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Effects of Supply Chain Management Practices on Operational Performances:

In the Case of Private Pharmaceutical Importers in Addis Ababa

A Thesis Submitted to the Addis Ababa University,

School of Commerce for Partial Fulfillment of the Requirement of

Master of Arts in Logistics and Supply Chain Management

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Effects of Supply Chain Management Practices on Operational Performances: In the Case of Private Pharmaceutical Importers in Addis Ababa

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Declaration

I do hereby declare that, this study on “Effects of Supply Chain Management Practices on Operational Performances: In the Case of Private Pharmaceutical Importers in Addis Ababa.” is my original work and has not been presented for a degree in any other university, and all sources used for the study have been duly acknowledged.

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Letter of Certification

This research paper has been submitted to Addis Ababa University, School of Commerce, Department of Logistics and Supply Chain Management for examination with my approval as a University Advisor.

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Advisor: Tariku Jebena -PhD

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Date

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Assegid Bekele Ashagrie – June 2019

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Acronyms

SCM: Supply Chain Management

OP: Operational Performance

PPI: Private Pharmaceutical Importer

EFMHACA: Ethiopian Food, Medicine and Health Care Administration and Control Authority

EFDA: Ethiopian Food and Drug Authority

MOH: Ministry of Health

MOI: Ministry of Industry

CSA: Central Statistics Agency

WHO: World Health Organization

CSCMP: Council of Supply Chain Management Professionals

SPSS: Statistical Package for Social Sciences

NDP: National Drug Policy

SSP: Strategic Supplier Partnership

CRM: Customer Relationship Management

LIS: Level of Information Sharing

QIS: Quality of Information Sharing

MA: Marketing Authorization

LC: Letter of Credit

GMP: Good Manufacturing Practice

Abstract

SCM is an issue in many organizations as companies realize the importance of creating an integrated relationship with their suppliers and customers. The general objective of this study is to assess the effect of supply chain management (SCM) practice on operational performance (OP) with special focus in the case of Addis Ababa private pharmaceutical importers (PPI). This research conceptualizes and develops four dimensions of SCM practice (strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing) and tests the relationship and effect with/on OP of PPI. The study utilized a descriptive study design. Using a self-administered close-ended questionnaire instrument primary data was collected. The data for the study was collected from 50 PPI representatives. The relationships proposed in the framework were tested using Pearson correlation, and the causal relations were analyzed using regression analysis. From the output of the analysis, there is average SCM practice with mean value of *3.462. And it is concluded that there is a strong relationship between SCM practice and OP with Pearson correlation coefficient 0.655 (r=0.655) and significance value less than 0.001. In addition, SCM practices have an influence on OP in which, 41.90% of variability in OP explained by SCM practices. There was a positive significant influence by Level of Information Sharing practice (p=.008) on OP. Therefore, in order to achieve advancement in quality, dependability in delivery and cost/price in the long-run through enhancing OP, it is better for the PPI to give due significant emphasis to the constructs of SCM practice such as strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing.*

***Key words**: Supply Chain Management, Supply Chain Management Practice, Operational Performance*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Nowadays 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 (SCM) efficiently (Mutuerandu, 2014). The Council of Supply Chain Management Professionals (CSCMP) gives a definition to SCM as all activities involved in sourcing, procurement, conversion and all logistics practices which are planned and managed. In order to satisfy the customers in an effective way by integrated, managed and coordinated supply, demand and relationship an approach called a SCM practice is applied. And SCM practice can be defined as a different bundle of jobs a company undertakes to enhance effective SCM (Koh *et al*., 2007).

In today's global markets companies are facing different kinds of challenges in their effort to compete and organizations must recognize the importance of SCM practice that enhance not only their own firm performance, but also coordinate with their supply chain partners to promote their joint performance (Mutuerandu, 2014). Thus by closely integrating the internal functions within a company and effectively linking them with the external operations of suppliers, customers, and other channel partners, SCM practice seeks to enhance competitive performance of the company (Mahmood Hosseini *et al*., 2012).

In order to clarify the multidimensional relationship between SCM practice and firm performance there should be a clear definition about organization performance.

And many aspects on organizational performance in previous studies on SCM have been operational (Mutuerandu, 2014). The two most utilized measures of organization performance were operational and business performance (Flynn *et al*., 2010). This research considers OP as key aspect of organization performance.

Every organization has some kind of operation whether it is big or small, the difference is on the level and/or type of operation performed in order to produce service and/or products, the level of operation can be judged by the way they perform. Therefore operation is an activity in which organization resource is used to produce service and/or product (Slack *et al*., 2010).

The contribution of operations is remarkable when compared with other parts of the business and can benefit to competitiveness through low costs, high levels of service (securing revenue), lower operational risk, lower capital requirements, and providing the capabilities that determine future innovation (Slack *et al*., 2010)**.** For an organization to differentiate from its competitors in the eyes of customers by operating at lower cost and hence greater profit, OP is its source of competitive advantage (Christopher, 1992). Price/ cost, quality, delivery, flexibility and time to the market are dimensions used to measure OP of an organization (Tan *et al*, 1998). OP is influenced by SCM practice of the organization and there is relationship between several dimension of SCM practice and OP (Kazi, 2012).

SCM should be successfully implemented to improve the overall organizational performance which in turn helps to increase competitive advantage (Tsoku, 2014). SCM for the pharmaceutical industry assumes special significance as medical commodities would require to be delivered through the supply chain timely and within the reach and means of the consumers to meet their needs and satisfaction (Enyinda, 2009). Pharmaceutical SCM play important role in growing and delivering persistent customer satisfaction (Haque and Islam, 2013).

In Ethiopia the pharmaceutical sector is guided by the National Drug Policy (NDP) and regulated by Food and drug Authority Proclamation No. 1112/2011. Pharmaceutical import and wholesale are done by the public sector, private sector, NGO's and international organizations. Currently there are 250 active Private pharmaceutical importers engaged in the private sector, out of which 95 percent based in Addis Ababa. As such there was no classification between PPI by EFDA but with respect to regulatory standard evaluation on 2019 G.C, 27 PPI has been selected as model or best performing importers. To date 2620 pharmaceutical products were registered to be imported by private pharmaceutical importers (PPI). Many of the large importers are former pharmaceutical wholesalers. Although the number of players in PPI is large, the major market share is occupied by few importers. And they created employment opportunity for more than 600 professional majorly for pharmacist. All PPI that are registered by Ethiopian Food and Drug Authority (EFDA) as wholesalers and importers of pharmaceutical products are required to have good information management system (EFDA, 2018).

The annual pharmaceutical market in Ethiopia is estimated to be worth US$ 400 to US$ 500 million and growing at an impressive rate of 25% per annum. The local pharmaceutical industry of Ethiopia contributes only 15% of the total market share and the rest covered by importing (FDRE Embassy, 2015).

For this study purpose, PPI are selected since Ethiopia is dependent on pharmaceutical import which accounts around 85% of country's pharmaceutical demand in which 30% share is by PPI.

Therefore, increasing challenge in the use of the country scarce resource such as hard currency, it's real that measures should be in place in time to ensure the desired efficiency and responsiveness in pharmaceutical supply (**MOH and MOI, 2016).**

In addition, PPI has a relationship with downstream supply chain member's wholesalers and upstream pharmaceutical suppliers. Concerning the relationship with downstream, PPI supplies their products throughout the country in domestic markets. The upper stream (suppliers) relationship particularly for getting finished pharmaceutical product. Thus, this study focuses on the Effects of Supply Chain Management Practices on Operational Performances: In the Case of Private Pharmaceutical Importers in Addis Ababa.

1.2 Statement of the Problem

SCM is an issue in many industries as companies realize the importance of creating an integrated relationship with their suppliers and customers (Li *et al*., 2006). One of the most important factors for improving business operations is implementing of SCM practice that will translate into improved operational and market performance (Mutuerandu, 2014). The pharmaceutical organizations play a great role in ensuring public health by relying on SCM practice. By effectively managing supply chain stock out can be avoided, loss due to unnecessary expiry, theft and ensure that the desired pharmaceutical products are available at all times in adequate quantity (RPM Plus, 2006)**.** According to Haque and Islam (2013) SCM practice plays an important role in reaping and retaining customer satisfaction in the pharmaceutical industry.

Yet, despite the significant advancement in research and practices, many organizations continue to struggle to understand the complex issues associated with the coordinated planning and SCM practice amongst the members of their supply networks (Lori & Daniel, 2011). A key role in the distribution of pharmaceuticals majorly is played by wholesalers, in which majority of drugs currently flow through wholesalers (Tsoku, 2014).

As a business organization Ethiopian PPI primary objective is to get maximal profit by delivering quality pharmaceuticals to customers. According to CSA (2017) Ethiopia imported US$ 551,874,553.00 pharmaceuticals products (medical equipment's, veterinary medicine, chemicals and human medicine) in which PPI share was 30% which is US$ 165,562,365.90.

However according to the annual report and official destruction certificate of the regulatory authority (EFDA) PPI disposed Pharmaceuticals (only human medicines) due to expiry which accounts US$ 3,055,768.78 on 2017 G.C year (EFMHACA, 2017). These disposed amount was huge even though the imported amount was not available disaggregated at CSA. On top of this there is frequent stock out at PPI which brings threat with supply of pharmaceuticals. Hence, there are concerns on the SCM practice at PPI level that leads to wastage and stock out of essential pharmaceuticals which are imported by the country scarce resource. To averse, this adverse effect, understanding the relationship and how SCM practice affects OP is very important. Therefore, studying the effects of SCM practice at PPI level is very crucial.

There is limited research done related to the know-how of SCM practice as well as their effect on OP in Ethiopian PPI. This study therefore intends to fill this research gap by examining the effect of the SCM practice on OP of PPI with commonly advocated SCM practice used in previous researches that include level of information sharing, quality of information, customer relationship management and strategic supplier partnership.

1.3 Objective of the Study

1.3.1 General Objective

The major objective of this study is to assess the Effects of Supply Chain Management Practices on Operational Performances: In the Case of Private Pharmaceutical Importers in Addis Ababa

1.3.2 Specific Objectives

i. To study the existing practices of supply chain management from the four supply chain management practices perspectives of private pharmaceutical importers in Addis Ababa.
ii. To determine the relationship between supply chain management practices (strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing) and operational performance of private pharmaceutical importers in Addis Ababa.
iii. To reveal the effect of supply chain management practices(strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing) on Operational Performance of private pharmaceutical importers in Addis Ababa.

1.4 Research Questions

This study attempts to address the following research questions:

i. What are the current SCM Practices from the four supply chain management practices perspectives of private pharmaceutical importers in Addis Ababa?
ii. What is relationship between SCM Practice (strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing) and operational performance of private pharmaceutical importers in Addis Ababa?
iii. What is the effect of SCM Practice (strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing) on Private pharmaceutical importers operational performance in Addis Ababa?

1.5 Significance of the Study

The finding of the study is expected to assist the management of Ethiopian PPI to address the shortcomings in their service delivery and provide guidance in the up scaling of their activities for enhanced service delivery by explaining how SCM practice affects OP of their organization. Policy implementers such as the MOH and government regulatory body may find the study valuable in the implementation of policies aimed at achieving effective SCM by PPI to safeguard public health. Guidance from this study may be obtained in designing appropriate policies that can ensure effective logistics management especially in the health sector. The study may also be useful to scholars and academicians. It may deliver information to scholars working on SCM in various organizations and those who want to use the result as a basis for further research on in the public, NGO and private sector.

1.6 Scope of the Study

It is very difficult to cover all Pharmaceutical Importer in the country due to the very limited capacity. As a result, this study was confined to selected PPI's which reside in Addis Ababa. Moreover, the conceptual framework of this study was also confined to the PPI point of reference towards strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing dimensions. And their OP point of reference towards price/cost, delivery dependability and quality. The research sample does not incorporate the upstream and the downstream side of supply chain partners' namely: suppliers, retail outlets and customers, so that one should be cautious using these results to draw broad conclusions for all pharmaceutical sectors.

1.7 Limitation of the Study

It was difficult to cover entire domain of supply chain just in one study. The research sample did not incorporate all the supply chain participants namely: the suppliers and customers so that it cannot be generalized/applied to the complete chain of the companies under investigation. The study is limited to a particular framework to examine the effect of SCM practice on OP of PPI. The other limitation was Self-administered close ended structured questionnaire was used as the only data collection method so it has its own negative influence on the study.

1.8 Operational Definition of Terms

Supply Chain Management: is a management of all activities undertaken by PPI which are related with products and service flow of pharmaceuticals which are consumable by customers. This flow includes financial, information as well as material flow between downstream partners (distribution channels and end customer) and upstream partners (supplier of finished pharmaceutical product) which are involved in different processes and activities that create value for end customers in the form of products or services.

Operational Performance: refers to how well PPI achieves their OP goals of quality, delivery dependability and cost/price which are useful for company's customer's satisfaction and competitiveness.

Supply Chain Management Practice: are the activities carried out by PPI to make entire supply chain effective (Li *et al*., 2006). And it includes Customer relation management, level of information sharing, quality of information sharing and strategic supplier partnership.

Pharmaceutical Supply Chain Management: refers to Information, supplies and finances involved for the acquisition and movement of goods and services from the supplier to the end user in order to enhance clinical outcomes while controlling costs (Kazi, 2012).

1.9 Organization of the Study

This study is organized in to five chapters. The first chapter is organized under the title introduction which includes background of the study, statement of the problem, research objective, research questions, and significance of the study, scope of the study and limitation of the study. The second chapter includes theoretical and empirical literature review from different sources, and conceptual framework of the study. Description of the study area, research approach, research design, population and sample, data source and types, method of data analysis, reliability and validity tests and ethical issues are exploited under the methodology section of third chapter. The Findings, Analysis, Interpretation and Discussion of results are presented in the fourth chapter. Finally, the summary of findings, conclusion, recommendation research limitation and areas of future research of the study are pinpointed under the last chapter.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Theoretical Literature

2.1.1 Concept and Definition

a. Supply Chain

Supply chain is defined as a group of inter-connected engaged companies that increase value to a stream of transformed inputs from their source of origin to the end products or services that are demanded by end users (Lu, 2010). Supply chain is a system of suppliers, manufactures, distributors, retailers and customers where material typically flows downstream from suppliers to customers (except for reverse logistics) and information flow in both directions (Charu and Swantra, 2004).

b. Supply Chain Management

SCM has been emerged during late 1980s (Harland, 1996). But throughout the year alternative definitions and the categories they represent results a source of confusion with the term SCM for those involved in researching the phenomena (Mentzer *et al*., 2001). Although SCM is popular in academic and business environment, still there is considerable confusion regarding its meaning because, Habib (2011) indicated that SCM has varying definition and it differs across different authors but they can be classified in to three groups; a management philosophy, implementation of management philosophy and a set of management processes. As a management philosophy it includes systems approach in viewing supply chain, a strategic orientation toward cooperative efforts, and a customer focus to create unique and individual sources of customer value. SCM as

implementation of management philosophy is by establishing integrated behavior, mutually sharing information, mutually sharing risks and rewards, cooperation, the same goal and the same focus on serving customers, integration of processes, and partners to build and maintain long-term relationships. And as a set of management processes considers all the functions within a supply chain are reorganized as key processes.

In addition different authors tried to describe the concepts of SCM as follows; SCM is defined as the systemic, strategic coordination of the traditional business functions and the tactics across these business activities within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole (Mentzer *et al*., 2001). Bowersox *et al*., (2002) explained SCM consists of firms working together to leverage strategic positioning and to increase operating efficiency. Therefore, for each channel member and based on acknowledged dependency and relationship management supply chain strategy is developed.

Supply chain operations need managerial processes that cover across functional areas within particular firms and connect trading allies and customers throughout organizational boundaries. SCM involves managing a connected series of activities including planning, coordinating and controlling movement of goods from supplier to customer. Therefore, there are decisions to be made strategic, tactical and operational. The decision-making levels in supply chain are strategic the duration will be from 5 to 10 years, Tactical from 3 months to 2 years and operational day to day (Charu and Swatantra, 2004). SCM includes material sourcing, production scheduling, and the physical distribution system, which is supported by information flows. In addition, it involves pitfalls such as building trust, exchanging information on market demand, developing new items and satisfying customer's requirement as efficiently as possible (Felea and Albăstroiu, 2013).

With the goal of managing efficiently and effectively all of its entities and operations, SCM creates a virtual organization composed of several independent entities. To increase productivity reducing inventory and cycle time are the short term objectives of SCM, while to increase customer satisfaction, market share, and profits for all members of the virtual organization are the long-term strategic goal. The integration of business customers as well as the management of upstream suppliers is key element of successful SCM. But it is difficult to integrate the whole supply chain. In addition Tan, described SCM is the integration of trading partners' key business processes from initial raw material extraction to the final or end customer, including all intermediate processing, transportation and storage activities and final sale to the end product customer (Tan.,2002).

From the above definitions key and derived concepts are identified; management activities (planning, organizing, implementing, motivating and controlling), Logistics activities (transportation, processing and storage), Objectives (value, customer requirements, trust, competitive advantage and relationships) and Components of SCM (suppliers, manufacturers, warehouses and stores). Therefore based on these four key and derived criteria SCM definition is obtained (Felea and Alb, 2013). Thus, definitions and approaches to SCM vary substantially from organization to organization because it is influenced by many different fields and researchers in the area of SCM. Though these definitions differ slightly in wording, but all communicate the importance of integration, communication and coordination between functions and organizations that will create value for the customer. Research and practice would be improved if a single definition were adopted. Even though, SCM has a lot of definitions historically, it is possible to develop a single comprehensive definition (Mentzer *et al*., 2001).

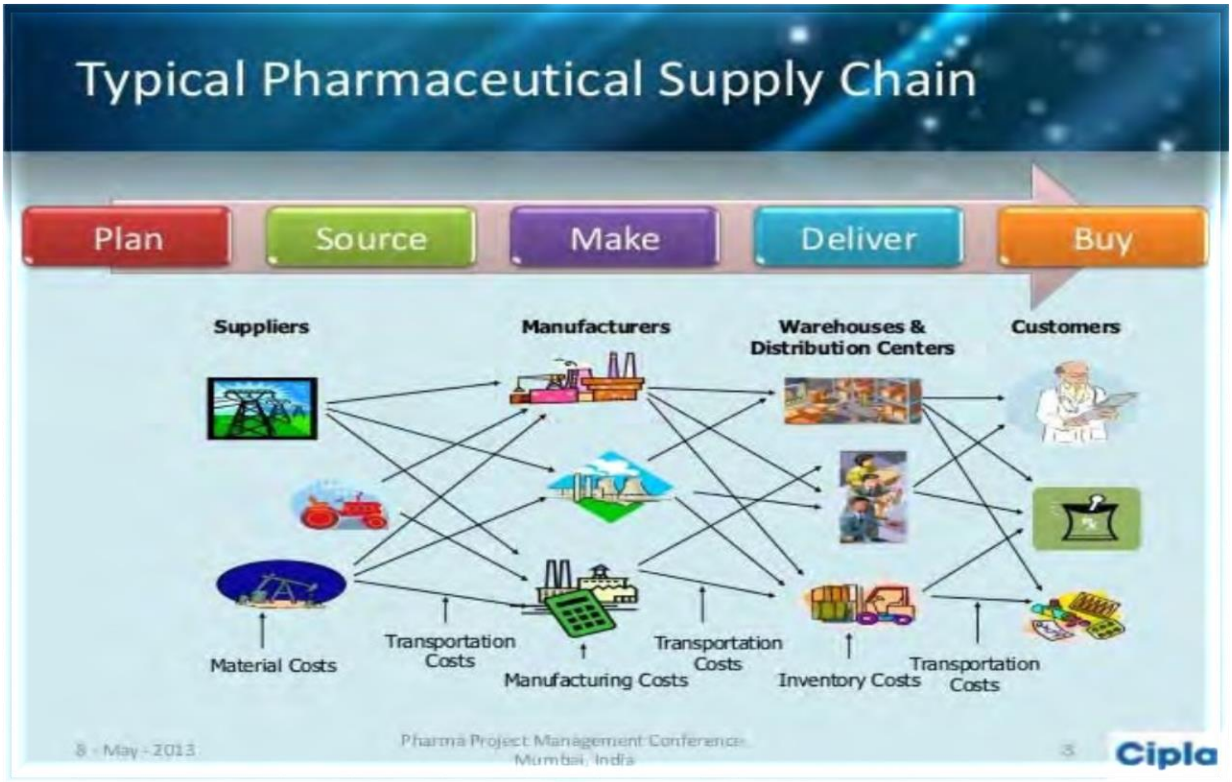
The council of SCM professionals (**CSCMP's)** defined SCM as "it encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and all logistics management activities". Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, SCM integrates supply and demand management within and across companies".

2.1.2 Pharmaceutical Supply Chain Management

Most reference books such as hand book of SCM of pharmaceuticals by MSH in (2012) and The Logistics Handbook by JSI (2004, 2006): explain the different functions of public health supply chain in almost similar manners. In general, the public health SCM practice involves different activities that must be carefully planned and coordinated to ensure the right commodities of acceptable quality get to the right place at the right time so that customers use for diagnosis, treatment, and care when needed. The pharmaceutical supply chain used to be seen as a tool to supply products to market in an effective way, where the emphasis was on security of supply. Recent changes in the operating environment mean that companies are revisiting the components of their supply chains and identifying ways of extracting additional benefits from them (Shah, 2004).

As Kazi (2012) defined; pharmaceutical supply chain refers to information, supplies and finances involved for the acquisition and movement of goods and services from the supplier to the end user in order to enhance clinical outcomes while controlling costs. The Pharmaceutical supply chain is very complicated and greatly responsible to ensure that appropriate drug reaches the right people at the right time, in the right situation and it is highly sensitive supply chain which needs 100% customer service level is acceptable as it directly affects public health (Tsoku, 2014).

Figure 2.1Typical Supply Chain Management - Main Components



Source: www.slideshare.net/pharma-chain/accessed on 18-01-2019.

2.1.3 Supply Chain Management Practices

Kazi, (2012) explained SCM practices can be defined in various ways. SCM practices involve a set of activities undertaken in an organization to promote effective management of its supply chain(Lenny Koh *et al*., 2007). These are the approaches applied in integration, managing and coordination of supply, demand and relationships to satisfy clients in an effective way, as tangible activities/technologies that have a relevant role in the collaboration of a focal firm with its suppliers and/or clients and as the approach to involve suppliers in decision making, encouraging information sharing and looking for new ways to integrate upstream activities. As a consequence, it involves developing customer contacts by customer feedback to integrate the downstream activities and delivering orders directly to customers (Chow *et al*., 2008).

A full understanding of SCM practices assumes utmost importance in overcoming with the global competition and sustained profitability. With a shared objective of ultimately improving firm performance literature sheds light on SCM practices from different perspectives. By using three dimensions of SCM practices from two broad categories people and system oriented constructs as there is a lack of general consensus on a set of constructs that define the SCM practices (Haque and Islam, 2013). Little is known about the specific practices or concerns of a successful SCM implementation. Six aspects of SCM practice through factor analysis: supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity, and just in time capability have been identified (Tan, 2002).

Different researchers have investigated different perspective of SCM practice of organizations. Although different researchers have studied with different perspective of SCM practice they have one thing in common, which is all of the perspectives suggest a multidimensionality of SCM that covers set of activities and processes from firms internal operations to upstream and downstream sides of supply chain to achieve the ultimate common goal of improving performance of partners in the supply chain.

Four specific constructs, including strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing are selected for SCM practice after reviewing and consolidating different literature. The four constructs cover upstream (strategic supplier partnership) and downstream (customer relationship) sides of a supply chain and information flow across a supply chain (level of information sharing and quality of information sharing). It should be understood that even though the above dimensions capture the major aspects of SCM practice, they are not expected to be complete (Li *et al*., 2006).

With this regard this study presents, four dimensions of SCM practices, strategic supplier partnership (SSP), customer relationship management (CRM), level of information sharing (LIS) and quality of information sharing (QIS) in detail as follows:

2.1.3.1 Strategic Supplier Partnership

Strategic supplier partnership (SSP) can be defined as long-term relationship between the company and its suppliers, it is designed to increase the strategic and operational capabilities of each participating companies to help them achieve significant benefits. The partnership focuses on direct and long term – term relationship by supporting mutual planning and efforts to give solution for problems. Therefore, supplier and organizations should work together more than usual to eliminate useless time and effort. In addition, guide to SCM effective partnership with suppliers is critical factor (Li *et al*., 2006). The critical element of leading supply chain is an effective supplier partnership (Noble, 1997). This is due to the ultimate objective of SCM is to issue products/service to the satisfaction of end users. Therefore, SCM recommends that companies are expected to integrate with their suppliers and customers to get the best from both financial and non-financial growth objectives (Tan, 2001). Thus to improve relationship and performance, measuring supplier performance is important activity. To measure how suppliers are doing measures like quality, cost, delivery and flexibility have been traditionally used. During this relationship information provided by supplier performance is used to improve the entire supply chain. The goal of any good performance evaluation system is to provide metrics that are understandable, easy to measure and focused on real value - added outputs by the buyer and supplier.

Therefore to identify suppliers with exceptional performance or developmental needs, supplier performance evaluation is critical, and based on the evaluation result supplier communication can be improved, risk reduced and the partnership will be managed (Joel *et al*., 2012).

Sandikiglu and zehir, (2010) also stated that suppliers play direct role in supplier partnership for an organization quality performance. Thus over a long period of time through close bonded relationships, supply chain partners are more willing to share risks and/or reward and be able to maintain the relationship.

On top of this coordinating operational activity through joint planning with suppliers also results in inventory reduction, smoothing production, improve product quality, reducing supply uncertainty and lead time reduction (Lee, 2002). In general, if a company manages suppliers strategically, operational performance in terms of dependability, flexibility, cost, and quality would be improved (Rungtusanatham *et al*., 2003).

2.1.3.2 Customer Relationship Management

According to Tan *et al*. (2002) with the purpose of managing customer complaints, building long term relationships with customers and improving customer satisfaction is called customer relationship management. With dynamic nature of customer expectations organizations should routinely adjust their operation accordingly (Jayachandran *et al*., 2005).

For the success of SCM, the integration of downstream and upstream members of the supply chain is critical. Each member is a supplier as well as a customer in a supply chain network. Different benefits in a number of ways can be obtained when a customer-oriented strategy is implemented simultaneously. These include increases in productivity, reductions in inventory and cycle time, increased customer satisfaction, market share, and profits (Kumar and Kushwaha, 2017).

Rungtusanathanm *et al*., (2003) argues that a firm engaging in long-term relationship with its customers can minimize demand uncertainty, enhance customer's service and finally decrease expense for stocking and warehouse management. Furthermore, Rungtusanathanm explained that, companies can enhance their OP in terms of speed and delivery accuracy when they interact with customer on issues related to quality and material flows.

Today, customer relationship management (CRM) has come to be associated with automated transaction and communication applications using software modules or a portion of the larger enterprise resource planning system. Customers today like the convenience of communicating or transacting over the Internet; however, individualized contact between a company and its customers is also needed to ultimately keep customers satisfied and coming back (Tagesse, 2017).

2.1.3.3 Level of Information Sharing

There are two aspect of information sharing: quantity and quality and both aspects are important for SCM practice (Li *et al*., 2006). With regard to level of information sharing it means exchanging information to the extent of critical and proprietary one's to supply chain partner (Monczka *et al*., 1998, Li *et al*., 2006). And this shared information can vary from strategic to tactical in nature and from information about logistic activities to general market and customer information (Mentzer *et al*., 2000).

To plan their activity different actors in the supply chain uses information flow, this is the basic element in the supply chain. Therefore, the ability of enterprises to share knowledge and information with supply chain partners with effective and efficient way it refers to information sharing practice. Thus information can be shared between direct partners and all network of

supply chain. In addition, accountability and efficiency are directly linked with the level of information sharing (Rahmanseresht and Afsar, 2008).

Alireza *et al*., (2011) stated through information sharing integration and coordination across supply chain can be well achieved. For solid supply chain relationship characteristics information sharing is considered as one of five building blocks. Supply chain partners who work as a single entity usually exchange information regularly. Together, they can understand the needs of the end customer better and hence can respond to market change quicker (Ahmadi, 2005). Failures can occur in case of information delays, shortage or distortion across the supply chain (Power, 2005).

2.1.3.4 Quality of Information Sharing

Accuracy, timeliness, adequacy and credibility of information exchange are the basic aspects of quality of information sharing (Tan *et al*., 1998). 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 (Li *et al*., 2006).

The objective of SCM is to quickly obtain real-time information, minimize cost, increase levels of service, improve communication among supply chain components, and increase flexibility in terms of delivery and response time (Moberg *et al*., 2002). Based on Li *et al*. (2006), organization needs to review their information as a strategic asset and ensure that the information flows with minimum delay and distortion. In addition, the information shared must be accurate so that the best SCM solution will be obtained.

The empirical findings of Childhouse and Towill (2003) 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. Therefore, organizations need to view their information as a strategic asset & ensure that it flows with minimum delay & distortion (Feldmann *et al*., 2003).

2.1.4 The Concept and Dimension of Operational Performance (OP)

Business and operational performance are the two most utilized measures of firm performance (Flynn *et al*., 2010). This research considered operational performance as the key aspects of firm performance. Slack et al., (2010) explained operation can contribute to competitiveness through low costs, high levels of service (securing revenue), lower operational risk, lower capital requirements, and providing the capabilities that determine future innovation. And operations have a significant impact on strategic success. Thus OP has significant effect on the whole organization and any organization needs some way of assessing the performance of its operations function.

There are a number of indicators by which operational performance may be judged. Slack *et al.*, (2010) determined the five operational performance objectives which can be applied to any type of operation. These are quality, speed, dependability, cost and flexibility which are useful for company's customer's satisfaction and competitiveness. Without making mistakes and by providing error-free goods and services which are fit for their purpose quality advantage can be created for customer. And by minimizing the time between a customer asking for goods or services and the customer receiving them in full, thus increasing the availability of goods and service will add value to speed objective.

By keeping the delivery promise made and being able to vary or adapt the operations activities to cope with unexpected circumstances or to give customers individual treatment dependability and flexibility advantage can be added.

Finally, by producing goods and service at a cost which enables them to be priced appropriately for the market while still allowing for a return to the organization cost advantage can be added. In the wake of high labor costs, increasing customer demands and tight budgets, the need for efficient production, service and timely order fulfillment is more important than ever (Miring'U, 2015). For the purpose of this paper, the following dimensions of the OP are chosen: price/cost, quality and delivery dependability.

2.2 Empirical Literature Review

Current studies on SCM focus on the up/down stream side or certain aspects/perspectives of SCM (Shah *et al*., 2002). And there are researches which have been done by giving attention to the effect of SCM practices and certain aspects of overall organizational performance from different perspective. Some of these researches findings are discussed as follow:

A study done by Lenny koh *et al*. (2007) in Turkey by identifying a set of 12 SCM practices concluded that by implementing SCM practice there is indirectly a significant impact on the OP of the organization. Additionally, Koh.*et al.* on small and medium sized manufacturing firms in Turkey indicates that SCM practices positively and significantly influence the OP of organization.

A study conducted in India on the effect of SCM practice on OP of fair price shops provides evidence that SCM practices (customer relationship, information technology, and Information Quality) positively impact the OP of the organization. And it is clear that information quality construct has the highest impact on performance while customer relationship (CR) construct has the least impact on performance (Kumar and Kushwaha, 2017).

On the research topic SCM measurement and its influence on OP conducted by Priscila and Luiz (2011), SCM measurements were considered as it consists of information sharing, long term

relations, cooperation and process integration as independent variables influences operational performance in case of Brazilian companies. The empirical results of this study provided evidence of a positive impact of SCM measurements on OP.

A study done in Kenya on mega agribusiness firms, by using eleven types SCM practice showed positive influence on OP and organizations keen on enhancing OP should seek to adopt SCM practices. And it explained to keep on the positive impact of SCM practice on OP there should be continually monitoring and evaluation for effectiveness (Miring'U, 2015). A study done by Kazi (2012) suggested that effective SCM impact positively on the OP as a whole and all the competitive priorities, providing support for the cumulative capabilities perspective at Kenya medical supply agency.

SCM practices in different industry of Ethiopia were studied in different dissertations. The results of various researches with respect to SCM practices in different commercial sectors of Ethiopia were not satisfactory. Admaw, (2010) studied the practice of SCM for Ethiopian textile firms. It was found that, SCM practices in Ethiopian textile firms are weak and not considering SCM as a strategic tool for competition. Also, Dereje (2012) studied the impact of SCM practices on the organizational performances in metal and engineering industries. The result of the study shows that the practice of SCM in this industry is weak. In addition, Belay (2011) studied the practices of SCM in cement industries. The finding shows similar to other industries in the country i.e. the practice of SCM in cement industry are almost poor. Mogus, (2015) studied Practice & Challenge of SCM on 11 Ethiopian Private G-1 Road Construction Companies. The study shows that; on the degree of relationship across supply chain characterized by less joint product planning with suppliers, but better relationship with customers; information sharing practice of SCM in the case companies is generally moderate, but

poor information sharing on material forecast with suppliers; within the case companies. And it concluded that SCM practice have a relationship with OP of the organization.

A study by Tagesse (2017) which is conducted on construction company states Strategic supplier relationship was one of the most important areas that facilitate effectiveness of SCM practice within the company and with supply chain members. Most of SCM Practices were moderately practiced in YOTEK. In CRM category, compliance with customer's delivery in-full requirements had better performance. Lack of completeness and reliability of information exchange between the SC members were the major gaps identified by this research with respect to SCM practice. Tagesse also indicated there was strong and positive relationship between SCM practices and operational performance. In addition, SCM practice had significant influence on OP. A study done by Mohammed (2014) on Awash Tannery PLC. concluded that there is strong and positive relationship between SCM practices and OP. The test result indicates that SCM practices has positive and strong correlation (r=0.850) with OP at significance level less than 0.001. In addition, it states, SCM practices have also contributed 78.8% for the variability of OP.

A study done in Ethiopia on five pharmaceutical companies indicates that the quality of information sharing has positive and significant influence on organizational performance. It suggests quality of information sharing and customer relationship management should be in the best attention of business organizations to take a proactive role in the management of their supply chain in establishing a strong position over its competitors and achieving their goals (Aboneh, 2017).

In this globalized world, implementing SCM practices not only provide an edge over its competitor but it is essential to improve the OP of the organization. A review of the relevant literature shows that the SCM practices help in financial performance achievement but still lacks

sufficient empirical evidence regarding the impact of SCM practices on OP (Kumar and Kushwaha, 2017). In general, as the research tried to study the effect of SCM practices on OP, showed that it has a positive effect, but the level of its effect may vary.

2.3 Literature Gap

Table 2.1 Summary of Literature Review

Scholar/ Author	Study	SCM practice Constructs	Major Findings	Limitations
Tagesse, (2017)	SCM practice and impact on firm performance in case of YOTEK construction PLC.	Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing, Quality of Information Sharing and Information Technology	Strong and positive relationship between SCM practices and operational Performance	• This study took a narrow focus solely on the Yotek construction PLC. with a relatively small sample size of respondents.
Aboneh, (2017)	Effect of Supply Chain Management Practices on Organizational Performance in Pharmaceutical Companies in Addis Ababa	Supplier Relationship Management, Customer Relationship Management, Level of Information Sharing, Quality of Information Sharing	Quality of information sharing and customer relationship management	• Limited to a small sample • Limited to financial performance of the organization • The results should be treated with caution to generalize
Kumar	SCM Practice	Customer	SCM practices	• Only three SCM

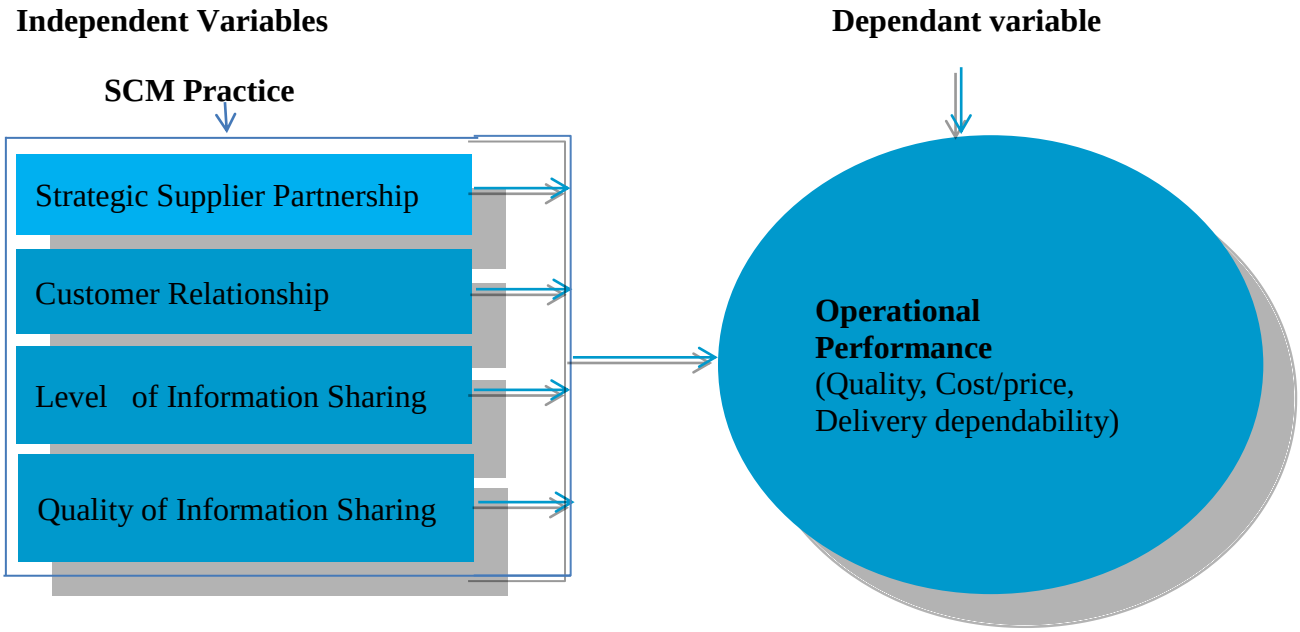
and Kushwaha, (2017)	and operational performance of fair price shops in India: an empirical study	Relationship Management Quality of Information Sharing, Information Technology	have a significant and positive relationship with the OP	practices were taken, results may not be generalized due to sample size • This study focus solely on the fair price shops in India
Priscila and Luiz, (2011)	Supply Chain Management measurement and its influence on Operational Performance	Information Sharing, long-term relationship, cooperation, process integration	Positive effects of SCM on all performance dimensions, offering further support for the cumulative capabilities perspective	The small and non-probabilistic sample avoids generalization of the results beyond the responses The idea of the operational competence construct was not further explored conceptually and empirically
Mohammed,2014	SCM Practice and firm performance the case of Awash tannery PLC	Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing, Quality of Information Sharing and internal lean practice	Strong relationship between SCM practices and OP. SCM practices have an influence both on OP.	Doesn't SCM practices of the company. This study focus solely on Awash tannery PLC

Source: Researcher's own (2019)

2.4 Conceptual Framework

Therefore, based on overall review of related literature and particularly the work of Li *et al.* (2006) and Lenny *et al.* (2007) the following conceptual framework by which this study governed was developed. And the framework proposed the effect of SCM practices on OP. SCM practice was conceptualized as a four-dimensional construct. These four dimensions were Strategic Supplier partnership (SSP), customer relationship management (CRM), level of information sharing (LIS) and quality of information sharing (QIS). And OP measures were limited to widely accepted cost/price, quality and delivery dependability. The schematic diagram below not only guides the study but also shows the relationship among the key variables in the study.

Fig 2.2 Conceptual framework of the study.



Source: Adapted from Li *et al.* (2006) and Lenny *et al.* (2007)

The four constructs cover the relationship with upstream sides of a supply chain (supplier relationship management) and downstream sides of a supply chain (customer relationship management), information flow across a supply chain (information sharing practice).

It should be pointed out that even though the above dimensions capture the major aspects of SCM practice, they cannot be considered complete. Other factors are not included due to the concerns regarding the scope of the study and the parsimony of measurement instruments.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Description of Study Area

This study on the effect of supply chain management practice on operational performance of private pharmaceutical importers was conducted in selected PPI which are found in Addis Ababa. There are 250 active PPIs in Ethiopia which are registered by EFDA in which 220 are found in Addis Ababa. Before importing any pharmaceutical product PPI need to pass through extensive dossier evaluation and GMP inspection of supplier. Following the aforementioned activities PPI will get marketing authorization (MA) by the regulatory body to import the product. After having the MA, PPIs are expected to collects Performa (price quotation) from the manufacturer. Based on the agreed price quotation and having necessary importing document (license) PPI apply for Letter of credit (LC). Procurement in the PPI is done by direct order to manufacturers abroad. After the approval of LC the manufacturer starts production. During all the production process there is continues information sharing between manufacturer and PPI. As per the agreed lead time the product is shipped and on its arrival all the necessary customs procedure will be done. Finally with the available information sharing practice of PPI with downstream supply chain partner the pharmaceutical product is distributed to wholesalers and directly to health care providing institutions.

PPI in Ethiopia play a major role in delivering medicine at the right time and place for better patient care. And this sector needs efficient SCM practice because any disruption in supply chain will result in a loss of lives.

3.2 Research Approach

This research employed quantitative approach to accomplish the overall aim of the study. The data collected was primary data. The questionnaire that was asked to respondents about their opinion towards the Effect of Supply Chain Management Practices on Operational performance, ranges on a five –point Likert-type response scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). To ensure the research studies ability to assess the response and measure the response quantifiable this scaling method was used. Beside this it is very cheap, easy and gives an element of scale to opinion and emotion.

3.3 Research Design

The research design is a descriptive survey. The descriptive design is appropriate when a researcher wants to describe a situation as it is. And it also offers a logical structure of the inquiry into the problem of study (Kothari, 2003). Therefore, the design allowed the researcher to draw conclusions on the effect of SCM practice on OP.

Unit of Analysis

The unit of analysis is the major entity that was analyzed in the study. It is the 'what' or 'who' that was studied. Therefore, PPIs were the basic observable entities being analyzed by the study for which data was collected in the form of variables.

3.4 Target Population, Sampling Technique and Sample Size

The target population for this study was PPIs found in Addis Ababa which are registered by EFDA. And there are 220 active PPI in Addis Ababa.

Sample Size

Because of time and financial limitations and the nature of the population, the preferred method for sample size determination was Carvalho (1984) for this study. The table below shows how Carvalho's Sample Size Determination was applied.

Table 3.1: Carvalho's Sample Size Determination

Population size	**Sample size**		
	Small	**medium**	**Large**
51-90	5	13	20
91-150	8	20	32
151-280	13	32	**50**
281-500	20	50	80
501-1200	32	80	125
1201-3200	50	125	200
3201-10,000	80	200	315
10,001-35,000	125	315	500
35,001-150,000	200	500	800

By considering the pharmaceutical importers data base of EFDA the total number of active PPI in Addis Ababa are 220 which were considered as the total target population.

Thus, based on Carvalho's Sample Size Determination of the above table, from the entire target population of 220 the largest sample sizes of 50 active PPI were considered as sample size of the study.

Sampling Techniques

The sample was selected from the target population by using probability sampling particularly simple random sampling technique. This technique was used because each PPI have equal chance to be selected and there is homogeneity in the target population.

3.5 Data Sources and Types

This study used primary data. Primary data was collected from active PPI employees in the form of structured questionnaire by administering to the technical manager or store man or marketing manager or their equivalents. And primary source of data type was collected with the research's purpose in mind. Basically, primary source of data type is used because the information resulting from this source is more consistent with the research questions and objectives. According to Biggam (2008), primary data is the information that the researcher finds out by him/herself regarding a specific topic.

3.6 Measurement and Instrument

In this research primary data was collected particularly using survey questionnaire. For the purpose of this study close ended structured self-administered questionnaires were distributed to respondents as a measuring instrument. The close-ended questionnaires were administered to groups of people simultaneously, since they are less costly and less time consuming than other measuring instruments.

The standard questionnaire that was used to collect the necessary information regarding the study is adapted from the work of Li *et al*. (2006), Lenny *et al*. (2007) and Tagesse (2017). The Likert-type scale method uses a range of responses: 'strongly disagree', 'disagree', 'Neutral', 'Agree', and 'Strongly Agree', with a numeric value of 1-5, respectively. As Neuman (2003) hypothesize, it is a process of asking many people the same questions and examining their answers.

3.7 Data Collection Procedure

Self-administered structured questionnaire were distributed to sampled respondents that would be representatives of the target population. Therefore, the primary data was collected from each PPI employees. The structured questionnaires allowed greater uniformity in the way questions are asked, ensuring better compatibility in the responses. The questionnaire has two parts. Part 1 for the respondent's demographic characteristics, part 2 contains questions on research objectives. Questionnaires were administered to PPI employee's personally to shorten the response time and it enabled on the spot clarification of any doubts that the respondents might have regarding any questions. This gave an opportunity to introduce the topic and motivate respondents to give their honest contribution. However, for respondents who have time constraints, the questionnaire was administered through drop and pick later method and through email so that the respondents filled the questionnaire at their convenient time.

3.8 Validity and Reliability Test

3.8.1 Validity Test

The standard questionnaire that was used to collect the necessary information regarding the study is adapted from the work of Li *et al*. (2006), Lenny *et al*. (2007) and Tagesse (2017). It was also adapted from previous standard researches of Aboneh (2014) on the study of "Effect of Supply Chain Management Practices on Organizational Performance in Pharmaceutical Companies in Addis Ababa". The questions were well tested by previous researchers and hence it was believed that using those questions increases validity of this research too. In addition, five technical managers from non-selected companies (PPI) were approached to test how they understand and respond to the questions in the questionnaire. They all got well the questions and responded in the manner expected which has given confidence of validity.

Moreover, one Masters Students of Logistics and Supply Chain Management filled the questionnaire to strengthen its validity. Based on the comment the final questionnaire was amended accordingly.

3.8.2 Assessing Reliability

As multiple items in all constructs were used, the internal consistency/reliabilities of SCM practice and OP were assessed with Cronbach's Alpha and the reliability values for all constructs were confirmed as greater than 0.7, which are considered acceptable (Nunnally, 1978). The following table shows the summary of reliabilities of all constructs.

Table 3.2: Reliability of Supply Chain Management Practices and Operational Performance

Variable	Reliability
SCM practices	
Strategic supplier partnership	0.917
Customer relationship management	0.866
Level of information sharing	0.813
Quality of information	0.855
Operational performance	0.860

Source: Research data (2019)

3.9 Methods of Data Analysis

After the data was collected, inferential statistical technique was employed to analyze the information, as this study is quantitative in nature. The data was analyzed using SPSS version 20. The statistical tools were aligned with the objectives of the research. Inferential statistics is particularly the Pearson's correlation was used to show the relationship and the strength/degree as well as direction of associations between variables. The other inferential statistics that was

used is regression analysis so that to show interdependence of independent variables and dependent variable. Thus, both the strength of the relationship between variables and the influence of independent on dependent variable and statistical significance were assessed. The dependent variable in this study was operational performance. On the other hand, the independent variables for the study were Strategic Supplier partnership, Customer Relationship Management, Level of Information Sharing and Quality of Information Sharing practice.

The linear regression model used to establish the association between the independent variables with the dependent variables assumed the following equation:

$$Y = \beta_0 + \beta 1\ X1 + \beta_2\ X2 + \beta 3\ X3 + \beta 4\ X4 + \epsilon$$

Where Y = Operational performance β_0 = Constant or the Y intercept

X1 = Strategic Supplier partnership X2 = Customer Relationship Management

X3 = Level of Information Sharing X4 = Quality of Information Sharing

$\beta 1$, β_2, $\beta 3$, $\beta 4$ are regression coefficient of respective variables

ϵ is the error term

3.10 Ethical Consideration

The study of Leedy & Ormrod (2010) shows that there are certain ethical issues that must be kept when undertaking a research. These are protections from harm, informed consent, right to privacy, and honesty with professional colleagues. Accordingly, participants were not exposed to physical or psychological harm; participants participated only on a voluntary basis, right to privacy of respondents was respected and findings were reported in a complete and honest fashion.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Response Rate

The study targeted 50 respondents in collecting data with regard to SCM practice and OP of PPI. From the total of 50 questionnaires which were distributed to employees of PPI, all questionnaires were obtained valid and used for analysis and this makes a response rate of 100%.

4.2 Descriptive Statistics

4.2.1 Socio-Demographic Information

The demographic profile of the sample respondents is presented below in Table 4.1. Most of the respondents (40.0%) were store manager, while remaining 12.0%, 36.0% and 12.0% were from, sales man, technical managers and other departments respectively. The result of gender frequency analysis of the respondents showed that male respondents were higher (70.0%) than that of female (30.0%). In addition, the age of the respondents was divided in to four categories, and majority of the respondents (74.0%) found at age category of 25 – 34 years, while (20.0%) in 35-45 years and the least respondent (2.0%) is less than 25 years, whereas, respondent in age category of above 45 years was (4.0%). Concerning educational background, majority of the respondents (80.0%) had first degree, 10.0% second degree and 10.0% of them had diploma whereas, no respondent has doctoral degree level. With regard to respondents' year of experience in the PPI, 38% and 32.0% of respondents had working experience between 2-5 and 6-10 years in the organization consequently. Regarding the current responsibility of participants 28 (35.4%)

of the respondents have been working in sales/ marketing department, 12 (15.2%) of the respondents have been working in supply/purchasing/procurement, 15 (19.0%) of the respondents have been working in supply chain management department, 2 (2.5%) of them have been working in finance, 8 (10.1%) of the participants have been working in logistics/transport/ distribution, and the rest 14 (17.7%) of respondents have been working in regulatory.

Table 4.1 Demographic data of the Respondents

Variables	Category	Frequency	Percent	Cumulative percent
Sex	Male	35	70	70
	Female	15	30	100
	Total	**50**	**100**	
Age	Under 25 years old	1	2	2
	25-34 years old	37	74	76
	35-45 years old	10	20	96
	Above 45 years old	2	4	100
	Total	**50**	**100**	
Education level	Diploma	5	10	10
	Degree	40	80	90
	Master	5	10	100
	Doctoral level	0	0	
	Total	**50**	**100**	
Work experience in the company	Less than 2 years	14	28	28
	2-5 years	19	38	66
	6-10 years	16	32	98
	Above 10 years	1	2	100
	Total	**50**	**100**	
Current position	Technical manager	18	36	36
	Store manager	6	12	48

	Sales man	20	40	88
	Other	6	12	100
	Total	**50**	**100**	
Current job(multiple response	Finance	2	2.5	
	Sales/marketing	28	35.4	
	Regulatory	14	17.7	
	Logistics/distribution/transport	8	10.1	
	SCM	15	19.0	
	Supply/purchasing/procurement	12	15.2	
	Total	**79**	100	

Source: Research data (2019)

4.2.2 Analysis of Supply Chain Management Practices

4.2.2.1 Strategic Supplier Partnership (SSP)

To measure PPI practice related with the strategic Supplier partnership (SSP), nine items were developed in this research. Table 4.2 below shows the level of relationship that exists between suppliers and PPI. Accordingly, the group mean of SSP was 3.67 and it indicated average/ moderate performance level with respect to the overall measures taken into consideration. The results are presented on table 4.2 below as follows:

Table 4.2: Descriptive Statistics of Strategic Suppliers Partnership (SSP)

S.no	Strategic Supplier Partnership (SSP)	Mean	Std Dev
1	We consider quality as our number one criterion in selecting suppliers	4.08	.695
2	We regularly solve problems jointly with our suppliers	4.14	.729
3	We have helped our suppliers to improve their product quality	3.88	.918
4	We include our key suppliers in our planning and goal setting activities	3.62	1.067

5	Our company has formal performance goals for supplier relationship management (SRM)	3.32	1.186
6	Our company regularly measures our supplier's contribution to our profitability	3.46	1.092
7	Our suppliers understand how their decisions/actions affect the SRM process	3.68	.891
8	SRM process requirements are determined by cross functional team	3.26	1.121
9	People throughout our company understand how their decisions/actions affect SRM process	3.60	.857
Group mean		**3.6711**	**.745**

Source: Research data (2019)

The findings on SSP as a SCM practice was that regularly solving problems jointly with their suppliers were the major activities that respondents agreed as it has been observed by a mean score of 4.14; quality as number one criterion in selecting suppliers had a mean score of 4.08; regularly measuring supplier's contributions to organization profitability had a mean score of 3.46; helping suppliers to improve their product quality had a mean score of 3.46; suppliers understand how their decisions/actions affect the SSP process had a mean score of 3.68. The average mean score was 3.67 which is closer to the mean score of suppliers understanding how their decisions/actions affect the SRM process (mean score of 3.68). This would mean that an average of the respondents agreed on the SPP practice on the supplier understanding how their decisions/actions affect the SRM process.

4.2.2.2 Customer Relationship Management (CRM)

To study PPI practice concerning the Customer Relationship Management (CRM), ten items were developed in this research. 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. The results are presented on table 4.3 below:

Table 4.3: Descriptive Statistics of Customer Relationship Management (CRM)

S.no	Customer Relationship Management (CRM)	Mean	Std Dev
1	Our company has developed customer Relationship management (CRM) process team	2.62	1.537
2	Our company actively work on order delivery fulfillment requirements of the major customers	4.32	.621
4	Our company develops metrics that are related to the customer's impact on our firm's profitability	2.92	1.122
5	Our company develops metrics that are related to our firm's impact on the customer's profitability	2.94	1.114
6	Our company CRM metrics are tied to our firm's financial performance	3.00	1.107
7	Our company measures customers' profitability over time	2.72	1.070
8	We frequently interact with customers to set reliability, responsiveness, and other standards for us	3.72	.927
9	We frequently measure and evaluate customers' satisfaction	3.30	1.015
10	We periodically evaluate the importance of our relationship with our customers	3.30	.953
Group Mean		**3.204**	**0.736**

Source: Research data (2019)

Based on the result majority of respondents agreed that the company actively works on order delivery fulfillment requirements of the major customers with a mean score of 4.32, having frequent interaction with customers to set reliability, responsiveness, and other standards for us was shown by a mean score of 3.72 and having a frequent measure to evaluate customer satisfaction was shown by a mean score of 3.30.

From the above results majority of respondents do not agree in developing customer Relationship management (CRM) process team as it had the lowest mean score of 2.62. In general, there is average level of practice with regard to CRM with mean value of 3.20 in PPI.

4.2.2.3 Level of Information Sharing Practice (LIS)

This study tried to investigate the practices of level of information sharing (LIS) among the supply chain participants of the PPI with its up-stream and down-stream supply chain partners based on seven items listed in Table 4.4 below.

Table 4.4: Descriptive Statistics of Level of Information Sharing (LIS)

S.no	Level of Information Sharing Practice (LIS)	Mean	Std Dev
1	We inform our customers on Pharmaceutical supply forecast Information	2.62	1.244
2	We inform our suppliers on Pharmaceutical supply forecast Information	3.56	1.072
3	We inform trading partners in advance of changing needs	3.52	.614
4	Our trading partners keep us fully informed about issues that affect our business	3.68	.683
5	Our trading partner share business knowledge of core business processes with us	3.46	.762
6	We and our trading partners exchange information that helps establishment of business planning	3.58	.758

7	We and our trading partners keep each other informed about event or changes that may affect the other partners	3.44	.733
Group Mean		**3.408**	**0.587**

Source: Research data (2019)

According to the results majority of the respondents agreed with regard to fully informed by trading partners about issues that affect business (mean score of 3.68) which is the highest SCM practice with respect to LIS. And informing customers on Pharmaceutical supply forecast have the lowest a mean score of 2.62, which shows that the majority of respondents do not agree on exchange of information about supply forecast with their customers. The result also shows an average score of 3.40 which is closer to the mean score of trading partners keep each other informed about event or changes that may affect the other partners, this would mean that an average of the respondents agreed that they exchange information with trading partners about events that affect them. In general, the above individual means value and group mean value of 3.40 revealed that the company's level of information sharing practice within Supply Chain members had moderate performance/practice.

4.2.2.4 Quality of Information sharing Practice (QIS)

Aspects like accuracy, timelessness, adequacy and credibility of information exchanged were included in quality of information sharing practice in the SCM practice. The objective of SCM is to quickly obtain real-time information, minimize cost, increase levels of service, improve communication among supply chain components, and increase flexibility in terms of delivery and response time. With statements related to PPI practicing QIS the study tried to know the respondent level of agreement. The results are presented on table 4.4 below:

Table 4.5: Descriptive Statistics of Quality of Information Sharing (QIS)

S.no	Level of Information Sharing Practice (QIS)	Mean	Std Dev
1	Information exchange between our trading partners and our company is timely	3.50	.789
2	Information exchange between our trading partners and our company is accurate	3.72	.640
3	Information exchange between our trading partners and our company is complete	3.58	.758
4	Information exchange between our trading partners and our company is adequate	3.34	1.002
5	Information exchange between our trading partners and our company is reliable	3.68	.768
Group mean		**3.564**	**.745**

Source: Research data (2019)

As indicated in table 4.5 above, accurate information exchange is the highest score with mean value of 3.72. In addition, adequacy, timely, complete and reliability of information with supply chain partners scored to 3.34, 3.50, 3.58 and 3.68 respectively, which was moderate level of performance with group mean value of 3.56.

4.2.3 Analysis of Operational Performance

The study also tried to know the respondent's level of agreement with statements related to operational performance. The results show majority of the respondents agreed that operational performance with regard to the ability to offer products having Compliance to regulations having a mean score of 4.37, this is the highest mean score from the results above; it shows that PPI deliver products which comply the regulatory body standards. Solving customer complaints promptly had a mean score of 3.36, which is the lowest mean score from the results above; it shows that PPI are moderately weak in solving customer complaint promptly.

The average mean score is 3.84 which is same as the mean score of processing customer order on time which means that an average of the respondents agreed PPI achieved better in processing customer order on time.

Table 4.6: Operational Performance (OP)

S.no	Price/Cost	Mean	Std Dev
1	Our company has the ability to offer prices as lower (in attractive price) than competitors	3.56	.993
2	Our company utilizes its full capacity	3.74	.986
3	Our company has high level of inventory turnover	3.42	.950
4	Our company run operation with less cost	3.50	.931
5	We offer competitive prices	3.74	.986
	Quality		
6	Our company has ability to compete based on quality	4.26	.694
7	Our company has ability to offer products that are highly Reliable	4.20	.606
8	Our company has ability to offer products having Compliance to regulations	4.34	.717
9	Our company has capacity to offer high quality products to Customer	4.30	.505
	Delivery dependability		
10	Our company has ability to deliver the kind of products Needed	3.94	.818
11	Our company has ability to deliver customer order on time	3.74	.986
12	Our company has ability to provide dependable/faithful Delivery	3.88	.872
13	Our company solve customer complaints promptly	3.36	1.045
14	Our company process customer orders on time	3.82	.983
Group mean		**3.842**	**.507**

Source: Research data (2019)

4.3 Inferential Statistics for SCM Practices and Operational Performance

4.3.1 Correlation Analysis

The measure of linear relationship between two variables is called Correlations. And correlation coefficient has a value ranging from -1 to +1. Values that are closer to the absolute value of 1 indicate that there is a strong relationship between the variables being correlated whereas values closer to **0** indicates that there is little or no linear relationship. Andy, (2006) described correlation is a commonly used measure of the size of a relationship: values of ± 0.1 represent a small effect, ± 0.3 is a medium effect and ± 0.5 is a large effect.

Here correlation analysis was conducted with respect to second research objective. Therefore, relationship between SCM practices and OP was investigated. Thus, it provided Correlation Coefficient which indicates the strength and direction of relationship. The probability of significance relationship was also indicated by p-value.

4.3.1.1 Correlation Analysis between Constructs of Supply Chain Management Practices and Operational Performance

The constructs of SCM practices in which their relation with OP seen in table 4.7 below are Strategic supplier partnership (SSP), Customer relationship management (CRM), Level of information sharing (LIS), Quality of information sharing (QIS).

Table 4.7 Correlation Matrix between Construct of SCM Practices and Operational Performance

		SSP	CRM	LIS	QIS	OP
SSP	Pearson Correlation	1	.616**	.587**	.509**	.506**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	50	50	50	50	50
CRM	Pearson Correlation	.616**	1	.556**	.556**	.508**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	50	50	50	50	50
LIS	Pearson Correlation	.587**	.556**	1	.668**	.651**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	50	50	50	50	50
QIS	Pearson Correlation	.509**	.556**	.668**	1	.527**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	50	50	50	50	50
OP	Pearson Correlation	.506**	.508**	.651**	.527**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	50	50	50	50	50

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

Source: Research data (2019)

The result of correlation matrix between each SCM practice constructs and OP are analyzed as follows:

As it is shown in the table 4.7 above, strategic supplier partnership positively related to OP with a Pearson correlation coefficient of 0. 506 (r=0. 506) and significance value of less than 0.001. This significance tells that there is genuine relationship between strategic supplier partnership and OP.

Similarly, there is strong positive relationship between customer relationship management (CRM) and OP with a Pearson correlation coefficient of 0. 508 (r=0.508) and significance value is less than 0.001. This significance indicated that there was positive and strong relationship between customer relation and operational performance.

In line with level of information sharing (LIS) there is significant positive correlation with OP with a Pearson correlation coefficient of 0.651 (r=0.651) and significance value of less than 0.001. And it clearly shows there is strong and positive relationship between level of information sharing and OP.

For Pearson correlation test conducted to know whether there is significant correlation or not between Quality of Information sharing (QIS) and OP, table 4.1 clearly indicates that there is positive relation between Quality of Information sharing and OP with a correlation coefficient of 0.527 (r=0.527) and significance value less than 0.001 which indicates there is genuine relation between them.

4.3.1.2 Correlation between Supply Chain Management Practices and Operational Performance

Table 4.8: Correlation Matrix between Supply Chain Management Practices and Operational Performance

		SCM practice	OP
SCM practice	Pearson Correlation	1	.655**
	Sig. (2-tailed)		.000
	N	50	50
OP	Pearson Correlation	.655**	1
	Sig. (2-tailed)	.000	
	N	50	50

**. Correlation is Significant at the 0.01 Level (2-Tailed)

Source: Research data (2019)

Pearson correlation test was conducted between SCM practice (collective representative of four constructs of SCM practice) and OP. As it has been depicted on the above table 4.8 there is positive relationship between SCM Practices and OP with a Pearson correlation coefficient of 0.655 (r=0. 655) and significance value less than 0.001. This significance tells that there is genuine relationship between SCM practices and operational performance.

4.3.2 Regression Analysis

The regression analysis was conducted to know by how much the independent variable explains the dependent variable. The regression was done between SCM practice constructs (independent variable) and OP (dependent variable). With this linear regression model, the p-value ("sig" for significance") of the predictor's effect on the criterion variable, if less than 0.05 is generally considered "statistically significant". The model specification is as follows: Linear Regression model:

$Y = \beta0 + \beta1\ X1 + \beta2\ X2 + \beta3\ X3 + \beta4\ X4 + \epsilon$ where Y = Operational performance; β0= the y intercept when x is zero; β1, β2, β3, β4, are regression coefficients of the following variables respectively; x1- SRM; x2- CRM; x3- LIS; x4- QIS; ϵ is the error term. Therefore, based on this model the results of the regression analysis are presented as follows:

4.3.2.1 Multi Collinearity Test

Table 4.9: Multi collinearity test of independent variable

Model	Tolerance	VIF
Customer relationship management	.530	1.888
Level of information sharing	.461	2.167
Quality of information sharing	.502	1.993
Strategic supplier partnership	.531	1.884

Dependent Variable: operational performance.

Source: Research data (2019)

The result in table 4.9 shows that the co linearity between independent variables has no series problem. Since the value of tolerance for all independent variable is greater than 0.1 and all VIF is less than ten (VIF<10).

4.3.2.2 Coefficient of determination, R 2

Table 4.10: Coefficient of determination, R square

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.683[a]	.467	.419	.38659

a. Predictors: (Constant), SSP, QIS, CRM, LIS

Source: Research data (2019)

As it has been stipulated on the table 4.9 above, the significant and positive β coefficient implies that SCM practices have a positive influence on OP. The coefficient of determination, adjusted R2 is .419, meaning that 41.90% of the variation in operational performance (OP) is explained by the variation in SSP, CRM, LIS and QIS. This shows there is causal relationship between SCM practices and OP. The remaining 58.10% of the variation in operational performance cannot be explained by the above dimensions of SCM practices. Therefore, there are other additional factors that can explain the variability in this variable. The implication for this is the multi-dimensionality of SCM practices covers set of activities and processes from firm's internal operations to upstream and downstream sides of supply chain to achieve the ultimate common goal of improving OP.

4.3.2.3 ANOVA Test

Table 4.11: ANOVA Test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.887	4	1.472	9.847	.000[b]
	Residual	6.725	45	.149		
	Total	12.612	49			

a. Dependent Variable: OP

b. Predictors: (Constant), SSP, LIS, QIS, CRM

Source: SPSS generated result (2019)

This study used ANOVA to determine the significance of the regression model from which an F-significance value of $p<0.001$ was established. This shows that the regression model has a less than 0.001 likelihood (probability) of giving a wrong prediction. Hence, from the table 4.11 below, the regression model is overall statistically significant, meaning that it is a suitable prediction model for explaining how SCM Practices affects the OP.

4.3.2.4 Coefficients Results

Table 4.12 Coefficients Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.678	.359		4.669	.000
	CRM	.097	.103	.140	.938	.353
	LIS	.384	.138	.445	2.775	.008
	QIS	.077	.123	.096	.623	.537
	SSP	.075	.102	.110	.734	.467

Dependent variable: Operational Performance

Source: SPSS generated result (2019)

On the above table the beta values show that the magnitude of influence between variables, higher values being an indication of strong influence. From the above table 4.12 coefficients results, the following regression analysis was obtained:

$$Y = 1.678 + 0.075X1 + 0.097X2 + 0.384X3 + 0.077X4 + \epsilon$$

The model shows that when all variables are held at zero (constant), the value of OP would be 1.678. But when holding other factors constant, a unit increase in Supplier Relationship Management would lead to a 0.075 increase in OP, a unit increase in Customer Relationship Management would lead to a 0.097 increase in OP, a unit increase in level of Information Sharing Practice would lead to a 0.384 increase in OP, and a unit increase in quality of information sharing practice would lead to a 0.077 increase in OP.

In this study, LIS Practice had highest Beta coefficient of 0.384. This result implies that LIS Practice has highest impact on OP.

Whereas, CRM, is found to be the second most significant SCM practice dimension with Beta value of 0.097 implying that this dimension is significantly related and strongly influence OP. Then the influence on OP is followed by QIS practice and SSP with Beta value of 0.077 and 0.075 respectively.

4.4 Discussion of the Results

The second and third specific objective of the study was to empirically test a framework identifying the relationships among SCM practices and OP with special emphasis on PPI in Addis Ababa. The literature has suggested that there is a relationship between SCM practices and OP. However, the dimensions used in expressing SCM practices and the measures of OP, may not be directly the same with the framework used in the previous studies.

This study makes contributions by exploring the relationship between SCM practices and OP. The results of the study are discussed below:

As the test results indicate there is positive relationship between SSP and OP with correlation coefficient of 0.506 (r=0.506) and significance value less than 0.001. The evidence from the review literature shows as 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 (Tan *et al*., 2002). As Li *et.al* (2006) also described, effective partnerships with suppliers can be critical factor to guide competitiveness of organizations in the supply chain. This result is supported by Tagesse (2017) in which SPP was one of the most important areas that facilitate effectiveness of SCM practice within the company and with supply chain members. The correlation coefficient of this study was .763 (r=0763), which is a bit higher. These may be as the research tried to study the effect of SCM practices on OP, showed that it has a positive effect, but the level of its effect may vary (Kumar and Kushwaha, 2017)

The second construct/practice of SCM is CRM, which is positively correlated with OP with Pearson correlation coefficient 0.508 (r=0.508) and significant level less than 0.001. And this result is supported by Kumar and Kushwaha (2017) with evidence that customer relationship management (CRM) construct has impact on OP. In addition Haque and Islam (2013) explained that SCM practices play an important role in reaping and retaining customer satisfaction in the pharmaceutical industry. This statement indicates that customer relationship management plays vital role to enhance OP of the organization.

This study is consistent with a study done in Ethiopia on five pharmaceutical companies which indicates CRM should be in the best attention of business organizations to take a proactive role in the management of their supply chain in establishing a strong position over its competitors and achieving their goals (Aboneh, 2017). In addition it is supported by the study done by Tagesse (2017) with Pearson correlation coefficient of 0.683 (r=0.683).

The other SCM practice was LIS which has strong positive relationship with OP with correlation coefficient of 0.651 (r=0.651) and significant value less than 0.001. This result is consistent with the work of Lalonde (1998) which describes sharing of information as one of five building blocks that characterize a solid supply chain relationship and have an impact on the performance of organizations in supply chain. As Alireza *et al.* (2011) also stated integration and coordination across supply chain can be well provided through information sharing. From Alirezas' statement, it is possible to conclude as there is positive relationship between information sharing and OP of the firm in the supply chain. Haque and Islam (2013) explained that LIS practice exerts the highest impact on OP which is consistent with this study in which LIS is the highest. On the research topic SCM measurement and its influence on OP conducted by Priscila and Luiz (2011), information sharing influences OP in case of Brazilian companies.

Quality of information sharing is the other construct of SCM practices which has positive and strong relation with OP with correlation coefficient 0.527 (r=0.527) and significance value less than 0.001. This finding is supported by the work of Child house and Towill (2003). (Kumar and Kushwaha, 2017) also describes, quality of information sharing construct has the highest impact on operational performance. A study done in Ethiopia on five pharmaceutical companies indicates that quality of information sharing has positive and significant influence on

organizational performance (Aboneh, 2017). In Addition this it is supported by a study done by Tagesse (2017) with Pearson correlation coefficient of 0.746 (r=0.746).

In general, there is a significant positive relationship between SCM practices and operational performance with a Pearson correlation coefficient of 0.655 (r=0. 655) and significance value less than 0.001. SCM practice also explains 41.90% operational performance. This finding is consistence with study conducted by Miring'U (2015) which describes SCM practice showed positive influence on OP and organizations keen on enhancing OP should seek to adopt SCM practices. And it explained to keep on the positive impact of SCM practice on OP there should be continually monitoring and evaluation for effectiveness. The other study by Lenny Koh *et al*. (2007) concludes that by implementing SCM practice has indirectly a significant impact on the operational efficiency. The other study conducted in India on the effect of SCM practice on OP of fair price shops provides evidence that SCM practices (customer relationship, information technology, and Information Quality) positively impact the OP of the organization (Kumar and Kushwaha, 2017). In addition, a study done by Kazi (2012) suggested that effective SCM practice impact positively on the OP as a whole and all the competitive priorities, providing support for the cumulative capability's perspective at Kenya medical supply agency.

CHAPTER FIVE

SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Summary

This study was aimed at analyzing the effect of supply chain management practices on OP of PPI in case of Addis Ababa. The specific objectives of the study include identifying the existing practices of supply chain management from the four SCM practices perspectives, determining the relationship between SCM practices and OP and revealing the effect of SCM practices on OP of private pharmaceutical importers. The study was basically conducted by using primary data. The primary data for this study was collected through self-administered standard questionnaire. The study used 50 PPI selected using probability sampling particularly simple random sampling technique.

5.2 Summary of the Findings

The research indicated that there is an application of SCM practices in PPI. The following finding summary of the study was made based on the quantitative data analysis, discussion of results.

The level of strategic supplier partnership between the PPI and suppliers was analyzed based on descriptive statistical analysis considering quality as number one criterion in selecting suppliers, PPI regularly solve problems jointly with suppliers, regularly measures supplier's contribution to profitability , suppliers understand how their decisions/actions affect the SRM process , SRM process requirements are determined by cross functional team, People throughout PPI understand how their decisions/actions affect SRM process ,formal performance goals for supplier

relationship management, include key suppliers in planning and goal setting activities and helped suppliers to improve their product quality as variables. The obtained mean value of these variables was 4.08, 4.14, 3.46, 3.68, 3.60, 3.32, 3.62 and 3.88 respectively and this implies that the PPI under this study have average practice of strategic relationship with their suppliers. Whereas, the mean value of quality as number one criterion in selecting suppliers and regularly solve problems jointly with suppliers were 4.08 and 4.14 respectively which is relatively better and close to high level of performance/practice. Generally, the group mean was 3.67 which states PPI SSP have average practice.

Customer relationship was another construct of SCM practice with a group mean of 3.20 which is at the moderate level. This gap is highly reflected due to poor performance of compliance with developing customer Relationship management (CRM) process team, developing metrics that are related to the customer's impact on firm's profitability, developing metrics that are related to firm's impact on the customer's profitability and measuring customers' profitability over time, with the mean value of 2.62, 2.92, 2.94 and 2.72 respectively. Whereas, CRM metrics are tied to firm's financial performance and frequently interact with customers to set reliability, responsiveness, and other standards had mean value of 3.00 and 3.72 respectively; which is a moderate performance level.

Surprisingly, frequently measuring and evaluating customers' satisfaction and periodically evaluating the importance of relationship with customers scored similar mean value of 3.30 at the moderate level. On the other hand, order delivery fulfillment requirements of the major customers had better practice with mean value of 4.32.

With regard to the level of Information sharing practice, PPI performance level was generally moderate, with mean value of 3.40. On the other hand, informing customers on Pharmaceutical supply forecast Information was poor. The remaining items have moderate level performance.

The other information related construct was quality of information sharing with group mean of 3.56. The findings indicated that the mean value of accurate information exchange was the highest (3.72). And the remaining items have moderate level of performance which is the same with the group mean performance.

All indicators of OP had a mean score of greater than 3.36, which implies to the fact that the organization achieves moderate performance in price/cost, quality and delivery dependability. The study also found that majority of the respondents agreed with performance of the organization with regards to price/cost, quality and delivery dependability perspectives as shown by an average mean score of 3.842, which was closer to Quality perspective which would mean that an average of the respondents agreed that the organization achieved better in Quality indicator.

In general, from the whole construct of SCM practice developing customer Relationship management (CRM) process team and informing customers on Pharmaceutical supply forecast Information were poor with equal mean value of 2.62 in PPI.

This study also had the objective of testing relationship between SCM practices constructs and operational performance. The test result indicated that SCM practices has a positive significant effect on OP with correlation coefficient ($r=0.655$) at significance level less than 0.001. For SSP, a correlation coefficient of 0.506 was obtained depicting a significant relationship with OP.

And CRM has a correlation coefficient of 0.508 which is significant, while LIS relationship with OP was a strong with correlation coefficient of 0.651. In addition, QIS has the correlation coefficient of 0.527, and this indicates that there is a significant relationship between QIS and OP.

With the regression model the study found that when all variables of SCM practice are held at zero (constant), the value of OP would be 1.678. But when holding other factors constant, a unit increase in strategic supplier partnership would lead to a 0.075 increase in OP, a unit increase in customer relationship management would lead to a 0.097 increase in OP, a unit increase in level of information sharing practice would lead to a 0.384 increase in OP, and a unit increase in quality of information sharing practice would lead to a 0.077 increase in OP. In addition, 41.90% of variability of OP is explained by SCM practices. Specifically there was a positive significant influence by LIS (p=.008) on OP of PPI.

5.3 Conclusion

The pharmaceutical sector in Ethiopia is becoming a very sensitive environment where maximum efficiency and sustainable SCM are critical to save lives and for the success of a company. And, in the current business environment managing the supply chain is becoming an increasingly important practice to enhance OP. Based on the results of the study and the summary of findings, the study concludes PPI has moderate SCM practice. Specifically appropriate forecast information for customers and customer Relationship management (CRM) process team does not get emphasis by PPI. The study concludes that there is a significantly positive relationship between SCM practices and OP.

In addition the application of SCM practices in PPI has a positive influence on OP through price/cost, quality and delivery dependability.

Therefore, this suggests that PPI keen on enhancing OP, should seek to adopt SCM practices. In addition, from the questionnaire analysis, we can conclude that even though PPI are applying SCM practices moderately, it's hard to say that companies are effective in implementing them successfully**.**

5.4 Recommendation, Research Limitation and Areas of Future Research

Recommendation

Although, private pharmaceutical importers are doing moderately in implementing SCM practices, they have also deficiencies. Therefore, recommendations are forwarded below.

- Most of the SCM practice constructs (CRM practice, level and quality of information sharing and SSP practice) have moderate level of performance/practice; therefore, PPI should work on to establish effective SCM practice.
- Due to the concerns on the SCM practice at PPI level that leads to wastage and stock out of pharmaceuticals which are imported by the country scarce resource, appropriate forecast information for customers and customer Relationship management (CRM) process team should get emphasis by PPI specifically.
- PPI need to be clear about SCM practice(strategic supplier partnership, customer relationship management, level of information sharing and quality of information sharing) dimensions and they should excel and invest on all four dimensions because they have strong relationship.

- In general, PPI should improve their OP by applying a quality SCM practices, and by evaluating and proactively implementing changes in response to the dynamic business environment. So, PPI should consider SCM practices as a core activity hence it has an impact on the variability of their OP.

Research Limitation

This research was limited to a small sample; future research should attempt to sample from a larger population of pharmaceutical organizations 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 in the pharmaceutical sector.

Traditional data secrecy behavior of most PPI was the challenge of the study. The questionnaires were administered on drop and pick later method, it was challenging to have volunteer respondents who are willing to commit their time and fill the questionnaires timely, adequately and appropriately. Finally, time and other resources were limited to the study.

Implication for Future Research

It should be noted that the SCM practices may be influenced by contextual factors, such as the type of organization, size of company, a firm's position in the supply chain, supply chain length, and the type of a supply chain. For example, the level of customer relationship practice, measured by customer satisfactions and expectations, maybe higher for company located at the end of a supply chain (close to the consumer). The larger organizations may have higher levels of SCM practices since they usually have more complex supply chain networks necessitating the need for more effective management of supply chain.

The quality of information sharing maybe influenced negatively by the length of a supply chain, information suffers from delay and distortion as it travels along the supply chain, the shorter the supply chain, the less chance it will get distorted.

In another way, the concept of SCM is complex and involves a network of companies in the effort of producing and delivering a final product, it is difficult to cover entire domain just in one study. Future research can expand the domain of SCM practice by considering additional dimensions such as geographical proximity, cross-functional coordination, logistics integration, and agreed supply chain leadership, which have been ignored from this study.

The future study can also test the relationships/dependencies among four dimensions of SCM practices. For example, level of information sharing may require the establishment of a strategic supplier partnership and customer relationship management.

This study focuses on showing relationship between SCM practices and OP at one level of supply chain, future research can study SCM issues at the supply chain level i.e. downstream and upstream. It will be good to use the respondents from pairs of organizations at two ends of supply chains.

By comparing different view of SCM practices from organizations across the supply chain, it is possible to identify the strength and weakness of the supply chain and also the best common SCM practice across the supply chain.

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Appendix I

Questionnaire

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE MASTER OF LOGISTICS & SUPPLY CHAIN MANAGEMENT PROGRAM QUESTIONNAIRE

Dear Respondent,

This questionnaire is designed for the purpose of gathering information on the study under the title "Effects of Supply Chain Management Practices on Operational Performance of Private Pharmaceutical Importers in Addis Ababa, Ethiopia". This study is being carried out as a requirement in partial fulfillment for award the Degree of Master in Logistics & Supply Chain Management. Please note that, the study is purely for academic purpose thus does not affect you in any case. You are hereby assured that the information will be treated with the strict confidence. No one other than the researcher will see your completed questionnaire. Therefore, your genuine, frank and timely response is vital for fruitfulness of the study.

General Instructions:

- It is not expected to write your name.
- Base your answers on your own actual work experiences
- Please make tick mark (√) in the appropriate box for answer options that are provided.
- This questionnaire will take approximately 25 to 30 minutes based on your answers.

Please don't hesitate to contact me for any inquiry, I am available as per your need at mobile: 0911- 545709 or e-mail: assegid.bekele@yahoo.com

Thank you in advance for your committed cooperation, time and consideration!!!

Sincerely Yours,

Assegid Bekele

PART I: SOCIO-DEMOGRAPHIC INFORMATION

1. Sex

   ☐ Male ☐ Female

2. Age

   ☐ Under 25 years old ☐ 25-34 years old

   ☐ 35-45 years old ☐ above 45 years old

3. Educational attainment

   ☐ Diploma ☐ Degree ☐ Master ☐ Doctoral level

4. Work experience in this company

   ☐ Less than 2 years ☐ 2-5 years ☐ 6-10 years ☐ Greater than 10 years

5. Current Position/ Title in the company

   ☐ Technical manager ☐ Store manager ☐ Sales man ☐ other

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

   ☐ Finance ☐ Sales/Marketing ☐ Regulatory ☐ Logistics/transport/distribution

   ☐ Supply chain management ☐ Supply/Purchasing/Procurement

   Others, please specify_____

PART II: ITEMS ON SUPPLY CHAIN MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE

Section One: Supply Chain Management Practices

The statements below describe the extent of supply chain management practices perhaps as undertaken by private pharmaceutical importer. For each statement, please indicate the degree to which you agree or disagree with the associated statements. Specifically, the scale with the following response formats may be used in providing your perception pertaining to these practices of your employer company.

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

Please make a tick mark (√) under the appropriate number to indicate the extent to which you agree or disagree with each statement.

1. Customer relationship management

CRM	**Customer relationship management**					
S.no	**Description**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	2	3	4	5
1	Our company has developed customer Relationship management (CRM) process team					
2	Our company actively work on order delivery fulfillment requirements of the major customers					
3	Our company develops metrics that are related to the customer's impact on our firm's profitability					
4	Our company develops metrics that are related to our firm's impact on					

	the customer's profitability					
5	Our company CRM metrics are tied to our firm's financial performance					
6	Our company measures customers' profitability over time					
7	We frequently interact with customers to set reliability, responsiveness, and other standards for us					
8	We frequently measure and evaluate customers' satisfaction					
9	We periodically evaluate the importance of our relationship with our customers					

2. Level of Information Sharing (LIS)

LIS	**Level of Information Sharing**					
s.no	**Description**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	2	3	4	5
1	We inform our customers on Pharmaceutical supply forecast Information					
2	We inform our suppliers on Pharmaceutical supply forecast Information					
3	We inform trading partners in advance of changing needs					
4	Our trading partners keep us fully informed about issues that affect our business					

5	Our trading partner share business knowledge of core business processes with us					
6	We and our trading partners exchange information that helps establishment of business planning					
7	We and our trading partners keep each other informed about event or changes that may affect the other partners					

3. Quality of Information Sharing (QIS)

QIS	**Quality of Information Sharing**					
s.no	**Description**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	2	3	4	5
1	Information exchange between our trading partners and our company is timely					
2	Information exchange between our trading partners and our company is accurate					
3	Information exchange between our trading partners and our company is complete					
4	Information exchange between our trading partners and our company is adequate					
5	Information exchange between our trading partners and our company is reliable					

4. Supplier Relationship Management

SRM	Supplier Relationship Management					
s.no	**Description**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	2	3	4	5
1	We consider quality as our number one criterion in selecting suppliers					
2	We regularly solve problems jointly with our suppliers					
3	We have helped our suppliers to improve their product quality					
4	We include our key suppliers in our planning and goal setting activities					
5	Our company has formal performance goals for supplier relationship management (SRM)					
6	Our company regularly measures our supplier's contribution to our profitability					
7	Our suppliers understand how their decisions/actions affect the SRM process					
8	SRM process requirements are determined by cross functional team					
9	People throughout our company understand how their decisions/actions affect SRM process					

Section Two: Operational Performance

With regard to operational performance of your company, use the following Rating Scales under the columns and please, tick (√) only one box from the given box after reading the variable.

Please note that a scale with the following response format may be used in this section.

1= strongly disagree. 2=disagree. 3 =neutral. 4=agree. 5=strongly agree.

OP	**Operational performance**					
Price/ Cost						
No.	Description	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
1	Our company has the ability to offer prices as lower(in attractive price) than competitors					
2	Our company utilizes its full capacity					
3	Our company has high level of inventory turnover					
4	Our company run operation with less cost					
5	We offer competitive prices					
Quality						
6	Our company has ability to compete based on quality					
7	Our company has ability to offer products that are highly reliable					
8	Our company has ability to offer products having Compliance to regulations					
9	Our company has capacity to offer high quality products to customer					

Delivery dependability						
10	Our company has ability to deliver the kind of products needed					
11	Our company has ability to deliver customer order on time					
12	Our company has ability to provide dependable/faithful delivery					
13	Our company solve customer complaints promptly					
14	Our company process customer orders on time					

For any comment:

_____

_____

_____

Thank you very much once again for sacrificing your valuable time!!

Appendix II

SPSS Generated Result (2019)

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	35	70.0	70.0	70.0
	Female	15	30.0	30.0	100.0
	Total	50	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	under 25 years	1	2.0	2.0	2.0
	25-34	37	74.0	74.0	76.0
	35-45	10	20.0	20.0	96.0
	above 45	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Educational attainment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	5	10.0	10.0	10.0
	Degree	40	80.0	80.0	90.0
	Master	5	10.0	10.0	100.0
	Total	50	100.0	100.0	

Work experience in this company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 2 years	14	28.0	28.0	28.0
	2-5 years	19	38.0	38.0	66.0
	6-10 years	16	32.0	32.0	98.0
	above 10 years	1	2.0	2.0	100.0
	Total	50	100.0	100.0	

Current Position/ Title in the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	technical manager	18	36.0	36.0	36.0
	store manager	6	12.0	12.0	48.0
	sales man	20	40.0	40.0	88.0
	Other	6	12.0	12.0	100.0
	Total	50	100.0	100.0	

Current responsibility Frequencies

		Responses		Percent of Cases
		N	Percent	
current responsibility frequency	Finance	2	2.5%	4.0%
	sales	28	35.4%	56.0%
	regulatory	14	17.7%	28.0%
	logistics	8	10.1%	16.0%
	scm	15	19.0%	30.0%
	supply	12	15.2%	24.0%
Total		79	100.0%	158.0%

a. Dichotomy group tabulated at value 1.

Reliability Statistics of SSP

Cronbach's Alpha	N of Items
.917	9

Reliability Statistics of CRM

Cronbach's Alpha	N of Items
.866	9

Reliability Statistics of LIS

Cronbach's Alpha	N of Items
.813	7

Reliability Statistics of QIS

Cronbach's Alpha	N of Items
.855	5

Reliability Statistics of OP

Cronbach's Alpha	N of Items
.860	14