly Disagree, 20.2 % of responses were Disagree, 22.7% of the responses were Neutral, 20.8% of the responses were Agreed and rest 28.3% of responses were Strongly Agree.

Table .4.5Level of Information Sharing Frequencies

$Level of Information Sharing Frequencies		Responses	
		N	Percent
Level of Information Sharing	strongly Disagree	77	7.2%
	Disagree	67	6.2%
	Neutral	192	17.8%
	Agree	304	28.3%
	Strongly Agree	436	40.5%
Total		1076	100.0%

Source: SPSS result, 2018

As shows in Table 4.5 above, the frequencies of the response on Level of Information Sharing, 7.2 % of response were strongly Disagree, 6.2 % of responses were Disagree, 17.8 % of the responses were Neutral, 28.3 % of the responses were Agreed and rest 40.5 % of responses were Strongly Agree.

Table .4.6 Organizational Performance Frequencies

$Organizational Performance Frequencies		Responses	
		N	Percent
Organizational Performance	strongly Disagree	123	6.5%
	Disagree	186	9.9%
	Neutral	383	20.3%
	Agree	769	40.8%
	Strongly Agree	422	22.4%
Total		1883	100.0%

Source: SPSS result, 2018

As shows in Table 4.6 above, the frequencies of the response on Organizational Performance, 6.5 % of response were strongly Disagree, 9.9 % of responses were Disagree, 20.3 % of the responses were Neutral, 40.8 % of the responses were Agreed and rest 22.4 % of responses were Strongly Agree.

According to Cochran (1977), the mean score below 3.39 is considered as low; the mean score from 3.40 up to 3.79 is considered as moderate and mean score above 3.8 is considered as high as shown below. **Table 4.7 Comparison Bases of Mean Score of Five Point Likert Scale Instruments**

No	**Mean value**	**Description**
1	<3.39	Low
2	3.40 up to 3.79	Moderate
3	>3.8	High

In order to see the general perception of the respondents regarding Supplier Relationship Management, Customer Relationship Manage and Level of Information Sharing, the study used the following table;

Table .4.8 Descriptive Statistics for independent variable

Dimensions	N	Mean	Std. Deviation
Supplier Relationship Management	269	3.9057	.95484
Customer Relationship Management	269	3.4022	.89300
Level of Information Sharing	269	4.0065	.86236

Source: SPSS result, 2018

As shows in Table 4.8 above, the mean value of Supplier Relationship Management was =3.9057 (SD=0.95484), indicating that, majority of the respondents did respond above the higher limit of moderate (3.8) on the Supplier Relationship Management. This implies that Supplier Relationship Management got the highest value in the data set.

The mean score of the Customer Relationship Management is =3.4022 (SD=0.89300). This indicates that, majority of the respondents respond on between moderate limit (3.40 to 3.79) on Customer Relationship Management. This implies that Customer Relationship Management got the Moderate value in the data set.

The mean value of Level of Information Sharing was =4.0065 (SD=0.86236), this indicates that, majority of the respondents respond on the higher limit of moderate (4.00) on Level of Information Sharing. This implies that Level of Information Sharing got the high value in the data set. The regression result for supplier relationship management, customer relationship management and level of information sharing indicate that there p-value is less than 0.05. This implies that, supplier relationship management; customer relationship management and level of information sharing are statistically significant, which means significant influence on organizational performance since p-value is less than 0.05.

4.5. Correlation Analysis

Table 4.9 Inter-correlation analysis between the variables

Correlations					
		Supplier Relationship Management	Customer Relationship Management	Level of Information Sharing	Organizational Performance
Supplier Relationship Management	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	269			
Customer Relationship Management	Pearson Correlation	.858**	1		
	Sig. (2-tailed)	.000			
	N	269	269		
Level of Information Sharing	Pearson Correlation	.767**	.652**	1	
	Sig. (2-tailed)	.000	.000		
	N	269	269	269	
Organizational Performance	Pearson Correlation	.249**	.283**	.403**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	269	269	269	269
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: SPSS result, 2018

According to (Cochran, 1977), positive values indicate positive correlation between the two variables, whereas negative values indicate negative correlation. A zero value indicates that there is no association

between the two variables. When r = (+) 1, it indicates perfect positive correlation and when it is (–) 1, it indicates perfect negative correlation.

Based on The Pearson correlation result that is association with in independent variables and with dependent variables presented on the above table 4.9, Supplier Relationship Management with Organizational Performance Correlation Coefficient is 0.249, this explain that there is positive relationship between the two variables. Customer Relationship Management and Organizational Performance correlation coefficient is 0.283; this result indicates that there is strong and positive relationship between the two variables. Level of Information Sharing and Organizational Performance Correlation Coefficient is 0.403; this explains that there is positive relationship between the two variables.

4.6. Regression Analysis

4.6.1 Normality Assumptions Test

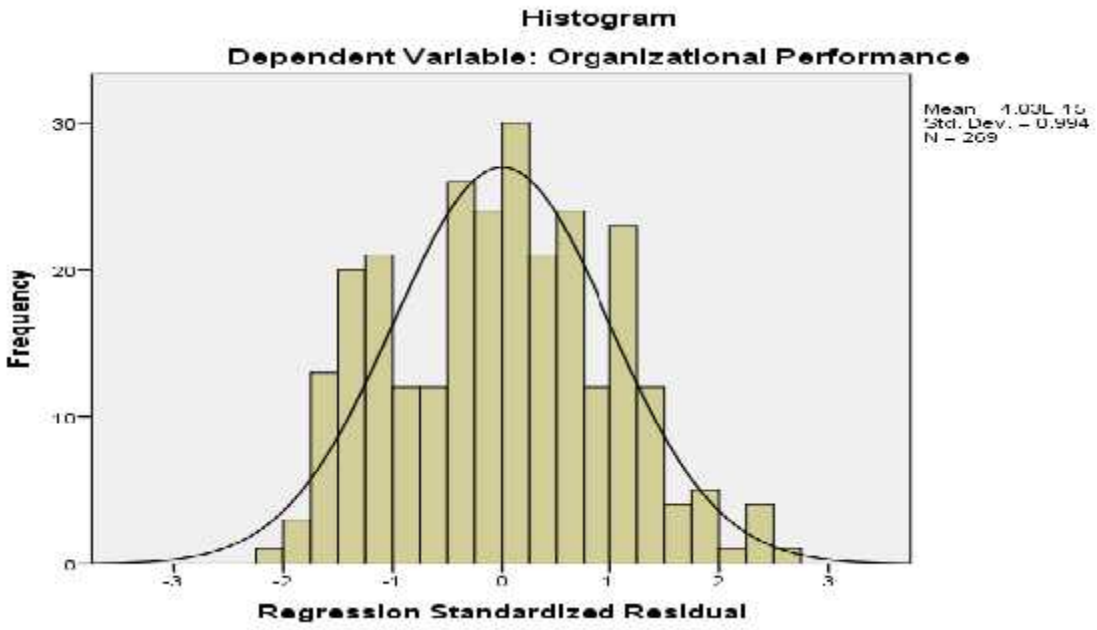


Figure 2 - Normality test for residuals

If the residuals are normally distributed, the histogram should be bell-shaped. Bryman, (1988). Therefore, from the above figure, the Histogram is bell-shaped; this implies that the residuals are normally distributed. Hence, the normality assumption is fulfilled in this study.

4.6.2. Linearity Assumptions Test

In linear regression analysis it is assumed that there is a linear relation between the predictors and the dependent variable. This study measured the linearity by testing the goodness of fit of the model by conducting ANOVA test.

The test hypothesis is:

H0: The model is not a good fit

H1: The model is a good fit

Alpha = 0.05

Table 4.10 linearity assumptions test

ANOVA			
Model		df	Sig.
1	Regression	3	.000
	Residual	265	
	Total	268	
a. Dependent Variable: Organizational Performance			
b. Predictors: (Constant), Level of Information Sharing, Customer Relationship Management, Supplier Relationship Management			

Source: SPSS result, 2018

From the above table 4.10, we concluded that the model is a good fit. Since, the p-value, 0.000 is less than $\alpha = 0.05$. This result indicates that there is a linear relation between the dependent variable and the independent variables

4.6.3. The Multi-collinearity Test

Table 4.11 Multicollinearity assumption Test

Variables	Collinearity Statistics VIF
Supplier Relationship Management	5.303
Customer Relationship Management	3.799
Level of Information Sharing	2.430

Source: SPSS result, 2018

According to (Cochran, 1977) stated that presence of multi-collinearity can be detected by just looking at variance inflation factor (VIF) value of each explanatory variable. That is, if VIF is more than 10, then, it signifies that there is interdependency among independent variables. Table 4.11 indicates that the VIF values of supplier relationship management, Customer Relationship Management and Level of Information Sharing and its VIF values are below 10. Hence, the multi-collinearity assumption is fulfilled in this study.

4.6.3.1.The of Effect of Supply Chain Management Practices on Organizational Performance

Multiple linear regression (MLR) analysis applied to investigate the The Effect of Effect of Supply Chain Management Practices on Organizational Performance In Ethiopian pharmaceutical manufacturing Coefficient of determination-R2 is the measure of proportion of the variance of dependent variable, and the mean that is explained by the independent or predictor variables (Gujirat, 2001).

Table 4.12Model Summary (Independent variables as predictors to organizational performance)

Model Summary			
Model	R	R Square	Adjusted R Square
1	.438	.412	.411
a. Predictors: (Constant), Level of Information Sharing, Customer Relationship Management, Supplier Relationship Management			
b. Dependent Variable: Organizational Performance			

Table 4.12 presents the model summary R square value indicated that the independent variables explained the dependent variable by .412. This result implies that Supply Chain Management Practices variables explained the Organizational Performance by 41.2 percent.

Table 4.13 ANOVA (Independent variables as predictors organizational performance)

Model		Sum of Squares	df	Mean Square	Sig.
1	Regression	30.226	3	10.075	.000
	Residual	127.595	265	.481	
	Total	157.821	268		

Source: SPSS result, 2018

ANOVA tells overall goodness of fit of the model and the model significant at the 0.000 level which is quite good and entails that the model is a good fit at 5% level of significance.

4.6.4. The regressions result

This section presents the regressions result of to evaluate the effect of Supplier Relationship Management, Customer Relationship Management and Level of Information on the Performance of Ethiopian pharmaceutical manufacturing

Table 4.14: Regression analysis coefficientsof the independent variable

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.779	.156		.749	0.000
Supplier Relationship Management	.310	.102	.386	1.007	0.003
Customer Relationship Management	.160	.063	.274	5.625	0.011
Level of Information Sharing	.463	.077	.251	3.438	0.000
a. Dependent Variable: Organizational Performance					

Source: SPSS result, 2018

Table 4.14 the independent variables, Supplier Relationship Management, Customer Relationship Management and Level of Information Sharing have a positive and statistically insignificant at **5%** level of significance. As result of this the researcher by using un standardized Coefficients of each variables will be interpreted the result:

$Y= \beta 0 + \beta 1 X1 + \beta 2 X2 + \beta 3 X3+ + ei$

Where,

βo = Point of intercept

Y = Organizational Performance of Ethiopian pharmaceutical manufacturing

X1 = Supplier Relationship Management

X2 = Customer Relationship Management

X3 = Level of Information Sharing

βk = Slope of the line

ei = Error term associated with the observation

Summary of Regression

Organizational Performance of Ethiopian pharmaceutical manufacturing**= 0**.779 + 0.310 Supplier Relationship Management+ 0.160 Customer Relationship Management + .463 Level of Information Sharing ***r*** + ***εi***

Source: SPSS result, 2018

As shown on the above table , the results of regression regarding Supplier Relationship Management show that there is positive relationship and statically significant effect on Organizational Performance of Ethiopian pharmaceutical manufacturing. un standardized Coefficients of Supplier Relationship Management is 0.310 which implies that on average a percent increase in Supplier Relationship Management will increase Organizational Performance of Ethiopian pharmaceutical manufacturing by 31 percent and vice versa. Thus, from the results it can be conclude that Supplier Relationship Management has effect on Organizational Performance of Ethiopian pharmaceutical manufacturing.

The results of the regression results relating with Customer Relationship Management has statistically significant effect on Organizational Performance of Ethiopian pharmaceutical manufacturing. un standardized Coefficients of Customer Relationship Management is 0.160 which implies that on average a percent increase in Customer Relationship Management will increase Organizational Performance of Ethiopian pharmaceutical manufacturing by 16 percent and vice versa. The result indicates that Customer Relationship Management can determine the Performance of Ethiopian pharmaceutical manufacturing.

The results of regression regarding Level of Information Sharing show that there is positive relationship and statically significant effect on Organizational Performance of Ethiopian pharmaceutical manufacturing. Unstandardized Coefficients of Level of Information sharing is 0.463.which implies that on average a percent increase in Level of Information Sharing will increase Organizational Performance

of Ethiopian pharmaceutical manufacturing by 46.3 percent and vice versa. Thus, from the results it can be conclude that Level of Information Sharing has a positive effect on Organizational Performance of Ethiopian pharmaceutical manufacturing.

Generally, the main purpose of this study is to evaluating the effect of supply chain management practices on organizational performancein Ethiopian pharmaceutical manufacturing. From the above data analysis, Supplier Relationship Management, Customer Relationship Management and Level of information sharing have a positive and at 5% level of significance effect on organizational performancein Ethiopian pharmaceutical manufacturing.

From the result of the study it is possible to conclude that supplier relationship management, customer relationship management and level of information sharing are found to have a positively statistically significant on organizational performance or all these variables affects the organizational performance of Ethiopian Pharmaceuticals Manufacturing (EPHARM).

The results presented in this study contribute to the companies' to focus on supplier relationship management, customer relationship management and level of information sharing in order to build up their organizational performance .Beyond limitations of the study, validity and reliability were tested using values of Cronbach's alpha more than 0.7 is good. Therefore, it had very good reliability for the questionnaires.

CHAPTER FIVE

SUMMARY OF MAJOR FINDING,CONCLUSIONS AND RECOMMENDATIONS

5.1.Summary of Major Findings

The demographic characteristics of respondents of the companies Indicated about gender of the respondents and from the participated respondents 175 (65.1%) are male and the remaining 94 (34.9%) of respondents are Female. This shows that numbers of male respondents are greater than female respondents.

Regarding the age of the respondents 27 (10%) of the respondents are from age less than 25 years, 124 (46.1%) of the respondents are under age group between 26 – 34 years, the age category of 83 (30.9%) of the respondents are between 35 – 44, age category 27 (10%) of the respondents are between 45-54, the age category of rest 8 (3%) respondents are over 54 years. As result of this, the researcher can say this is good advantage to have them for analysis in detail because these ages are more responsible and rational on their behavior.

Considering the above fact, this study paper is inspired to Evaluating Effect of Supply Chain Management Practices on Organizational Performance of EPHARM. The study used closed-ended questionnaire to evaluate the effect of Supply Chain Management Practices on Organizational Performance. The collected questionnaire analyzed using SPSS Data package. Multiple regression estimation was conducted to evaluate the effects of all independent variables impact on the dependent variable which is organizational performance. Based on the results of the study the summary of major findings are as follows.

- The primary source of data collected from the total sample size of the study that are 269; these collected from; 109 respondents from EPHARM, 85 respondents from Medtech Ethiopia pharmaceuticals and 72 respondents are from ZAF Pharmaceutical
- Demographic background of the respondents indicates that there are more male respondents than female respondents, concerning age of the respondent's majority respondents are under the interval from 26 to 34, when we see levels of education or education qualification of the respondents are

majority respondents are degree holder. Concerning the work experience of respondents the work experience of majority respondents are under the interval of from 6 to 10 and majority of the respondents of this study are Pharmacist.

- The result of the descriptive statistics SRM has mean of 3.9 and S.D 0.95, CRM has mean of3.4 and S.D 0.89, LIS has mean of 4.0 and S.D 0.8 The regression result for supplier relationship management, customer relationship management and level of information sharing indicate that there p-value is less than 0.05. This implies that, supplier relationship management; customer relationship management and level of information sharing are statistically significant, which means significant influence on organizational performance since p-value is less than 0.05.

5.2. CONCLUSION

Ethiopian Pharmaceuticals Manufacturing Sh. Co. (EPHARM) is engaged in pharmaceutical manufacturing industry and it is a pioneer in the pharmaceutical manufacturing industry in Ethiopia.EPHARM is currently producing different pharmaceutical products. The company has been producing high quality and price-competitive drugs that have addressed the critical health problems of the Ethiopian people for more than fifty years.

From the result of the study it is possible to conclude that supplier relationship management, customer relationship management and level of information sharing are found to have a positively statistically significant on organizational performance or all these variables affects the organizational performance of Ethiopian Pharmaceuticals Manufacturing (EPHARM).

The results presented in this study contribute to the companies' to focus onsupplier relationship management, customer relationship management and level of information sharing in order to build up their organizational performance .Beyond limitations of the study, validity and reliability were tested using values of Cronbach's alpha more than 0.7 is good. Therefore, it had very good reliability for the questionnaires.

5.3. Recommendations

Based on the major findings of the study, the researcher forwards the following recommendations to the management and other stakeholders.

- Supplier relationship management factor has considerable degree of impact in shaping organization performance. The company should be Strengthen the channel creation relationship among their trading partners,providing regular information and give recognition to their trading partners who meet or exceed their sales targets the company can be increase its organizational performance
- Customer relationship has a positive and significant influence on organizational performance. This indicated that maintaining long term customer relationship or creating good way of communication between the company and its trade partner the company can be boost the company performance.
- Level of information sharing has considerable degree of impact in shaping organization performance. The company by providing regular information to its trading partners the company to enhance its organizational performance.
- This research was limited to a small sample; future research should attempt to sample from a larger population of firms 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.
- Finally, the study focuses only effect of supply chain management practices on organizational performancein Ethiopian pharmaceutical manufacturing. May be did not include in this study other variables those are affects the organizational performance. So, future research should examine on other factor which affects organizational performance of in other companies.
- The other future direction is to conduct a research on the supply chain management of local pharmaceutical manufacturers since they are at the infant stage and their contribution is very low to the pharmaceutical need of the county
- Further study should be done by increasing the number of independent variables to get more strong result.

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APENDIX ONE

ST.MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF MARKETING MANAGEMENT

Questionnaire to be filled by Employees

Dear Sir/Madam,

This survey is conducted as part of a research project which shall be submitted as partial fulfillment of Masters of Marketing Managnment.

The purpose of the study is to **Evaluating Effect of Supply Chain Management Practices on Organizational PerformanceIn the case of Ethiopian pharmaceutical manufacturing (EPHARM)**and to suggest ways in which the company can improve its SCM practices to increase its organizational performance.

I would greatly appreciate you completing this questionnaire at your convenience. Since the validity of the results depend on obtaining a high response rate, your participation is crucial to the success of this study. Your submission of the completed survey indicates your consent to participate in this study.

Please, be aware that while you react to the questionnaire:-

- ✓ The collected data will be used only for academic purpose
- ✓ Your Response is kept confidential.
- ✓ The data will be analyzed collectively.
- ✓ Writing your name is not necessary.
- ✓ Please put a tick (✓) mark just inside the given box for Part I and circle for Part II and III

I thank you in advance for your cooperation and spending your valuable time in filling and taking part in the study. If you have any question to ask please feel free to use the following address:

Yordanos seyoumEmail: yordabsey@gmail.com/smyorda@yahoo.com

Tel: +251 91 1078185/0930077921

Part I: Respondents Demographic Data

1, Gender:

1. Male ☐2. Female ☐

2, Age Group:

1.Less than 25 Years ☐2. 26-34 Years☐

3. 35-44 Year☐4. 45-54 Years☐

5. Over 54Years ☐

3, Educational qualification:

1.Diploma ☐2. Degree ☐

3. Master's Degree ☐ 4.Doctorate Degreeand above ☐

4, Work experience:

1. 1-5 Years ☐ 2. 6-10 Years☐

3. 11-15 Years ☐ 4. Over 15 Years ☐

5. Profession of in-charge/coordinator/

1. Druggist ☐ 2. Pharmacist☐

3. Chemist ☐ 4. Logistics and supply chain☐

Part II: Supply Chain Management Practices Questionnaire

2.1 Supplier Relationship Management (SRM)

SRM is the supply chain management process that provides the structure for how relationships with suppliers are developed and maintained With regard to your organization's supplier relationship management process.

S/N	DESCRIPTION	Scales				
		1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1	**Supplier Relationship Management**					
1.	We consider quality as our number one criterion in selecting suppliers	1	2	3	4	5
2.	We regularly solve problems jointly with our suppliers	1	2	3	4	5
3.	We have helped our suppliers to improve their product quality	1	2	3	4	5
4.	We include our key suppliers in our planning and goal setting activities.	1	2	3	4	5
5.	Our company has formal performance goals for supplier relationship management (SRM)	1	2	3	4	5
6.	Our company regularly measures our supplier's contribution to our profitability.	1	2	3	4	5
7.	Our suppliers understand how their decisions/actions affect the SRM process.	1	2	3	4	5
8.	People throughout our company understand how their decisions/actions affect SRM process	1	2	3	4	5

2.2 Customer Relationship Management (CRM)

The CRM process provides the structure for how the relationships with customers will be developed and maintained.

S/N	DESCRIPTION	Scales				
		1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
2	**Customer Relationship Management**					
1.	Our company has developed customer Relationship management (CRM) process team.	1	2	3	4	5
2.	Our firm insures our CRM process is aligned with our corporate strategy.	1	2	3	4	5
3.	The prices of the products produced by our firm is reasonable.	1	2	3	4	5
4.	The company delivers request products on time	1	2	3	4	5
5.	All products produced by the company are available all the time in market.	1	2	3	4	5
6.	The company delivers defect free products.	1	2	3	4	5
7.	The company collects poor quality products from your store	1	2	3	4	5
8.	The company conducts survey to measure the level of customer relationship management.	1	2	3	4	5
9.	The company periodically evaluate the importance of our relationship with our customers	1	2	3	4	5
10.	The company Notify the list of products in the stock for your company regularly	1	2	3	4	5
11.	The company has arranged fixable payment system	1	2	3	4	5
12.	The products manufactured by company fulfills your need in terms of quality	1	2	3	4	5
13.	The products manufactured by company fulfills your need in terms of quantity	1	2	3	4	5

2. 3. Level of Information Sharing (LIS)

Level of information sharing refers to the extent to which criteria and proprietary information is communicated to one's supply chain partner.

S/N	DESCRIPTION	Scales				
		1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
3.	**Level of Information Sharing**					
1.	The company inform trading partners in advance of changing needs	1	2	3	4	5
2.	Our trading partners keep us fully informed about issues that affect our business	1	2	3	4	5
3.	We and our trading partners exchange information that helps establishment of business planning	1	2	3	4	5
4.	Manufacturer provide suitable training programs.	1	2	3	4	5

Part III –Organizational Performance

Organizational performance is the extent to which a firm achieves its quantitative goals as well as its qualitative goals.

1	Organizational Performance	Scales				
		1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1.	Growth of sales is significantly increasing	1	2	3	4	5
2.	Our profit margin on sales is significantly increasing	1	2	3	4	5
3.	Growth of return on investment is significantly increasing	1	2	3	4	5
4.	Our market share is significantly increasing.	1	2	3	4	5
5.	Our customers satisfaction is significantly increasing	1	2	3	4	5
6.	Our suppliers satisfaction is significantly increasing	1	2	3	4	5
7.	Our employees satisfaction is significantly increasing	1	2	3	4	5

Thank you for your cooperation!!!

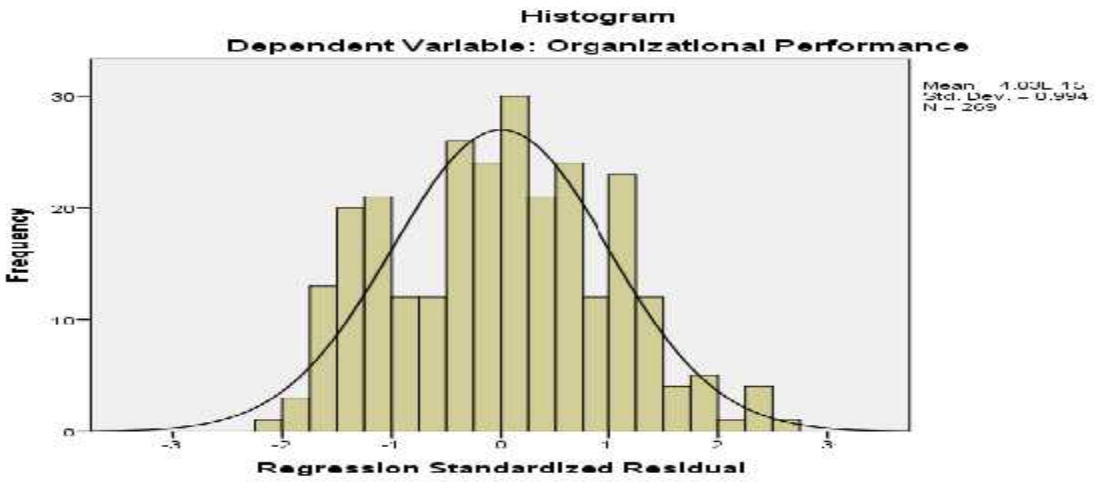
APENDIX TWO

Correlations

		Supplier Relationship Management	Customer Relationship Management	Level of Information Sharing	Organizational Performance
Supplier Relationship Management	Pearson Correlation	1	.858**	.767**	.249**
	Sig. (2-tailed)		.000	.000	.000
	N	269	269	269	269
Customer Relationship Management	Pearson Correlation	.858**	1	.652**	.283**
	Sig. (2-tailed)	.000		.000	.000
	N	269	269	269	269
Level of Information Sharing	Pearson Correlation	.767**	.652**	1	.403**
	Sig. (2-tailed)	.000	.000		.000
	N	269	269	269	269
Organizational Performance	Pearson Correlation	.249**	.283**	.403**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	269	269	269	269

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

APENDIX THREE



Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.779	.156		.749	0.000
Supplier Relationship Management	.310	.102	.386	1.007	0.003
Customer Relationship Management	.160	.063	.274	5.625	0.011
Level of Information Sharing	.463	.077	.251	3.438	0.000
a. Dependent Variable: Organizational Performance					