Effect of Supply Chain Management Practices on Organizational Performance in Pharmaceutical Companies in Addis Ababa.

By

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DECLARATION

I, the undersigned, declare that this thesis work entitled as **"Effect of Supply Chain Management Practices on Organizational Performance in Pharmaceutical Companies in Addis Ababa",** is my original work, prepared under the guidance of Temesgen Belayneh(PhD). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted in part or full to any other higher learning institution for the purpose of earning any degree.

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ENDORSEMENT

This thesis has been submitted to St. Mary's University, school of graduate studies for examination with my approval as a university advisor.

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Advisor   Signature

St. Mary's University, Addis Ababa   June, 2017

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List of Acronyms

SCM   Supply Chain Management

SCF   Supply Chain Finance

SRM   Supplier Relationship Management

SCM   Customer Relationship Management

LIS   Level of Information Sharing

QIS   Quality of Information Sharing

OP   Organizational Performance

ROI   Return on Investment

S.D   Standard Deviation

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Abstract

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 purpose of this research is to study the effect of supply chain management practices (supplier relationship management, customer relationship management, level of information sharing and quality of information sharing) on organizational performance of Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals. The study was employed through descriptive research design in which selection of respondents were done using stratified sampling technique which is a mixture of deliberate (purposive) and simple random sampling technique. The analysis was made using descriptive statistics and the significant relationship of the independent variables with the dependent variable was made using inferential statistics (correlation and regression analysis). From the descriptive analysis result, SRM has mean of 4.06 , CRM has mean of 3.77, LIS has mean of 3.89, QIS has mean of 4.14 and OP has mean of 3.94. From the correlation analysis result there were significant positive correlation between the two variables (quality of information sharing and customer relationship management) and organizational performance at ($p<0.01$) and ($p<0.05$) respectively. The other two variables (SRM and level of information sharing) have no significant correlation with organizational performance. Finally, according to the regression analysis result, only the two hypotheses (Ha2 &Ha4) which are customer relationship management and quality of information sharing has positive and significant influence on organizational performance is accepted. This implies that quality of information sharing and customer relationship management must be in the best attention of business organizations to take a proactive role in the management of their supply chain in establishing a strong position over its competitors and achieving its goals.

Key words: Supply Chain Management, Supplier Relationship Management, Customer Relationship Management, Levell of Information Sharing, Quality of Information Sharing.

Chapter One

1. Introduction

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

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. The new focus of managers is addressed to the synchronization of the production system with the upstream and downstream activities of the firms. There are some key factors underlying the transition from a traditional management of the internal activities to an innovative handling of the internal processes in the broader environment of a supply chain (Marco, 2015).

Supply chain management (SCM) is a management concept of the 2000´s. 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. Today the broader definition determined by the Global Supply Chain Forum is generally accepted 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. 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 (Beamon, 1998).

The current financial and economic situation is making increasingly necessary the collaboration between 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. 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 (Berk et al., 2007).

The profitability of the supply chain could be improved drastically via better delivery performance (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. The potential for improvement when applying SCM-concepts is based on the reduction of inventory -carrying (reduced overstocks, faster inventory turns) and transportation costs (pooling of transport), the reduction of indirect and direct labor costs and the increase of sales and sales margins (Vander, 2004).

1.2. Statement of The Problem

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

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

Located at the intersection of logistics, supply chain management, collaboration, and finance, SCF is an approach for two or more organizations in a supply chain, including external service providers, to jointly create value through means of planning, steering, and controlling the flow of financial resources on an inter-organizational level. While preserving their legal and economic independence, the collaboration partners are committed to share the relational resources, capabilities, information, and risk on a medium to long-term contractual basis (Gema, 2012).

Practices of SCM will not only make impact on the overall performance of the organization, but also on the competitive advantage of the organization. These practices are supposed to improve the

organization's competitive advantage using the price/cost, the quality, the delivery dependability, the time to market, and product innovation. Prior studies had identified that some of the components of SCM practices i.e. strategic partnership with the supplier have a major impact on various forms of competitive advantage (i.e. price/cost). For example, the strategic partnership with the supplier will help in improving the supplier performance, and will help to reduce the time to the market and will also results in the responsiveness and satisfaction of the customer. Information sharing will help to high level of integration of supply chain by making enable the organizations for the dependable delivery, also for introducing new product in market quickly. Sharing of information and the quality of information contributes positively towards the satisfaction of the customers and quality of partnership (Muhammad et al, 2013).

1.3. Basic Research Questions

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

- ➢ Is there relationship between supplier relations management practice and organizational performance?
- ➢ Is there relationship between customer relationship management practice and organizational performance?
- ➢ Is there relationship between level of information sharing and organizational performance?
- ➢ Is there relationship between level of information quality and organizational performance?
- ➢ How is the performance of Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals while implementing supply chain management?

1.4. Objective of The Study

The general objective of this study is to know how supply chain management activities affect organizational performance of Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals since its implementation.

The specific objectives are to:-

- Identify the relationship of SCM practices and organizational performance
- Describe the performance of Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals while implementing supply chain management.

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 and financial) of the organization. The study may also show management, supply chain management needs great attention (focus) to have more satisfied customers and suppliers.

The companies are implementing supply chain management. But, they don't relate the effect of supply chain management practices with organizational performance and no evaluation is done. Therefore, the proper emphasis is not given to the implementation of supply chain management

Thus, this study will have the following importance:

- ✓ It aids management of the company to see how supply chain management practices are related with the organizational performance.
- ✓ 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. Delimitation/Scope of The Study

The study focuses on the effects of supply chain management on organizational performance of Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals found in Addis Ababa 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. The other limitation is survey was used as the only data collection method so it may have its own negative influence in the study.

1.7. Definition of Terms

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

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

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

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

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

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

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

1.8. Organization of The Study

This paper was organized into five chapters. The first chapter include introduction which includes background of the study, statement of the problem, objective of the study, basic research questions, significance of the study and scope and limitation of the study. The second chapter deals with review of related literature from different sources. The third chapter involves methodologies applied in the study. The fourth chapter presents data analysis and interpretation. The fifth chapter includes summary of the study, conclusions, recommendation and suggestion.

Chapter Two

2. Review of Related Literature

2.1. Concept of Supply Chain Management

Supply chain is system of organizations, people, technology, activities, information and resources involved in moving a product or service from supplier to customer. Supply chain activities transform natural resources, raw materials and components into a finished product that is delivered to the end customer. The Council of Supply Chain Management Professionals defines supply chain management as follows: "Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, and finance and information technology (Ali et al, 2013).

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

integrate suppliers, manufacturers, warehouses and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements" (Atul et al, 2007).

Supply chain management (SCM) research has evolved to a stage where analytical and empirical methodologies have allowed researchers to identify and validate basic SCM models and constructs. Numerous studies have also investigated the effects of various SCM related practices affecting organizational performance. As SCM research continues to develop, many researchers are focusing on the cross-industry validity of previous findings. One of the aspects of interest is the effect of employing various "best practices" by organizations in different positions of the supply chain. This is a significant issue to address to determine whether commonly advocated practices are equally relevant across the length of the supply chain. While a few studies have examined the difference in effectiveness of SCM practices based on whether these are applied on the supply side or the distribution side of the supply chain, most of these studies have treated the supply and the distribution sides of the supply chain as one overall stage. Therefore, the treatment has been largely based on a dyadic basis. Such an aggregated view of supply chain position masks a number of issues, which companies in specific supply chain roles may face. For instance, should distributors and retailers look at supply chain practices the same way? From the dyadic standpoint, these two types of companies should face the same issues and supply chain practices adopted for one, should be equally effective for the other. However, this may not be the case since the distributor stage is an intermediate stage in the supply chain while the retailer stage is typically the final stage before the customer (Lori et al., 2011).

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

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

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

Figure 2.1: Supply Chain Management (Darilyn, 2008)
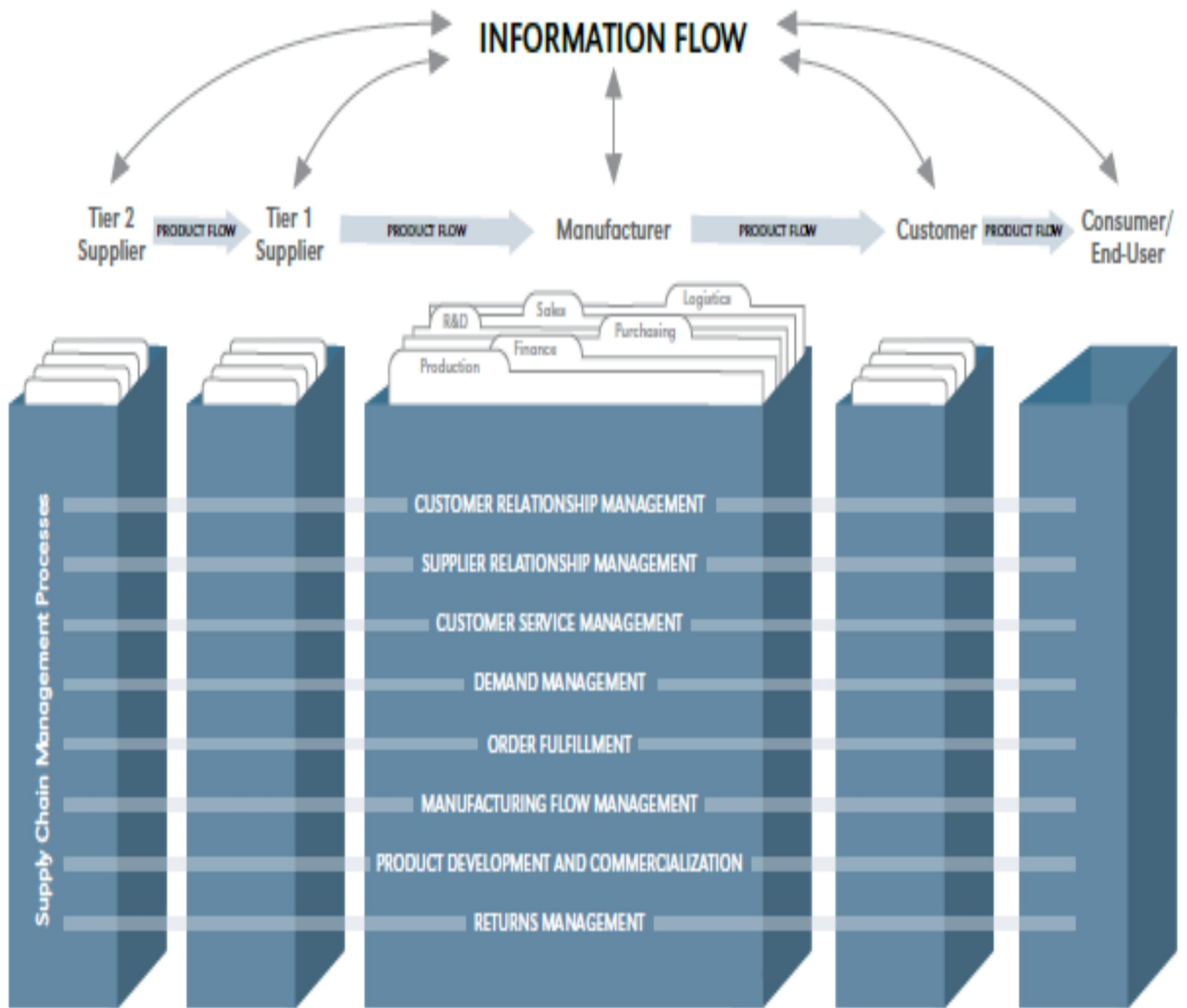
2.2. Supply Chain Management Process

(Ronald, 2012) 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 of the PSAs, and provides a single source of customer information.
- Supplier relationship management – provides the structure for how relationships with suppliers are developed and maintained, including the establishment of PSAs between the firm and its suppliers.
- Customer Service Management- provides the firm's face to the customer, including management of the PSAs, and provides a single source of customer informationDemand management- provides the structure for balancing the customers' requirements with the capabilities of the supply chain.
- 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.
- 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.

Figure 2.2: Functional Involvement in the supply Chain Management Processes (Darilyn, 2008)

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

SUPPLIERS — CUSTOMERS

2.3. Supply Chain Management Practices

SCM practices involve a set of activities undertaken in an organization to promote effective management 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 can be defined in various ways. SCM practices include supplier partnership, outsourcing, cycle-time compression, continuous process flow and information technology sharing. Li et al. (2004) defined SCM practices as the set of activities that organizations undertake to promote effective management of the supply chain. Others termed SCM practice as a special form of strategic partnership between retailers and suppliers. SCM practices in terms of reducing duplication effects by focusing on core competencies and using inter-organizational standards such as activity-based costing or electronic data interchange, and eliminating unnecessary inventory level by postponing customizations towards the end of the supply chain. SCM practices also categorized from the following aspects: close partnership with suppliers, close partnership with customers, just-intime supply, strategic planning supply chain benchmarking, few suppliers, holding safety stock and subcontracting, e-procurement, outsourcing and many suppliers. There are identified seven theoretical processes of service supply chains which include information flow, capacity and skills management, demand management, customer relationship management, supplier relationship management, service delivery management and cash flow. In general, SCM practices are categorized into demand management, customer relationship management, supplier relationship management, capacity and resource management, service performance, information and technology management, service supply chain finance, and order process management (Lang, 2012).

In reviewing and consolidating the literature, five distinctive dimensions, including strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and postponement, are selected for measuring SCM practice. The five constructs cover upstream (strategic supplier partnership) and downstream (customer relationship) sides of a supply chain, information flow across a supply chain (level of information sharing and quality of information sharing), and internal supply chain process (postponement). It should be pointed out that even though the above dimensions capture the major aspects of SCM practice, they cannot be considered complete (Li et al., 2004).

2.4. Supplier Relationship Management

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

2.5. Customer Relationship Management

CRM comprises the entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction. Customer relationship management is an important component of SCM practices. Committed relationships are the most sustainable advantage because of their inherent barriers to competition. The growth of mass customization and personalized service is leading to an era in which relationship management with customers is becoming crucial for corporate survival. Good relationships with supply chain members, including customers, are needed for successful implementation of SCM programs.Close customer relationship allows an organization to differentiate its product from competitors, sustain customer loyalty, and dramatically extend the value it provides to its customers (Li et al., 2004).

2.6. Information Sharing

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

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

2.7. Level of Information Sharing

Information sharing has two aspects: quantity and quality. Both aspects are important for the practices of SCM and have been treated as independent constructs in the past SCM studies. Level (quantity aspect) of information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner. Shared information can vary from strategic to tactical in nature and from information about logistics activities to general market and customer information. Many researchers have suggested that the key to the seamless supply chain is making available undistorted and up-to-date marketing data at every node within the supply chain. By taking the data available and sharing it with

other parties within the supply chain, information can be used as a source of competitive advantage. Researchers consider sharing of information as one of five building blocks that characterize a solid supply chain relationship. Supply chain partners who exchange information regularly are able to work as a single entity. Together, they can understand the needs of the end customer better and hence can respond to market change quicker. Others consider the effective use of relevant and timely information by all functional elements within the supply chain as a key competitive and distinguishing factor. The empirical findings reveal that simplified material flow, including streamlining and making highly visible all information flow throughout the chain, is the key to an integrated and effective supply chain (Li et al., 2004).

2.8.   Quality of Information Sharing

Includes such aspects the accuracy, timeliness, adequacy and credibility of information exchanged. While information sharing is important, the significance of its impact on SCM depends on what information is shared, when and how it is shared, and with whom. Literature is replete with example of the dysfunctional effects of inaccurate/delayed information, as information moves along the supply chain. Divergent interests and opportunistic behavior of supply chain partners, and informational asymmetries across supply chain affect the quality of information. It has been suggested that organizations will deliberately distort information that can potentially reach not only their competitors, but also their own suppliers and customers. It appears that there is a built-in reluctance within organizations to give away more than minimal information since information disclosure is perceived as a loss of power. Given these predispositions, ensuring the quality of the shared information becomes a critical aspect of effective SCM, organizations need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion (Li et al., 2004).

2.9.   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. Many studies have selected a combination of pertinent operational and financial measures to reflect overall organizational performance. For example, researchers use factor analysis to extract five

components of performance related to delivery, cost, flexibility, procurement and quality. Others measure performance through four separate dimensions including perceived value, customer loyalty, market performance and financial performance. Similarly, others use six items for performance including product quality, customer service, competitive position, market share, average selling price and return on assets. Customer service performance followed by financial performance as the performance constructs and finally, operational performance via three levels of performance criteria: strategic, operational and financial. Strategic performance is measured by market share and sales growth, operational performance is measured by lead-time performance and financial performance is assessed through return on investments and return on sales (Lori et al., 2011).

Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals. The short-term objectives of SCM are primarily to increase productivity and reduce inventory and cycle time, while long-term objectives are to increase market share and profits for all members of the supply chain. Financial metrics have served as a tool for comparing organizations and evaluating an organization's behavior over time. Any organizational initiative, including supply chain management, should ultimately lead to enhanced organizational performance. A number of prior studies have measured organizational performance using both financial and market criteria, including return on investment (ROI), market share, profit margin on sales, the growth of ROI, the growth of sales, the growth of market share, and overall competitive position (Li et al., 2004).

Many empirical studies have examined the relationship between supply chain management (SCM) and organizational performance. The relevant items adapted to measure organizational performance includes higher sales, higher accuracy in costing, and improved coordination between departments, improved coordination with suppliers, and improved coordination with customers. Some other measures that are related to organizational financial performance may include return on investment, market share, profit margin on sales, growth of return on investment, growth of sales, and growth of market share to measure organizational performance. While others use measures such as lead time, inventory turnover, product return, sales level, cost reduction and meeting customers' requirements to measure the operational performance (Lang, 2012).

2.10. Research framework

The proposed framework for this research is illustrated in Figure 2.3. The framework shows the impact of SCM practices on SC performance in terms of SC efficiency and SC effectiveness.
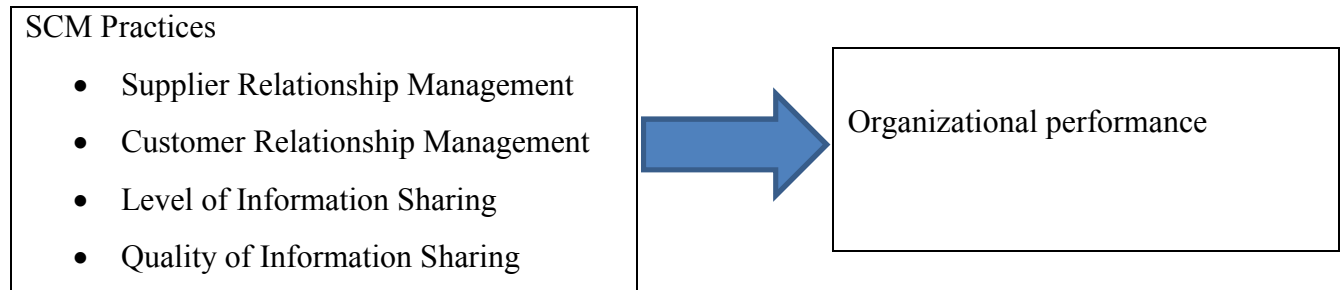
Figure 2.3: Research framework (modified from Ayman, 2014 and Li et al, 2004)

2.11. Research Hypotheses

The study is going to identify the relation and effect of supply chain management with /on organizational performance. So, four hypotheses are proposed to test the positive significance (relationship) of supply chain management and organizational performance.

Ho1: Supplier relationship management has no significant effect on organizational performance.

Ha1: Supplier relationship management has significant effect on organizational performance.

Ho2: Customer relationship management has no significant effect on organizational performance.

Ha2: Customer relationship management has significant effect on organizational performance.

Ho3: Level of information sharing has no significant effect on organizational performance.

Ha3: Level of information sharing has significant effect on organizational performance.

Ho4: Quality of information sharing has no significant effect on organizational performance.

Ha4: Quality of information sharing has significant effect on organizational performance.

Chapter Three

3. Research Design and Methodology

3.1. Introduction

This study is developed to determine the relationship between four supply chain management practices and organizational performance. Questionnaire were developed and distributed to the employees of Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals.

3.2. Research Approach and Method

The research design is a descriptive survey which provides an accurate and valid representation of the factors or variables that are relevant to the research question. Whereas, the research approach is quantitative research approach, it is a means for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures.

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

3.3. Sources of Data

This study used primary source of data. The researcher collects primary data from Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals in the form of questionnaire are used as the study population of this research. These companies are selected because of their huge scale of investment in the sector and their large number of imported products. Of these companies, employees of departments that are close to supply chain management are used as target population of the study.

The secondary data, on the other hand was derived from work of other researchers relevant to this study that are journals, research reports and available books.

3.4.   Target Population of The Study & Sampling Techniques

Target Population of the study are Medtech pharmaceuticals, Zaf pharmaceuticals, Amba pharmaceuticals, Cadila pharmaceuticals and Beker Pharmaceuticals. The researcher used a sampling technique which is a mixture of deliberate (purposive) and simple and random sampling technique. The purposive sampling technique was used in order to select the target population which. Whereas, the simple random sampling technique was used to take the respondents from the target population. This techniques are used to increase convenience of the study.

3.5.   Sample Size Determination

The total number of employees of the companies' is greater than 200 but the target population is 26 in Medtech pharmaceuticals, 19 in Zaf Pharmaceuticals, 15 in Cadila pharmaceuticals, 17 in Amba pharmaceuticals and 20 in Beker pharmaceuticals.

Thus, the total number of target population is 97.

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

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

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

$$n= \frac{97}{1+97(0.05)^2}$$

$$n=78$$

Table: 3.1 Population and sample size determination

No	Selected companies	Number of target population	Sample size
1	Medtech Pharmaceuticals	26	26/97X100=26.8% of 78=21
2	Zaf Pharmaceuticals	19	19/97X100=19.6%of 78=15
3	Cadila Pharmaceuticals	15	15/97X100=14.46%of 78=12
4	Amba Pharmaceuticals	17	17/97X100=17.53%of 78=14
5	Beker Pharmaceutical	20	20/97X100=20.62% of 78=16
	Total	**97**	**78**

Source: Own Survey, 2017

3.6.   Methods of Data Collection

The study mainly relied on primary data. The primary data was collected via a structured questionnaire administered to the Supply chain management departments. Questionnaires allow greater uniformity in the way questions are asked, ensuring better compatibility in the responses. The questionnaire was divided into two parts. Part 1 for the respondent's demographic characteristics, part 2 contained questions on research objectives.

3.7.   Validity and Reliability of the Study

As stated by (Hair et al., 2007) reliability indicates the extents to which a variables or set of variables is consistent in what it is intended to measure." Reliability analysis used to measure the consistency of a questionnaire. There are different methods of reliability test, for this study Cronbach's alpha is considered to be suitable. Cronbach's alpha is the most common measure of reliability. For this study the Alpha coefficient for the overall scale calculated as a reliability indicator is 0.804. All the alpha coefficients for the scales were presented on the following table3.2. As described by (Andy, 2006) the values of Cronbach's alpha more than 0.7 is good. The alpha values in this study are far from 0.7 and which are; therefore it had very good reliability for the questionnaire.

Table 3.2: Reliability Result

Indicators	Number of items	Cronbach's Alpha
Supplier Relationship Management (SRM)	9	0.838
Customer Relationship Management (CRM)	10	0.754
Level of Information Sharing (LIS)	5	0.736
Quality of Information Sharing (QIS)	5	0.935
Organizational Performance(OP)	7	0.833
Overall	36	0.804

3.8.   Methods of Data Analysis

A descriptive statistical analysis method and SPSS and Eview-8 were used to analyze. Different gathered data was analyzed using the software SPSS. 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 considering other factors.

Different data which are collected using closed ended questionnaire was analyzed using statistical tools like regression and correlation. Additionally demographic factors were analyzed descriptively. According to (Adams, et.al, 2007) Correlation will be used to measure the degree of association between variables while regression is concerned about finding a relationship between variables and forming a model. The data collected from questionnaire were summarized using SPSS software and Eveiw-8 then presented by descriptive (percentage, frequency & mean) & inferential (correlation & multiple linear regression) statistics. Regression analysis and correlation analysis was used to determine the association between dependent and each of the independent variables.

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

4. Data Presentation, Analysis and Interpretation

4.1. Introduction

This chapter consists of presentation, analysis and interpretation of data gathered through structured questionnaire. First the demographic characteristics of respondent and research questions were presented using descriptive statistics. After that correlation & multiple linear regression analysis of the questionnaire were presented using inferential statistics.The study is conducted by distributing 78 questionnaires to the employees of the pharmaceutical companies'customers. Out them 6 remained uncollected and 72(92.3%) the total were collected and used for the purpose of data presentation, analysis and interpretation. This chapter starts by interpreting demographic characteristics descriptively.

4.2. Demographic Characteristics

Table 4.1: demographic characteristics

Demographic Characteristics		Frequency	Percent
Gender	Male	55	76.4
	Female	17	23.6
Age	25 to 35 years old	46	63.9
	above 35 to 45 years old	16	22.2
	above 45 years old	10	13.9
Education Attainment	Diploma	16	22.2
	Degree	42	58.3
	master's degree	14	19.4
How long have you been working in this company	Less than 3 years	34	47.2
	3 to 5 years	31	43.1
	Above 5 to 10 years	7	9.7
How many years have you been in your current position	less than 3 years	42	58.33
	3 to 5 years	28	38.89
	above 5 to 10 years	2	2.78

Source: Owen survey, 2017

According to the result in table 4.1, for the demographic characteristics are presented as follows. 55(76.4%) of the respondents are male and 17(23.6%) of the respondents are female. 46(63.9%) of the participants are 25 to 35 years old, 16(22.2%) of the participants are above 35 to 45 years old and the rest 10(13.9%) of the respondents are above 45 years old.When we come to educational attainment of the respondents 16(22.2%) of them have diploma, 42(58.3%) of the respondents have degree and 14(19.4%) of the respondents have master's degree. When we see how long they have stayed in the company; 34(47.2%) of them have been working in the company for less than three years, 31(43.1%) of the participants have been working in the company for 3 to 5 years and 7(9.7%) of the respondents have been working above 5 to 10 years in the company.For duration of stay of the respondents in their current position is described as follows: 42(58.3%) of the respondents have been working in their current position, 28(38.89%) of the respondents have been working in their current position and the rest 2(2.778%) of the respondents have been working in their current position.

Table 4.2: what functions best describe your responsibilities?

		Frequency	Percent
What functions best describe your responsibilities?	Finance	3	4.2
	logistics/transportation/distribution	2	2.8
	supply/purchasing/procurement	20	27.8
	Regulatory	1	1.4
	supply chain management	13	18.1
	human resource management	2	2.8
	sales/marketing	29	40.3
	Others	2	2.8
	Total	72	100.0

Source: Owen Survey, 2017

As can be observed from table 4.2, we can describe in what departments are the participants. 29(40.3%) of the respondents have been working in sales/ marketing department, 20(27.8%) of the respondents have been working in supply/purchasing/procurement, 13(18.1%) of the respondents have been working in supply chain management department, 3(4.2%) of them have been working in finance. 2(2.8%) of the participants have been working in logistics/transport/ distribution, 2(2.8%) of the respondents have been

working in human resource management, 2(2.8%) of the respondents have been working in others departments and the rest 1(1.4%) of respondents have been working in regulatory.

4.3. Supplier Relationship Management

Table 4.3: Supplier Relationship Management

Description	1	2	3	4	5	mean	S.D
We consider quality as our number one criterion in selecting suppliers	0(0)	0(0)	3(4.2)	31(43.1)	38(52.8)	4.49	0.581
We regularly solve problems jointly with our suppliers	0(0)	0(0)	9(12.5)	38(52.8)	25(34.7)	4.22	0.655
We have helped our suppliers to improve their product quality	0(0)	0(0)	18(25.0)	33(45.8)	21(29.2)	4.04	0.740
We include our key suppliers in our planning and goal-setting activities	0(0)	1(1.4)	20(27.8)	33(45.8)	18(25.0)	3.94	0.767
Our company has formal performance goals for supplier relationship management (SRM)	0(0)	3(4.2)	20(27.8)	33(45.8)	16(22.2)	3.86	0.810
Our company regularly measures our supplier's contribution to our profitability	0(0)	1(1.4)	10(13.9)	37(51.4)	24(33.3)	4.17	0.712
Our suppliers understand how their decisions/actions affect the SRM process	0(0)	1(1.4)	14(19.4)	41(56.9)	16(22.2)	4.00	0.692
SRM process requirements are determined by cross-functional team	0(0)	2(2.8)	21(29.2)	37(51.4)	12(46.7)	3.82	0.732
People throughout our company understand how their decisions/actions affect SRM	0(0)	5(6.9)	11(15.3)	35(48.6)	21(29.2)	4.00	0.856

process									
Overall								4.06	0.48

Source: Owen survey, 2017

The SRM measure was used to determine the extent to which an organization developed a business process that provides the structure for how relationships with suppliers of that organization will be developed and managed. This measure was assessed using 9 items. These 9 items was answered on a 5-point Likert-type response scale (1=strongly disagree, 2=disagree,3=neutral, 4=agree, 5=strongly agree) to assess the extent to which an organization developed their SRM process. The reported Cronbach's alpha for this measure was 0.838 with overall mean of 4.06 and standard deviation of 0.48. This means most of the respondents agreed to items of SRM with common understanding.

According to table 4.3, responses to questions of supplier relationship management is described as follows; Regarding to the 1st item, "whether the company consider quality as our number one criterion in selecting suppliers", majority of the respondents 38(52.8%) strongly agree, 31(43.1%) of the respondents agree and 3(4.2%) of them were neutral. the mean is 4.9 and standard deviation is 0.581. Regarding to the 2nd item, "whether the company regularly sole problems jointly with their suppliers", majority of the respondents 38(52.8%) agree, 25(34.7%) of the respondents were strongly agree and 9(12.5%) of the respondents were neutral. The mean is 4.2 and standard deviation is 0.655. Regarding to the 3rd item, "whether the company has helped the suppliers to improve their product quality", majority of the respondents 33(45.8%) the respondents agree, whereas 21(29.2%) of them strongly agree and the rest 18(25%) of the respondents were neutral. The mean is 4.04 and standard deviation is 0.740.

Regarding to the 4th item, "whether the company include its key suppliers in its planning and goal-setting activities", majority of the respondents 33(45.8) were agree. Whereas 20(27.8%) of the respondents were neutral, 18(25%) of them were strongly agree and 1(1.4%) of the respondents is disagree. The mean is 3.94 and standard deviation is 0.767. Regarding to the 5th item, "Our company has formal performance goals for supplier relationship management (SRM)", majority of the respondents 33(45.8) agree, 20(27.8) of the respondents were neutral and 16(22.2%) of the respondents were strongly agree. Whereas 3(4.2%) of the respondents disagree. The mean is 3.86 and standard deviation is 0.810. Regarding to the 6th item, "whether the company regularly measures its supplier's contribution to its profitability", majority of the respondents 37(51.4%) agree, 24(33.3%) of them strongly agree and 10(13.9%) of the respondents were neutral. Whereas 1(1.4%) of the respondents answered disagree. The mean is 4.17 and standard deviation is 0.712. Regarding to the 7th item, "whether the suppliers

understand how their decisions/actions affect the SRM process", majority of the respondents which is 41(56.9%) of them answered agree and 16(22.2%) of the respondents answered strongly agree.

Whereas 14(19.4%) of them were neutral and the 1(1.4%) of the respondents answer was disagree. The mean is 4 and standard deviation is 0.692.

Regarding to the 8th item, "whether supplier relationship management process requirements are determined by cross-functional team", majority of the respondents which is 37(51.4) replied that they agree, 21(29.2%) of the respondents replied that they are neutral and 12(46.7%) of the respondents replied that they strongly agree. Whereas 2(2.8%) of them replied that they disagree. The mean is 3.82 and standard deviation is 0.732. Regarding to the 9th item, "whether People throughout the company understand how their decisions/actions affect SRM process", majority of the participants answer was agree which is 35(48.6%) of them. Whereas 21(29.2%) of the respondents strongly agree, 11(15.3%) of them are neutral and 5(6.9%) of the participants answer was disagree.

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4.4. Customer Relationship Management

Table 4.4: Customer Relationship Management

Description	1	2	3	4	5	Mean	S.D
Our company has developed customer Relationship management (CRM) process team	3(4.17)	4(5.56)	13(18.06)	37(51.39)	15(20.83)	3.79	0.978
Our company utilizes cross-functional input within the CRM process	2(2.78)	3(4.17)	29(40.28)	26(36.11)	12(16.67)	3.59	0.914
Our firm insures our CRM process is aligned with our corporate strategy	0(0)	2(2.78)	23(31.95)	27(37.5)	20(27.78)	3.90	0.842
Our company develops metrics that are related to the customer's impact on our firm's profitability	1(1.39)	4(5.56)	14(19.44)	40(55.56)	13(18.06)	3.83	0.839
Our company develops metrics that are related to our firm's impact on the customer's profitability	0(0.0)	3(4.2)	20(27.8)	33(45.8)	16(22.2)	3.86	0.81
Our firm's CRM metrics are tied to our firm's financial performance	1(1.39)	1(1.39)	18(25.00)	34(47.22)	18(25.00)	3.93	0.828
Our firm measures customers' profitability over time	2(2.78)	5(6.94)	25(34.72)	32(44.44)	8(11.11)	3.54	0.887
We frequently interact with customers to set reliability, responsiveness, and other standards for us	1(1.39)	2(2.78)	18(25.00)	33(45.83)	18(25.00)	3.90	0.858
We frequently measure and evaluate customers' satisfaction	2(2.78)	3(4.17)	23(31.95)	34(47.22)	10(13.89)	3.65	0.875
We periodically evaluate the importance of our relationship with our customers	2(2.78)	3(4.17)	25(34.72)	30(41.67)	12(16.67)	3.65	0.906
Overall						3.77	0.62

Source: Owen Survey, 2017

The CRM measure was used to determine the extent to which an organization developed a business process that provides the structure for how relationships with customers of that organization will be developed and managed. This measure was assessed using 10 items. These 10 items were assessed on a 5-point Likert-type response scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) to assess the extent to which an organization developed their CRM process. The reported Cronbach's alpha for this measure was 0.754 with overall mean of 3.77 and standard deviation of 0.62. This means most of the respondents agreed to items of CRM with common understanding.

According to table 4.4, responses to questions of customer relationship management is described as follows; Regarding to the 1st item, "whether the company has developed customer Relationship management (CRM) process team", 37(51.39%) of the respondents which is the majority of the respondents answered agree, 15(20.83%) of the respondents answer was strongly agree, 13(18.06%) of the respondents answer was neutral. Whereas 4(5.56%) of the participants answered that they disagree and the rest of the respondents 3(4.17) replied that they strongly disagree to this question. The mean is 3.79 and standard deviation is 0.978. Regarding to the 2nd item, "whether the company utilizes cross functional input within the CRM process", majority of the respondents which is 29(40.28%) of the respondents replied that they were neutral to this question, 26(36.11%) of the respondents agree and 12(16.67%) of the respondents answered that they strongly agree. Whereas 3(4.17%) of them disagree and 2(2.78%) of them strongly disagree. The mean is 3.59 and standard deviation is 0.914.

For the 3rd question, "whether the company insures our CRM process is aligned with our corporate strategy", the largest number of respondents replied that they agree which is 27(37.5%), 23(31.95%) of the respondents answer were neutral, 20(27.78%) of the respondents answered that they strongly agree. Whereas 2(2.78%) of the respondents disagree. The mean is 3.90 and standard deviation is 0.842. For the 4th item, "whether the company develops metrics that are related to the customer's impact on the company's profitability", majority of the respondents 40(55.56%) answered that they agree, 14(19.44%) of the respondents were neutral and 13(18.06%) of the respondents strongly agree. Whereas 4(5.56%) of the respondents answered that they disagree to this question and 1(1.39%) of the respondents disagree to this question. The mean is 3.83 and standard deviation is 0.839. Regarding to the 5th item, "whether the company develops metrics that are related to the company's impact on the customer's profitability", for this question 33(45.8%) of the respondents replied that they were agreed, 20(27.8%) of the respondents replied that they were neutral, 16(22.2%) of the respondents replied that they strongly agreed. Whereas

3(4.17%) of them replied that they strongly disagree and the rest 1(1.39%) of the respondents replied that they strongly agree. The mean is 3.86 and standard deviation is 0.81.

For the 6th item, "whether the company's CRM metrics are tied to the company's financial performance", the majority number of the participants which is 34(47.22%) replied that they agree, 18(25%) of the participants were neutral and 18(25%) of the respondents replied that they strongly agreed. Whereas 1(1.39%) of them disagree and the rest 1(1.39%) of them strongly disagree. The mean is 3.93 and standard deviation is 0.828. Regarding to the 7th question, "whether the company measures customers' profitability over time", 32(44.44%) of the respondents replied that they agree which is the majority of the participants, 25(34.72%) of the respondents replied that they are neutral, 8(11.11%) of the respondents strongly agreed. Whereas 5(6.94%) of the respondents disagreed and 2(2.78%) of the respondents replied that they strongly disagree. The mean is 3.54 and standard deviation is 0.887. Regarding to the 8th question, "whether the company frequently interact with customers to set reliability, responsiveness, and other standards for itself", 33(45.83%) of the participants answered that they agree, 18(25%) of them were neutral and 18(25%) of them replied that they strongly agree. Whereas 2(2.78%) of them disagreed and 1(1.39%) of them replied that they strongly disagree. The mean is 3.9 and standard deviation is 0.858.

For the 9th item, "the company frequently measure and evaluate customers' satisfaction", majority of the participants which is 34(47.22) of them agreed, 23(31.95%) of the participants were neutral, 10(13.89%) of the respondents replied that they strongly disagreed. Whereas 3(4.17%) of the respondents disagreed and 2(2.78%) of the participants replied that they strongly disagreed. The mean is 3.65 and standard deviation is 0.875. For the 10th item, "the company periodically evaluate the importance of the company's relationship with its customers", 30(41.67%) of the respondents which is the majority number of the participants replied that they agreed, 25(34.72%) of the respondents were neutral, 12(16.67%) of the respondents replied that they strongly agreed. Whereas 3(4.17%) of them replied that they disagreed and 2(2.78%) of the participants strongly disagreed.

4.5. Level of Information Sharing

Table 4.5: Level of Information Sharing

Description	1	2	3	4	5	Mean	S. D
We inform trading partners in advance of changing needs	0(0)	4(5.56)	8(11.11)	36(50)	24(33.33)	4.11	0.81
Our trading partners keep us fully informed about issues that affect our business	0(0)	7(9.72)	16(22.22)	29(40.28)	20(27.78)	3.86	0.94
Our trading partner share business knowledge of core business processes with us	3(4.2)	6(8.3)	20(27.8)	30(41.7)	13(18.1)	3.61	1.01
We and our trading partners exchange information that helps establishment of business planning	0(0)	3(4.17)	16(22.22)	31(43.06)	22(30.56)	4.00	0.84
We and our trading partners keep each other informed about event or changes that may affect the other partners	1(1.39)	2(2.78)	20(27.78)	32(44.44)	17(23.61)	3.86	0.86
Over all						3.89	0.73

Source: Owen Survey, 2017

LIS refers to the extent to which critical and proprietary information is communicated to one's supply chain partner. This measure was assessed using 5 items. These 5 items were answered on a 5-point Likert-type response scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) to assess the extent to which critical and proprietary information is communicated to one's supply chain partners. The reported Cronbach's alpha for this measure is 0.736 with overall mean of 3.89 and standard deviation of 0.73. This means most of the respondents agreed to items of LIS with common understanding.

According to table 4.5, responses to questions of level of information sharing is described as follows; For the 1st question, "whether the company inform trading partners in advance of changing needs", majority of the respondents which is 36(50%) of replied that they agree, 24(33.33%) of the respondents answered that they strongly agreed, 8(11.11%) of the respondents replied that they were neutral. Whereas 4(5.56%) of the respondents disagreed to this question. The mean is 4.11 and standard deviation is 0.81. For the 2nd question, "whether the company's trading partners keep the company fully

informed about issues that affect its business", majority of the respondent 29(40.28%) replied that they agree to this question, 20(27.78%) of the respondents strongly agreed to this question, 16(22.22) of the respondents were neutral and 7(9.72%) of the respondents replied that they disagree to this question. The mean is 3.86 and standard deviation is 0.94.

For the 3rd question, "whether the company's trading partner share business knowledge of core business processes with the company", majority of the respondents which is 30(41.7%) agreed, 20(27.8%) of the respondents were neutral and 13(18.1%) of the respondents answered that they strongly agreed. Whereas 6(8.3%) of the respondents disagreed and the rest 3(4.2%) of the respondents strongly disagreed. The mean is 3.61 and standard deviation is 1.01.

For the 4th item, "whether the company and the company's trading partners exchange information that helps establishment of business planning", majority of the respondents 31(43.06%) answered that they agreed, 22(30.56%) of the respondents strongly agreed and 16(22.22%) of the respondents were neutral. Whereas 3(4.17%) of the respondents disagreed. The mean is 4.00 and standard deviation is 0.84. For the 5th item, "whether the company and its trading partners keep each other informed about event or changes that may affect the other partners", majority of the respondents 32(44.44%) replied that they agreed, 20(27.78%) of the respondents were neutral and 17(23.61%) of the respondents strongly agreed. Whereas 2(2.78%) of the respondents replied that they disagree and the rest 1(1.39%) of the respondents strongly disagreed.

4.6.   Quality of Information Sharing

Table 4.6: Quality of Information Sharing

Description	1	2	3	4	5	Mean	S.D
Information exchange between our trading partners and our company is timely	1(1.39)	1(1.39)	17(23.61)	34(47.22)	19(26.39)	3.96	0.83
Information exchange between our trading partners and our company is accurate	0(0)	2(2.78)	7(9.72)	41(56.94)	22(30.56)	4.15	0.71
Information exchange between our trading partners and our company is complete	0(0)	1(1.39)	10(13.89)	37(51.39)	24(33.33)	4.17	0.71
Information exchange between our trading partners and our company is adequate	0(0)	2(2.78)	12(16.67)	35(48.61)	23(31.94)	4.1	0.77
Information exchange between our trading partners and our company is reliable	0(0)	0(0)	5(6.94)	37(51.39)	30(41.67)	4.35	0.61
Overall						4.14	0.65

Source: Owen Survey, 2017

QIS includes such aspects as the accuracy, timeliness, adequacy, accuracy and reliability of information exchanged (Moberg et al., 2002) and this measure was assessed using 5 items. These 5 items were answered on a 5-point Likert-type response scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) to assess the extent to which the company's overall information exchange is timely, accurate, complete, adequate and reliable. The reported Cronbach's alpha for this measure is 0.935 with overall mean of 4.14 standard deviation of 0.65. This means most of the respondents agreed to items of QIS with common understanding.

According to table 4.6, responses to questions of level of information sharing is described as follows; For the 1st item, "whether Information exchange between our trading partners and our company is timely", majority of the respondents 34(47.22%) replied that they agreed, 19(26.39%) of the respondents answered that they strongly agreed and 17(23.61%) of the respondents were neutral to this question. Whereas 1(1.39%) of the respondents replied that they disagree and the rest of the respondents which is 1(1.39%) of the respondents strongly disagreed. The mean is 3.96 and standard deviation is 0.83. For the 2nd item, "whether Information exchange between our trading partners and our company is accurate", the majority of the respondents which is 41(56.94%) replied that they agree, 22(30.56%) of them strongly agreed and 7(9.72%) of the respondents were neutral. Whereas 2(2.78%) of the respondents replied that they disagree. The mean is 4.15 and standard deviation is 0.71.

For the 3rd item, "whether Information exchange between our trading partners and our company is complete", the majority of the respondents which is 37(51.39%) of them replied that they agree, 24(33.33%) of the respondents strongly agreed and 10(13.89%) of them replied that they were neutral. Whereas 1(1.39%) of the respondents strongly disagree. The mean is 4.17 and standard deviation is 0.71. For the 4th item, "whether Information exchange between our trading partners and our company is adequate", 35(48.61%) of the respondents replied that they agreed which takes majority number of the respondents, 23(31.94%) of the respondents answered that they strongly agreed and 12(16.67%) of the respondents replied that they were neutral. Whereas 2(2.78%) of the respondents disagreed. The mean is 4.1 and standard deviation is 0.77.For the 5th item, "whether Information exchange between our trading partners and our company is reliable", the majority of the respondents 37(51.39%) replied that they agreed and 30(41.67%) of the respondents replied that they strongly agreed. Whereas 5(6.94%) of the respondents were neutral.

4.7. Organizational Performance

Table 4.7: Organizational Performance

						Mean	S.D
Growth of sales is significantly increasing	0(0)	0(0)	10(13.89)	36(50)	26(36.11)	4.22	0.676
Our profit margin on sales is significantly increasing	0(0)	1(1.39)	18(25)	37(51.39)	16(22.22)	3.94	0.729
Growth of return on investment is significantly increasing	0(0)	0(0)	21(29.17)	33(45.83)	18(25)	3.96	0.739
Our market share is significantly increasing	0(0)	0(0)	10(13.89)	36(50)	26(36.11)	4.22	0.675
Our customers satisfaction is significantly increasing	0(0)	3(4.17)	23(31.94)	30(41.67)	16(22.22)	3.82	0.827
Our suppliers satisfaction is significantly increasing	0(0)	1(1.39)	19(26.39)	38(52.78)	14(19.44)	3.89	0.761
Our employees satisfaction is significantly increasing	3(4.17)	7(9.72)	24(33.33)	25(34.72)	13(18.06)	3.53	1.034
Overall						3.94	0.56

Source: Owen survey, 2017

OP is used to measure "how well an organization achieves its market-oriented goals as well as its financial goals" (Li et al., 2004). This measure was assessed using 7 items. These 7 items were answered a 5-point Likert-type response scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) to assess whether the organizations performance (quantitative and qualitative) is improved or not. The reported Cronbach's alpha for this measure is 0.833 with overall mean of 3.94 and standard deviation of 0.56. This means most of the respondents agreed to items of OP with common understanding.

According to table 4.7, responses to questions of level of information sharing is described as follows; For the 1st question, "whether Growth of sales is significantly increasing", majority of the respondents which is 36(50%) replied that they agree for this question, 26(36.11%) of the respondents strongly agreed and the rest 10(13.89%) of the respondents replied that they were neutral. The mean is 4.22 and standard deviation is 0.676. For the 2nd item, "whether the company's profit margin on sales is

significantly increasing", the majority of the respondents 37(51.39%) of them answered that they agreed, 18(25%) of the respondents replied that they were neutral and 16(22.22%) of the respondents replied that they strongly agreed. Whereas 1(1.39%) of the respondents disagreed. The mean is 3.94 and standard deviation is 0.729. For the 3rd item, "whether growth of return on investment is significantly increasing", majority of the respondents which is 33(45.83%) of the respondents replied that they agreed, 21(29.17%) of the respondents answered that they were neutral and 18(25%) of the respondents strongly agreed. The mean is 3.96 and standard deviation is 0.739. For the 4th item, "whether the company's market share is significantly increasing", they majority of the respondents which is 36(50%) answered that they agreed, 26(36.11%) of the respondents replied that they strongly agreed and the rest 10(13.89%) of them were neutral to this question. The mean is 4.22 and standard deviation is 0.675.

For the 5th question, "whether the company's customers' satisfaction is significantly increasing", the majority 30(41.67%) of the respondents answered that they agree, 23(31.94%) of the respondents replied that they were neutral and 16(22.22%) of the respondents answered that they strongly agreed. Whereas 3(4.17%) of the respondents answered that they disagreed to this question. The mean is 3.82 and standard deviation is 0.827. For the 6th item, "whether the company's supplier's satisfaction is significantly increasing", the majority 38(52.78%) the participants answered that they agreed, 19(26.39%) of the respondents were neutral to this question and 14(19.44%) of the respondents answered that they strongly agree to this question. Whereas 1(1.39%) of the respondents answered that they disagree. The mean is 3.89 and standard deviation is 0.761. For the 7th item, "whether the company's employees' satisfaction is significantly increasing", the majority of the respondents which is 25(34.72%) of the respondents answered that they agreed, 24(33.33%) of the respondents were neutral to this question and 13(18.06%) of the respondents strongly agreed. Whereas 7(9.72%) of the respondents answered that they disagree and the rest 3(4.17%) of the respondents answer was strongly disagree

4.8. Correlation Analysis

Table 4.8: Pearson correlation Test

	Supplier Relationship Management	Customer Relationship Management	Level of Information Sharing	Quality of Information Sharing
Organizational Performance	.101	.253*	.105	.416**
Sig(2-tailed)	0.397	0.032	0.382	0.000

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

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

Source: Owen Survey, 2017

Pearson correlation test is used because it has a normal distribution otherwise spearman correlation test would be used.

Based on the above table (table 4.8), the relationship between the independent variables i.e. Supplier Relationship Management, Customer Relationship Management, Level of Information Sharing , Quality of Information Sharing and the dependent variable i.e. Organizational Performance was investigated using Pearson correlation coefficient. The result of correlation analysis in the table 4.9 shows that two of the independent variables (quality of information sharing and customer relationship management) were positively and significantly correlated with the dependent variable but the other two variables (supplier relationship management and level of information sharing) has no significant correlation with the dependent variable. Which means at 99 percent confidence level (p<0.01), the highest correlation is signified by Quality of Information Sharing (r=0.416) followed by Customer Relationship Management. It is correlated with the dependent variable; organizational performance at 95 percent confidence interval (P<0.05) and (r= 0.253). Based on the Pearson correlation test shown in the table 4.9, Organizational Performance is positively and significantly correlated with Quality of Information Sharing and Customer Relationship Management. This means when quality of information sharing increases, organizational performance will be improved. Also, if customer relationship management increases, organizational performance will be improved.

4.9.   Multiple regression analysis

Tests for the Multiple Linear Regression Model Assumptions

In order to make the data ready for analysis and to get reliable results from the research, the model stated previously was tested for five multiple linear regression model assumptions. Among them the major ones are: test for heteroscedasticity, autocorrelation, multicollinearity, normality and constant variable. Accordingly, the following sub-section presents the tests made.

Assumption one: the errors have zero mean (E (ε) = 0) or constant variable

The first assumption states that the average value of the errors should be zero. According to (Brooks, 2008) if the regression equation contains a constant term, this presumption will never be breached. Therefore, since from the regression result table the constant term (i.e. $\beta 0$) was included in the regression equation; this assumption holds good for the model.

Assumption two: homoscedasticity (variance of the errors is constant ($Var(\mu_t) = \sigma^2 < \infty$)

Heteroscedasticity is a systematic pattern in the errors where the variances of the errors are not constant. When the variance of the residuals is constant it is referred as homoscedasticity, which is desirable. To test for the absence of heteroscedasticity white test was used in this study. In this test, if the p-value is very small, less than 0.05, it is an indicator for the presence of heteroscedasticity (Gujarati, 2004).

But from Table 4.10 presents three different types of tests for heteroscedasticity. Since the p-values of all the three tests are considerably in excess of 0.05 it's a clear indicator that there is no evidence for the presence of heteroscedasticity. Hence, the model passes the second test.

Table 4.9: Heteroscedasticity Test: White test

F-statistic	0.576058	Prob. F(14,57)	0.8725
Obs*R-squared	8.924436	Prob. Chi-Square(14)	0.8359
Scaled explained SS	5.861741	Prob. Chi-Square(14)	0.9699

Assumption three: covariance between the error terms over time is zero (cov (ui, uj) = 0)

This assumption states that covariance between the error terms over time or cross-sectional, for that type of data is zero. That is, the errors should be uncorrelated with one another. If the errors are not uncorrelated with one another it is an indicator for the presence of Auto correlation or serial correlation (Brooks, 2008).

According to Brooks (2008), presence/absence of autocorrelation is by using the Breusch–Godfrey test (shown in table 4.11). The result of the statistic labeled "obs*R-squared", which is the LM test statistic for the null hypothesis of no serial correlation shows a p-value of 0.0561 (which is far greater than 0.05) which strongly indicates the absence of autocorrelation.

Table 4.10: Breusch-Godfrey Serial Correlation LM Test

F-statistic	1.851615	Prob. F(30,37)	0.0378
Obs*R-squared	43.21508	Prob. Chi-Square(30)	0.0561

Assumption four: Normality (errors are normally distributed $\mu_{t\sim} N(0, \sigma^2)$

A normal distribution is not skewed and is defined to have a coefficient of kurtosis 3. Jarque-Bera formalizes this by testing the residuals for normality and testing whether the coefficient of skewness and kurtosis are zero and three respectively. Normality assumption of the regression model can be tested with the Jarque- Bera measure. If the probability of JarqueBera value is greater than 0.05, it's an indicator for the presence of normality (Brooks 2008).

The normality tests for this study as shown in Figure 4.1 the kurtosis is close to 3, and the Jarque-Bera statistic has a p-value of 0.4678 which is well over 0.05 implying that the data were consistent with a normal distribution assumption.

Figure 4.1:Normality Test result
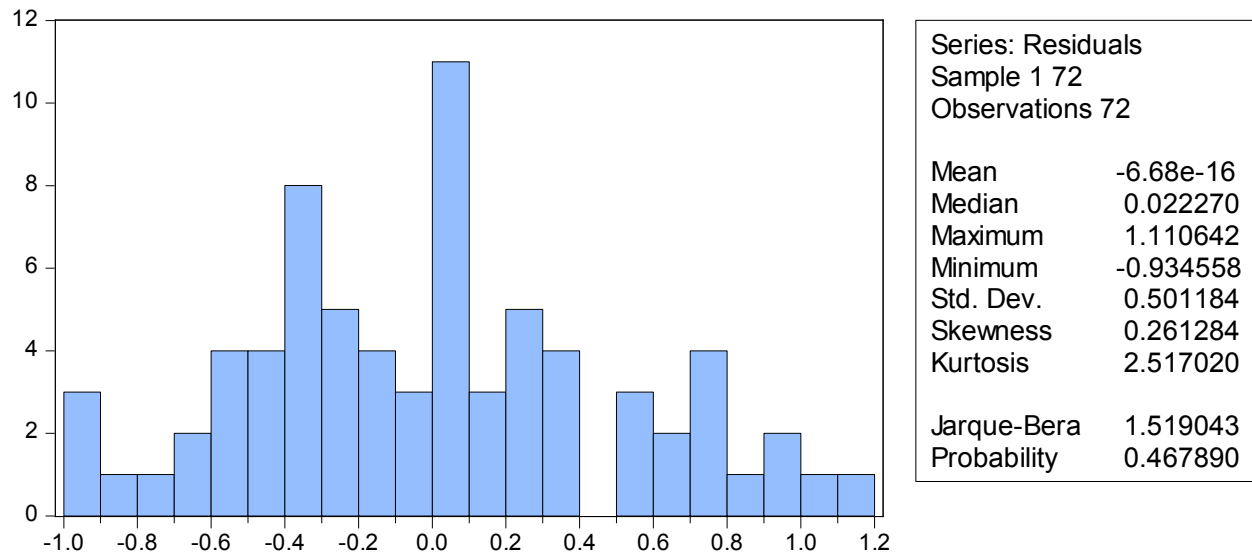
Assumption five: Multicollinearity Test

According to (Churchill and Iacobucci 2005), multicollinearity is concerned with the relationship which exists between explanatory variables. When there exists the problem of multicollinearity, the amount of information about the effect of explanatory variables on dependent variables decreases and as a result, many of the explanatory variables could be judged as not related to the dependent variables when in fact they are. How much correlation causes multicollinearity, however, is not still clearly defined. Many authors have suggested different level of correlation to judge the presence of multicollinearity. While (Hair, et al. 2006) argued that correlation coefficient below 0.9 may not cause serious multicollinearity problem (Malhotra, 2007) stated that multicollinearity problem exists when the correlation coefficient among variables is greater than 0.75. This indicates that there is no consistent agreement on the level of correlation that causes multicollinearity.

Therefore, in this study correlation matrix for four of the independent variables is shown below in table 4.12. The result of the estimated correlation matrix shows that the highest correlation of 0.303901 which is between CRM and SRM. Since there is no correlation above 0.75 and 0.9 according to (Malhotra 2007) and (Hair, et al. 2006) respectively, it can be concluded that there is no problem of multicollinearity.

Table 4.11: Correlation matrix between explanatory variables

	SRM	CRM	LIS	QIS
SRM	1.000000	0.303901	0.137764	0.241632
CRM	0.303901	1.000000	0.295248	0.326432
LIS	0.137764	0.295248	1.000000	0.231576
QIS	0.241632	0.326432	0.231576	1.000000

The multiple regression analysis was conducted to investigate the influence of independent variable on the dependent variable and identify the relative significant influence; i.e., independent variable (supplier relationship management, customer relationship management, level of information sharing and quality of information sharing) to the dependent variable; i.e. Organizational Performance. The proposed hypotheses were tested using multiple regression analysis. The results of the regression analysis are depicted on table 4.13.

Table 4.12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444[a]	.197	.149	.51246

a. Predictors: (Constant), Quality of Information Sharing , Level of Information Sharing, Supplier Relationship Management , Customer Relationship Management

R square is a statistical measure that shows how close the data are to the fitted regression line. In this model R square is 19.7% which is small that indicates more studies should be done by including more companies and larger sample size to support this study and minimize its limitations.

Table 4.13: Regression analysis result

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.266	.635		3.567	.001
	Supplier Relationship Management	-.037	.135	-.032	-.277	.782
	Customer Relationship Management	.153	.109	.171	1.399	.046
	Level of Information Sharing	-.031	.090	-.041	-.346	.730
	Quality of Information Sharing	.331	.100	.387	3.311	.001
a. Dependent Variable: Organizational Performance						

Ha1: Supplier Relationship Management has significant influence on organizational performance.

The result of multiple regression analysis of the table 4.13 above clearly indicates that Supplier Relationship Management has no significant influence on Organizational Performance (p>0.05). Besides, the value of beta (β= -0.037) shows that the negative influence of Supplier Relationship Management on Organizational Performance. Hence, the above proposed hypothesis is rejected.

Ha2: Customer Relationship Management has significant influence on organizational performance

The result of multiple regression analysis of table 4.13 above clearly indicates that Customer Relationship Management has significant influence on organizational performance (p<0.05). Besides, the value of beta (β=0.153) shows the positive influence of Customer Relationship Management on Organizational Performance. This implies that one percent increase in Customer Relationship Management results 15.3 percent increase in Organizational performance. Thus, the above proposed hypothesis is accepted.

Ha3: Level of Information Sharing has significant influence on organizational performance

The result of multiple regression analysis of table 4.13 above clearly indicates that Level of Information Sharing has significant influence on organizational performance (p>0.05). Besides, the value of beta (β=-0.031) shows that there is negative influence of Level of Information Sharing on Organizational Performance. Thus, the above proposed hypothesis is rejected.

Ha4: Quality of Information Sharing has significant influence on Organizational Performance.

The result of multiple regression analysis of the table 4.13 above clearly indicates that Quality of Information Sharing has significant influence on market performance (p<0.01). Besides, the value of beta in (β=0.331) respectively shows that the positive influence of Quality of Information Sharing on Organizational Performance. This implies that a one percent increase in Quality of Information Sharing results in 33.1 percent increase in Organizational Performance. Hence, the above proposed hypothesis is accepted.

4.10. Discussion of The Results

This study assessed whether SCM practice (supplier relationship management, customer relationship management, level of information sharing and quality of information sharing) organizational performance. A survey instrument tool (questionnaire) was developed and distributed to employees of the companies. Then the result of descriptive analysis implies that all the companies are implementing supply chain management practices (supplier relationship management, customer relationship management, level of information sharing and quality of information sharing.

The inferential analysis results of this study support that quality of information sharing and customer relationship management has significant correlation with organizational performance and the rest two (supplier relationship management and level of information sharing) has no significant correlation with organizational performance when calculated using Pearson correlation coefficients. This result is supported by (Ronald M, 2012) from five hypotheses (The first hypothesis is: supplier relationship management practices will be positively related to competitive advantage within an organization. The second hypothesis is: supplier relationship management practices will be positively related to organizational performance. The third hypothesis is: manufacturing flow management practices will be positively related to competitive advantage within an organization. The fourth hypothesis is: manufacturing flow management practices will be positively related to organizational performance within an organization. The fifth hypothesis is: Product development and commercialization practices will be positively related to competitive advantage within an organization. The sixth hypothesis is: product development and commercialization practices will be positively related to organizational performance within an organization) hypothesis 4 was the only hypothesis that was supported when utilizing the response data sample. The remaining Pearson correlation coefficients calculated were not statistically significant ($p > .05$) and failed to support the hypotheses when utilizing the response data sample.

Whereas, the other inferential analysis, the regression analysis results of this study support the hypotheses that quality of information sharing and customer relationship management has positive and significant influence on organizational performance and rejects the rest two hypotheses (supplier relationship management and level of information sharing) has positive and significant influence on organizational performance.

Chapter Five

5. Summary, Conclusions, Recommendations and Suggestion

5.1. Summary of The Major Findings

- The demographic characteristics of respondents of the companies show that the majority of respondents are male (76.4 %). Also most of the respondents are between 25 and 35 years old (63.9). All of the respondents are well educated with majority of the respondents having degree and diploma. Moreover, the results of the study reveal that the respondents have been working in the companies less than 5 years and majority of them in supply chain management and marketing department.

- From the descriptive analysis result, SRM has mean of 4.06 and S.D 0.48, CRM has mean of 3.77 and S.D 0.62, LIS has mean of 3.89 and S.D 0.73, QIS has mean of 4.14 and S.D 0.65 and OP has mean of 3.94 and S.D 0.55.

- From the correlation analysis result there were significant positive correlation between the two variables (quality of information sharing and customer relationship management) and organizational performance at $(p<0.01)$ and $(p<0.05)$ respectively.

- The other two variables (supplier relationship management and level of information sharing) have no significant correlation with organizational performance.

- From the regression analysis result, only hypothesis 4(Ha4) and hypothesis 2(Ha2) which are quality of information sharing and customer relationship management has positive and significant influence on organizational performance is accepted.

5.2. Conclusion

Further study is crucial in order to give a strong conclusion regarding to effect of supply chain management practices on organizational performance by minimizing different limitations of this study. The results presented in this study contribute to the companies' to focus on quality of information sharing and customer relationship management in order to build up their organizational performance. Since the major findings indicates that the quality of information sharing has positive and significant influence on organizational performance. This suggests that quality of information sharing and customer relationship management must be in the best attention of business organizations to take a proactive role in the management of their supply chainin establishing a strong position over its competitors and achieving their goals. Beyond limitations of the study, validity and reliability were tested using values of Cronbach's alpha more than 0.7 is good. The alpha values in this study are far from 0.7. Therefore, it had very good reliability for the questionnaires.

5.3. Recommendations and Suggestion

- The companies should further increase their quality of information sharing performance through enhancing the time, accuracy, completeness, adequacy and reliability of the information exchanged.

- The companies should further increase their customer relationship management performance

- Further study should be done by increasing more number of pharmaceutical companies to get more accurate findings

- Further study should be done by increasing the number of independent variables to get more strong result.

- 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.

- Future research should attempt to collect data on each of the key SCM practices in an attempt to determine the relationship each of the practices has with organizational performance. This will provide vital insight into which practices appear to be most significant to creating and improving organizational value and whether this appears to vary between companies.

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Appendix A

St. Mary's University

School of Graduate

Masters of Business Administration

<u>Questionnaire</u>

Dear Sir/Madam,

This survey is conducted as part of a research project which shall be submitted as partial fulfillment of masters of business administration (MBA).

The purpose of the study is to see the effects and relations of supply chain management practices on organizational performance 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 assured that your responses will be confidential and safeguarded as appropriate.

Thank you for your participation and contribution to the completion of this paper.

If you have any question to ask please feel free to use the following address:

Email: ahabtamu3d@gmail.com

Tel: +251 91 150 0203

Part one: Demographic Questions

Please put (x) inside the given space

1. Gender

   ☐ Male ☐ Female

2. Age

   ☐ Under 25 years old ☐ 25-35 years old

   ☐ Above 35-45 years old ☐ Above 45 years old

3. Educational Attainment

   ☐ High school graduate/Technical school ☐ Diploma ☐ Degree (BA/BSC)

   ☐ Master's degree ☐ Doctorate degree ☐ If any other, please
   specify………………………………………………..

4. For how long have you been working in this company?

   ☐ Less than 3 years ☐ 3 to 5 years ☐ Above 5 to 10 years

   ☐ Above 10 to 15 years ☐ Above 15 to 20 years ☐ Greater than 20 years

5. How many years have you been in your current position?

   ☐ Less than 3 years ☐ 3 to 5 years ☐ Above 5 to 10 years

   ☐ Above 10 to 15 years ☐ Above 15 to 20 years ☐ Greater than 20 years

6. In your current job, what functions best describe your responsibilities? Check all that apply

   ☐ Finance ☐ Human Resource Management

   ☐ Logistics/Transportation/Distribution ☐ Information system

   ☐ Supply/Purchasing/Procurement ☐ Sales/Marketing

   ☐ Regulatory ☐ Others, please specify_____

   ☐ Supply chain management

Part two: Research Questions

2.1 **Supply Chain Management Practices**

2.1.1 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, please choose the appropriate number and put (x) to indicate the extent to which you agree or disagree with each statement.

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

No	Code	Description	1	2	3	4	5
1	SCMP/SRM1	We consider quality as our number one criterion in selecting suppliers					
2	SCMP/SRM2	We regularly solve problems jointly with our suppliers					
3	SCMP/SRM3	We have helped our suppliers to improve their product quality					
4	SCMP/SRM4	We include our key suppliers in our planning and goal-setting activities					
5	SCMP/SRM5	Our company has formal performance goals for supplier relationship management (SRM)					
6	SCMP/SRM6	Our company regularly measures our supplier's contribution to our profitability					
7	SCMP/SRM7	Our suppliers understand how their decisions/actions affect the SRM process					
8	SCMP/SRM8	SRM process requirements are determined by cross-functional team					
9	SCMP/SR	People throughout our company understand how their					

	M9	decisions/actions affect SRM process					

2.1.2 Customer Relationship Management (CRM)

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

Product and service agreement (PSA): Formal or informal contract or agreement between two organizations with the purpose of specifying the level of performance that will be provided to meet the needs of both parties.

With regard to your company customer relations management process, please choose the appropriate number and put (x) to indicate the extent to which you agree or disagree with each statement.

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

No	Code	Description	1	2	3	4	5
1	SCMP/CRM 1	Our company has developed customer Relationship management (CRM) process team					
2	SCMP/CRM 2	Our firm utilizes cross-functional input within the CRM process					
3	SCMP/CRM 3	Our firm insures our CRM process is aligned with our corporate strategy					
4	SCMP/CRM 4	Our company develops metrics that are related to the customer's impact on our firm's profitability					
5	SCMP/CRM 5	Our company develops metrics that are related to our firm's impact on the customer's profitability					
6	SCMP/CRM 6	Our firm's CRM metrics are tied to our firm's financial performance					
7	SCMP/CRM 7	Our firm measures customers' profitability over time					

No	Code	Description					
8	SCMP/CRM 8	We frequently interact with customers to set reliability, responsiveness, and other standards for us					
9	SCMP/CRM 9	We frequently measure and evaluate customers' satisfaction					
10	SCMP/CRM 10	We periodically evaluate the importance of our relationship with our customers					

2.1.3 Level of Information Sharing (LIS)

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

Please put (x) to indicate the extent to which you agree or disagree with each statement

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

No	Code	Description	1	2	3	4	5
1	SCMP/LIS1	We inform trading partners in advance of changing needs					
2	SCMP/LIS2	Our trading partners keep us fully informed about issues that affect our business					
3	SCMP/LIS3	Our trading partner share business knowledge of core business processes with us					
4	SCMP/LIS4	We and our trading partners exchange information that helps establishment of business planning					
5	SCMP/LIS5	We and our trading partners keep each other informed about event or changes that may affect the other partners					

2.1.4 Quality of Information Sharing (QIS)

Quality of information sharing: includes such aspects as the accuracy, timeliness, adequacy, and credibility of information exchanged.

With regard to level of quality of information sharing in your company, please choose the appropriate number and put (x) to indicate the extent to which you agree or disagree with each statement.

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

No	Code	Description	1	2	3	4	5
1	SCMP/QIS1	Information exchange between our trading partners and our company is timely					
2	SCMP/QIS2	Information exchange between our trading partners and our company is accurate					
3	SCMP/QIS3	Information exchange between our trading partners and our company is complete					
4	SCMP/QIS4	Information exchange between our trading partners and our company is adequate					
5	SCMP/QIS5	Information exchange between our trading partners and our company is reliable					

2.2 Organizational Performance

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

With regard to organizational performance of your company, please choose the appropriate number and put (x) to indicate the extent to which you agree or disagree with each statement.

1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

No	Code	Description	1	2	3	4	5

1	OP1	Growth of sales is significantly increasing					
2	OP2	Our profit margin on sales is significantly increasing					
3	OP3	Growth of return on investment is significantly increasing					
4	OP4	Our market share is significantly increasing					
5	OP5	Our customers satisfaction is significantly increasing					
6	OP6	Our suppliers satisfaction is significantly increasing					
7	OP7	Our employees satisfaction is significantly increasing					

If you have anything you want to say regarding to the implementation and practices of supply chain management and organizational performance of your company, please!

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Thank you for your cooperation

Appendix B

Heteroskedasticity Test: White

F-statistic	0.576058	Prob. F(14,57)	0.8725
Obs*R-squared	8.924436	Prob. Chi-Square(14)	0.8359
Scaled explained SS	5.861741	Prob. Chi-Square(14)	0.9699

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 05/31/17   Time: 17:28

Sample: 1 72

Included observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.012299	2.818469	-0.359166	0.7208
SRM^2	-0.071008	0.146051	-0.486184	0.6287
SRM*CRM	-0.120000	0.142296	-0.843314	0.4026
SRM*LIS	-0.039897	0.154452	-0.258312	0.7971
SRM*QIS	0.052262	0.173227	0.301696	0.7640
SRM	0.880540	1.065783	0.826191	0.4121
CRM^2	-0.058310	0.072798	-0.800977	0.4265
CRM*LIS	-0.003699	0.120293	-0.030747	0.9756
CRM*QIS	0.117782	0.194978	0.604080	0.5482
CRM	0.481661	0.760315	0.633502	0.5289
LIS^2	0.066956	0.078135	0.856929	0.3951
LIS*QIS	-0.042003	0.108638	-0.386633	0.7005
LIS	-0.097447	0.858969	-0.113446	0.9101
QIS^2	0.033134	0.092645	0.357644	0.7219

QIS	-0.691451	0.779950	-0.886533	0.3791

R-squared	0.123951	Mean dependent var	0.247697
Adjusted R-squared	-0.091220	S.D. dependent var	0.307223
S.E. of regression	0.320930	Akaike info criterion	0.747862
Sum squared resid	5.870762	Schwarz criterion	1.222168
Log likelihood	-11.92304	Hannan-Quinn criter.	0.936685
F-statistic	0.576058	Durbin-Watson stat	0.950203
Prob(F-statistic)	0.872483		