



St. Mary's
University ቅዱስ ግርግም
ዩኒቨርሲቲ
committed to excellence

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**RELATION OF SUPPLY CHAIN MANAGEMENT PRACTICES
WITH ORGANIZATIONAL COMPETITIVENESS: THE CASE
OF ETHIOPIAN PULP AND PAPER S.C (EPPSC)**

BY: MEKDES TILAHUN

JUNE, 2017

ADDIS ABABA, ETHIOPIA

**RELATION OF SUPPLY CHAIN MANAGEMENT PRACTICES
WITH ORGANIZATIONAL COMPETITIVENESS: THE CASE
OF ETHIOPIAN PULP AND PAPER S.C (EPPSC)**

**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR MASTER OF BUSINESS ADMINISTRATION
(MBA GENERAL)**

BY: MEKDES TILAHUN

ADVISOR: SOLOMON MARKOS (PhD)

JUNE, 2017

**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
FACULTY OF BUSINESS**

**RELATION OF SUPPLY CHAIN MANAGEMENT PRACTICES WITH
ORGANIZATIONAL COMPETITIVENESS: THE CASE OF ETHIOPIAN PULP
AND PAPER S.C (EPPSC)**

BY

MEKDES TILAHUN

APPROVED BY BOARD OF EXAMINERS

Dean, Graduate Studies

Signature& Date

Advisor

Signature& Date

External Examiner

Signature& Date

Internal Examiner

Signature& Date

TABLE OF CONTENTS

ContentsPage

LIST OF Tables	viii
LIST OF FIGURES.....	ix
DECLARATION.....	xi
ACRONYMS.....	xii
ABSTRACT.....	xiii
CHAPTER ONE	1
INTRODUCTION	1
1.1. Background of the study.....	1
1.2. Background of the organization.....	2
1.3. Statement of the problem.....	3
1.4. Hypothesis of the study.....	5
1.5. Objective of the study.....	5
1.6. Significance of the study	5
1.7. Scope of the study	6
1.8. Limitation of the study.....	6
1.9. Organization of the paper.....	6
CHAPTER TWO.....	7
LITERATURE REVIEW	7
2.1. Overview of Supply Chain Management.....	7
2.1.1. The Need for Supply Chain Management	12
2.1.2. Creating Effective Supply Chain.....	13
2.1.3. Challenges of Supply Chain	16
2.2. Key Issues in Supply Chain.....	19
2.3. Competitive Advantage and Competitiveness with Supply Chain	20
CHAPTER THREE	35
RESEARCH METHODOLOGY	35
3.1. Research Design.....	35
3.2. Target Population and Sampling Techniques.....	35

3.3. Data Types and Source	35
3.4. Data Gathering Instruments	36
3.5. Procedure of data gathering	36
3.6. Data Analysis Method.....	36
3.7. Validity and Reliability	36
3.9. Ethical Issues of the Research	37
CHAPTER FOUR.....	38
DATA PERESENTATION, ANALYSIS AND INTERPRETATION	38
4.1. Introduction.....	38
4.2. Response rate on Questionnaire	38
4.3. Demographic Characteristics of the Respondent	38
4.4. Descriptive Statistics of Variables	39
4.4.1. Perception Level of Employees on SCM Practices and Organizational Competitiveness	39
4.4.2. Employees' Perception on Strategic Supplier relationship management	40
<i>Table 4.3: Mean and Standard Deviation Results of Strategic supplier relationship management</i>	40
4.4.3. Employees' Perception on Internal Supply Chain management	41
4.4.4. Employees' Perception on customer relationship management	42
4.4.5. Employees' Perception on Organizational Competitiveness	43
4.4.6. Employees' Perception on <i>supply chain performance measurement</i>	45
4.5. Results and Discussion of Inferential Statistics	47
4.5.1. Correlation result of supply chain management practices and organizational competitiveness.....	47
4.5.2. Discussion of the Correlation Results and Hypothesis Testing Results	48
CHAPTER FIVE	51
SUMMARY, CONCLUSION AND RECOMMENDATION	51
5.1. Summary of Major Findings.....	51
5.2. Conclusion	52
5.3. Recommendation and Future Research Implications	52
REFERENCE.....	54
Appendix I: Questionnaire.....	Error! Bookmark not defined.
Appendix II: SPSS outputs	61

LIST OF Tables

Table	Page
Table 3.1: Target population of the study.....	35
Table 3.2: Cronbach's Alpha for each field of the questionnaire.....	37
Table 4.1: Frequency and %age of Respondents' Demographic Characteristics.....	39
Table 4.2: Mean Score Range for Five-Scale Likert's Response.....	40
Table 4.3: Mean Standard Deviation results of SRM.....	40
Table 4.4: Mean and Standard Deviation Results of ISCM.....	41
Table 4.5: Mean and Standard Deviation Results of CRM.....	44
Table 4.6 Mean and Standard Deviation Results of organizational competitiveness.....	46
Table 4.7: Mean and Standard Deviation Results of supply chain performance measurement...	48
Table 4.8: Correlations between SCM and organizational competitiveness.....	50

LIST OF FIGURES

FIGURE	Page
Figure 2.1: The basic model of Porters Value Chain	14
Figure 2.2: Four ways to create competitive advantage	31
Figure 2.3: Conceptual Frame work	34

ACKNOWLEDGMENTS

First, I want to thank my almighty God for the endless love in every step of my life. Next, my advisor Dr. Solomon Markos for his best leading guidance, support and encouragement throughout doing my research work. Third, I thank the EPPSC employees who participated in filling the questionnaire and the colleagues who give special support on much willing. Last, but not the least, I would like to express my deepest gratitude to my beloved father Tilahun for his endless support with my lovely Mom Aweyeand also special thanks for my dear brother Tamirat Tilahun and my best friend Tequamwork Assefa, they were always by my side encouraging me and contributing their part in the whole journey of my life.

DECLARATION

I, MekdesTilahun declare that this research paper entitled “**Relation of Supply Chain Management Practices with Organizational Competitiveness. The Case of Ethiopian Pulp and Paper S.C (Eppsc)**” is my original work, and has not been presented for a degree or diploma in any other university and it is in partial fulfillment to the requirement of the program of Masters of Art (MA) Degree in Business Administration.

Declared by,

MekdesTilahun

Student Signature

Date

ACRONYMS

SCM	Supply Chain Management
SRM	Strategic Supplier Relationship Management
ISCM	Internal Supply Chain Management
CRM	Customer Supplier Relationship Management
OC	Organizational Competitiveness

ABSTRACT

To sustain a competitive advantage, a company should focus on over all practice of supply chain management. That passes on inbound, operation and outbound logistic sections. Therefore, the study is conducted to determine to what extent the supply chain management related with the competitiveness of the organization under study. That is Supply chain management is described by three practices. These are: strategic supplier relationship management, internal supply chain management and customer relationship management with the variable of organizational competitiveness; cost efficiency, technological advancement and demand condition. To achieve the study objective, explanatory research design along with quantitative approach has been employed. The target population of this study is 49 employees in EPPSc including professionals working on the areas of inbound logistics, operations and outbound logistics sections. Both primary and secondary sources of data were used. Primary data was taken from Survey. Statistical package for social sciences (version 20) was used in running the outcomes of the study. The data obtained from primary sources were analyzed descriptively. Pearson's Correlation was used to determine the relationship between two variables. The response of employees showed that the company has loose supply chain practice which affects its competitiveness in the market. The study found a strong, positive and significant relationship between all SCM practices and organizational competitiveness. Among the three supply chain practices (SRM, ISCM and CRM), Strategic Supplier relationship management (SRM) was identified and concluded as the practice with the highest relation with the organizational competitiveness and the lowest practice from the other practices is internal supply chain or the operation system of the company.

Key words: - Supply chain management, Organizational competitiveness

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

To be able to win, or even to survive, in this changing environment of business - to have products available at the right time and in the right place - a company must remain competitive. The paradigm of modern business has shifted the focus of competition from independent firms to business networks such as supply chains (Mentzer, 2004). Leading companies have recognized that they must eliminate any inefficiency in their supply chains, but there still exist some barriers to supply chain optimization such as technology incompatibility, inappropriate knowledge and leadership management in company, price pressures, low communication (Bratić, 2011).

The supply chain starts with the extraction or raw material (or origination of raw concepts for services) and each link in the chain processes the material or the concept in some way or supports this processing. Arguably, it should also cover the disposal of waste associated with the consumed product. The recognition of the supply chain as a key and vital area both in the public and private sectors would focus attention on its effectiveness (Quayle, 2006).

There are some dimensions of supply chain performance based on supply chain processes and management which have direct influence to competitive advantage: resource, output, flexibility, innovativeness and information. So, improving supply chain performance has become one of the critical issues for gaining competitive advantage for companies (Bratić, 2011).

Business in those days focused primarily on managing finished product as it came off manufacturing lines (Gattorna, 2009). SCM focuses on how companies utilize their suppliers' processes, technology and capability to enhance competitive advantage, and the coordination of the manufacturing, logistics and materials management functions within an organization (Farley, 1997; Lee and Billington, 1992); (Bratić, 2011:2).

A value stream consists of all activities, both value added and non-value added, required to bring a product from raw material into the hand of customer, a customer required from order to delivery and a design from concept to launch (Pyzdek and Keller, 2008).

Though, the flow of supply chain in the organization can be measured by value adding activities of production factors those are capital, raw material and people with activities of the organization these are personnel, finance, production and marketing. But main concern on primary section of the organization such as sourcing, manufacturing & marketing, that have competitive advantage in running the optimum level. So to smoothness of the chain, the company has to give concern in production capacity as well as cost saving mechanism of these process.

1.2. Background of the organization

For companies that produce goods, the supply chain starts with the raw material used to make the products and consistent of everything that is added to before it sold to consumer. The end result is that customers derive the most benefit product for the cheapest cost, which improves the company bottom line in the long run. That means in manufacturing, where the manufacture adds value by taking a raw material of little use to end user (for example, wood pulp) and converting it into something that people are prepared to pay money for (example, paper).

The paper and paperboard industry has a high contribution to the economy and social life of a country. Papermaking is a very old industry dating back approximately 2,000 years. It started in China, when it spread very slowly to northwestern Europe via Samarkand in Russian Turkestan, Baghdad. The Chinese used the inner bark of the mulberry tree as the raw mater for their paper. In Samarkand, the absence of the mulberry tree led the Arabs to use linen fibers. In Europe, rags-both linen and, later, also cotton constituted the chief raw material (Anderson, 1942).

Also these days Pulp and paper industry around the world has been grown rapidly. Hence in the case company Paper production starts from importing the processed pulp from other countries that means the production of pulp in the country is not there until now too. The pulp is received in the form of pressed sheets which have to be broken down in water so that the pulp is suitable for use. In doing so the company has different complex chain that will be bottle neck for sustainable growth (Melesse, 2015).

The Ethiopian Pulp and Paper share company (EPPSC) is established in August 05, 1963G.C as an independent legal entity. The shareholders of the company were government and internal fund corporation (IFC) who account 70 and 30% respectively. During its establishment the company produce paper product of 25 ton daily and 8500 ton annually. The company has two manufacturing plants of which one is paper production plant with design capacity of 15,982 ton/year which produce clusters of paper products and the other one is corrugated box production plant with design capacity of 11,470 ton/year. This capacity is designed after Second upgrading study was completed by Sand Well Inc in 20015. According to the study made in 2006, EPPSC has got a 38% market share in corrugated box market of our country. In addition to that the organization has 25% market share in wrapping paper.

FDRE ministry of industry announced it is working to save foreign currency the country spends to import paper products from abroad. Currently there are only two factories in the country manufacturing paper products, covering a limited amount of local demands for the product. Ethiopia imported more than 117,000 tons of paper and pulp in 2013, spending more than 2.6 billion birr, according to data from Chemicals And Construction Input Industry Development Institute at the Ministry (Ethiopia business news, entrepreneurial tips and business directory, 2015).

The paper production in EPPSC produce paper using foundries machine which is a standard machine for paper production. The company's paper machine is composed of **Forming machine, Press machine Drying section and CALENDER/REEL section**. The paper machine makes printing and writing papers and paperboards in the 45 to 350gsm weight ranges.

The company has different 12 directorates that have their own department on their structure. These departments has passes in the overall supply chain parts on their practices, i.e inbound, operation and outbound sections.

1.3. Statement of the problem

The strategic fit requires that the company's supply chain achieve the balance between responsiveness and efficiency that best meets the needs of the company's competitive strategy. To understand how a company can improve supply chain performance in terms of responsiveness and efficiency, we must examine the logistical and cross functional drivers of supply chain performance: facilities, inventory, transportation, and information, sourcing, and

pricing (Chopra and Meind, 2007). Competitiveness is an important factor in determining whether a company prospers, barely gets by, or fails (Stevenson, 2002).

The EPPSC invests much amount of its working capital for procurement. According to financial statement report from finance department in the EPPSC, more than 60% the cost of goods sold is spent on the raw material procurement .Shortage of capital due to lack of available raw material for production of paper and corrugated box, plus unavailability of maintenance parts with lack of labor experts is the main problem that the organization faces. These drawbacks affect the outbound logistics part of supply chain in related to increasing of paper and corrugated box prices. Pricing affects the behavior of buyer of the good or service, thus affecting supply chain performance. Pricing is a significant attribute through which a firm executes its competitive strategy. Most supply chain activities display economics of scale. Changeovers make small production runs more expensive per unit than large production run. A company used approach is to offer quantity discounts (Chopra and Meind, 2007). In other side to expand using recycling paper in a smart way is cost effective for production compare to expensive long chain of importing pulp from abroad.

A mistake in procurement planning for firms will not only have a direct impact on operating costs but also, its profitability, return on investment, balance sheet size, capital adequacy, among others. According to Cousins and Spekman (2003) procurement is largely based on the fact that firms are slowly acknowledging the value added capabilities of a function that is typically responsible for procuring assets that equal about 65% of the average company sales.

Failure to see the full extent of supply chains in a company can be damaging. Seeing it, but then confronting it with the wrong solution can be fatal (Gattorna, 2009). Developing workable mechanisms for smoothing the chain and indicating ways to reach the desired performance of pulp and paper industry in capital as well as customer satisfaction would lead to competitiveness in the market. In the case company there is a gap on focusing the overall supply chain; that would have effect on sustainability or existence of the organization in the competitive market.

Therefore, the study tried to see the relation of supply chain management in strategic supplier relationship, internal supply chain management and customer relationship management with competitiveness of the organization specifically in Ethiopian pulp and Paper Company cost efficiency, technological advancement and demand condition measurements.

1.4. Hypothesis of the study

- ✓ **H₁**: Strategic supplier relationship management has positive and significant relationship with organizational competitiveness.
- ✓ **H₀**: Strategic supplier relationship management has no positive and significant relationship with organizational competitiveness.
- ✓ **H₂**: Internal supply chain management has positive and significant relationship with organizational competitiveness.
- ✓ **H₀**: Internal supply chain management has no positive and significant relationship with organizational competitiveness.
- ✓ **H₃**: Customer relationship management has positive and significant relationship with organizational competitiveness.
- ✓ **H₀**: Customer relationship management has no positive and significant relationship with organizational competitiveness.

1.5. Objective of the study

The general objective of the study is to determine to what extent the supply chain management related with the competitiveness of the organization under study.

In line with this, it tries to achieve the following specific objectives;-

- ✓ To assess the practice of supply chain management of EPPSC.
- ✓ To determine the relationship between supply chain management practice and organizational competitiveness.

1.6. Significance of the study

The study will create opportunity for the firm to identify gap in performance related to supply chain practices and competitive advantage, and ways to improve performance and it will create awareness to decision makers and concerned staffs that work inbound logistics section, operation and out bound logistics section of the firm to enable them to know the relationship of supply chain management practice with firm's competitiveness.

Generally the findings from the research will add more knowledge on the existing body of knowledge in the subject area. That means the study will give insight and could be used as basis to those researchers who want to engage in the same subject area in future. Also findings and

recommendation of this study will guide the case organizations and other related companies in their policy formulation.

1.7. Scope of the study

The study covers supply chain practices that focus starting from inbound logistic includes both operation and out bound logistic sections that related to strategic supplier relationship, internal supply chain and customer relationship management with competitiveness of the organization that is bounded on cost, technological advancement and demand condition of the pulp and paper company as a conceptual frame. Geographically the study was undertaken in Ethiopian pulp and paper Share Company, which is located at Wonji and the study was surveyed by using both employees' works in Wonji mill and Addis Ababa office.

1.8. Limitation of the study

Limitation of the study is insufficient of empirical researches related to the study area in Ethiopian context. Also in pulp and paper industry, supply chain management and organizational competitiveness area could not get easily for review in any context. That has shortage of data for literature review of the thesis as limitation.

1.9. Organization of the paper

The research paper is structured in classifying of the five chapters. Chapter one presents the background of the study and the company, statement of the problem, objective of the study, significance of the study and scope of the study.

The second chapter deals with review of related theoretical literature; the third chapter deals with research methods and methodology. The fourth chapter presents the discussions and results from assessment of supply chain management and its relationship to organizational competitiveness. Finally, based on the analysis and interpretation, conclusions and recommendations were forwarded.

CHAPTER TWO

LITERATURE REVIEW

2.1. Overview of Supply Chain Management

All institutions have supply chains (or path ways) running through them, connecting a diverse range of human activities and needs. In fact supply chains in aggregate are the business, so, in effect, supply chains is a whole-of-business concept (Gattorna, 2009).

“Successful supply chain management, then, coordinates and integrates all of business activities in to a seamless process. It embraces and links all of the partners in the chain. Supply chain Managements (SCM) framework consists of three major and closely related elements; business processes, management components and structure of the supply chain quoted in (Gupta and Sahay, 2007:22); (Quayle, 2006). Supply chain management is the management of all activities in order to satisfy the ultimate consumer. It covers almost all business activity, including marketing, manufacturing, purchasing, logistics, and, more generally, such activities as finance and personnel (Quayle, 2006).

Intra-organizational process management recognizes that the different departments and functional areas within a firm should not act as functional "silos", but rather as part of a coordinated and integrated process (Morash and Clinton, 1998). To create real value for customers and the enterprise, supply chain members must work as a team -- sharing costs, risks and profits -- and focus on serving the customer. As with any business challenge, the best approach for a CEO and management team is to analyze the company's needs and goals, find out what customers want, focus firmly on business return, and build a cross-functional team and strong business case. To remain competitive, a company needs to know what its customers value most (Wilhelm, 2005).

“A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request. The supply chain not only includes the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves” (Chopra and Meindel 2007). The concept of SCM has been involved from two separate paths: purchasing and supply management, and transporting and logistics management (Tan *et al.*, 1998); (Bratić, 2011:3).

Logistics is what happens in the supply chain (Ensemru, 2013). Logistics Management is that part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements (Rogers and Leuschner, 2004).

The importance of logistics and supply chain management (SCM) has been increasingly recognized in the manufacturing environment. While a supply chain consists of a number of partners or components (such as suppliers, manufactures, distributors and customers), its effective management requires integration of information and material flow through these partner s from source to use (Ensemru, 2013).

There is more and more evidence that firms taking a "supply chain" view of their business can achieve important improvements in customer service and revenue enhancement, cost reduction, and asset productivity (Stenger, 1998).

Value chains, supply chains, and demand chains

Supply chains are sometimes referred to as value chains, a term that reflects the concept that value is added as goods and services progress through the chan. supply or value chain are typically comprised of separate business organizations, rather than just a single organization.

A supply chain is a network that includes vendors of raw materials, plants that transform those materials into useful products, and distribution centers to get those products to customers known also as the value chain, it is the sequence, which involves producing and delivering of a product or service (Zailani&Rajagopal, 2005:380); (Ensemru, 2013:5).The value chain begins with new product development, which creates specification for the product. Marketing and sales generate demand by publicizing the customer priorities that the products and services will satisfy. Marketing also brings customer input back to new product development. Using new product specification, operations transform input to outputs to create the product. Distribution either takes the product to the customer or brings the customer to product. Service responds to customer request during or after the sale. These are core processes or functions that must be performed for a successful sale. Finance accounting, information technology, and human resource support and facilitate the functioning of the value chain (Chopra and Meindl, 2007).

Moreover the supply or value chain has two components for each organization: a supply component and a demand component. The supply component starts at the beginning of the chain and ends with the internal operation of the organization. The demand component of the chain starts at the point where the organization's output is delivered to its immediate customer and ends with the final customer in the chain. The demand chain is the sales and distribution portion of the value chain. The length of each component depends on where a particular organization is in the chain (Stevenson, 2002).

Value configuration analysis is defined as an approach to the analysis of firm level competitive advantage based on a theory of three value creation technologies and logics. These are Configuring Value for Competitive Advantage: On Chains, Shops, and Networks (Stabell and Fjeldstad, 1998).

“Managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, and delivery to the customer” (Samaranayake, 2005). In achieving strategic fit is to match supply chain responsiveness with the implied uncertainty from demand and supply. The supply chain design and all functional strategies within the firm must also support the supply chain's level of responsiveness. Based on Thompson's (1967) typology of long-linked, intensive and mediating technologies, we explore the idea that the value chain models the activities of a long-linked technology, while the value shop models firms where value is created by mobilizing resources and activities to resolve a particular customer problem, and the value network models firms that create value by facilitating a network relationship between their customers using a mediating technology (Stabell and Fjeldstad, 1998).

The supply chain concept is theorized from the formation of a value chain network consisting of individual functional entities committed to providing resources and information to achieve the objectives of efficient management of suppliers as well as the flow of parts (Lau and Lee, 2000); (Bratić, 2011:1).

Value chain is strategies for reducing costs and improving competitive advantage. (Shapiro, Singhal& Wagner, 1993). Value chain is created as a result of intra-supply chain (functions involved in primary and supporting activities of the organization to create

value) and inter-supply chain (cooperation of trading partners) in delivering value to the market (Ensemru, 2013).

Now the emphasis has shifted from cutting costs to building value, using practical solutions that add value for customers and have a measurable and positive impact on overall business performance. This is the short definition of Value Chain as a critical component of success. The traditional supply chain model is linear and task-oriented, an internal "command and control" mechanism with cost-cutting and bottom-line efficiency as its goal. The new value chain model is complex, parallel, and relationship oriented. Its goals include bottom-line efficiency, but emphasize top-line growth and optimal customer service. Better customer service leads to top-line value stemming from increased customer retention, greater market share and increased revenues. This is increasingly the driver in many value chains (Kaplinsky and Morris, 2000).

- The point of entry for value chain analysis
- Mapping value chains
- Product segments and Critical Success Factors in final markets
- How producers access final markets
- Benchmarking production efficiency
- Governance of value chains
- Upgrading in value chains
- Distributional issues:

The value chain is an important construct for understanding the distribution of returns arising from design, production, marketing, coordination and recycling. (Kaplinsky and Morris, 2000). Porter introduced the 'value system' as an alternative way of approaching the search of competitive advantage (Ensemru, 2013).

Value stream mapping that looks at how value flows into and through a process and to customer and how information flow facilitates the work flow. One way to view a process is the logical flow of work. Another view is physical flow of work (Pyzdek and Keller, 2008). Other cost savings will depend on the nature of the compression, perhaps minimizing risk in the decision process by making relevant information available earlier in the process. The reduction, or even removal, of a rework activity can result from process change such as compression of information queues. These improvements can also have ramifications downstream and upstream of the chain

by reducing or removing expediting activities that are in place to cope with ongoing inadequacies (Beesley, 2010).

Benchmarking –Supply Chain

A benchmark may be defined as the predetermined level/standard. This may embrace price, quality, design, efficiency and cost-effectiveness. It is against the benchmark that all comparisons are made. The base line of a product/service is cost. Benchmarking embraces the process measurement into a cross-functional relationship. It incorporates all the elements in the global supply chain and has focus on the product specification, the operational performance, and the management practices and software solutions. Basically, it is the framework in which the company must operate, especially within all the ingredients of supply chain management. The key factor is to realize customer satisfaction. Benchmarking in the supply chain is related to three major elements: the supplier, the distributor and the interface between the supplier and distributor. The prime consideration in setting the benchmark is to realize customer satisfaction. This embraces the time cycle, the cost and asset utilization (D.Simichi-Levi, Kaminsky&E.Simichi-Levi, 2003).).Benchmarking is most commonly used at the organizational or business unit level and is based on the assumption that it is important to learn from organizations that are perceived as the industry or sector leaders. Benchmarking could be operational, managerial and strategic (Shetty1993); (Cetinkayal, Cuthbertsonl, Ewerl, Klaas-Wissingl&Tyssen, 2011).This allows comparison of the company performance at various levels and searching for ways to improve it. To select the best solution, managers can look at the outcomes of various initiatives, or their elements, and select the most promising ideas to be implemented in their organizations (Cetinkayaet.al., 2011).

Value analysis objective and approach for supply chain

To analyze the specific activities through which firms can create competitive advantage, it is useful to model the firm as a chain of value-creating activities. Value chain analysis has an important role to play here. What it does is to ensure that the analysis treats the whole cycle of production, including that governing Connectedness to final markets (Niyogi and Singh, 2010).

These; we may say that the objective of value analysis (VA) is primarily to obtain to the same quality of a product and active the necessary function in a cheaper way. Here, therefore, we must define and segregate the necessary functions from the unnecessary ones, and there by develop

alternative means of accomplishing the necessary function at the lowest possible cost. The term 'unnecessary cost' represents the cost which neither provides an important function nor quality, nor life, nor even appearance to the product. The value analysis approach to the problem of cost is well summarized in the following checklist of 'Ten tests for value' (Kaplinsky and Morris, 2000).

These are questions techniques and the answers may be obtained before proceeding further (Kaplinsky and Morris, 2000):

1. What are the prices functions of the item?
2. Which ones can be eliminated?
3. If the item is not standard, can it be substituted by a standard item?
4. Are there any similar items in use that can be substituted?
5. Can the item be redesign to allow great tolerance?
6. We redesign change permit the item to be made from a lower cost processes or a lower cost material?
7. Could the item be produced (in case of a bought out item, at least cost)?
8. Are the finishing requirements greater than necessary?
9. If different sizes of the items are stocked, can some of these be combined to reduced inventory and thus the advantage of quantity buying?
10. Are there any possible economies in packaging techniques?

every material, every part, every operation must passes tests so as to improve upon working methods, control wastage and reduce costs.

The time compression approach – Cost advantage Cost reduction will generally occur as a direct result of the removal or compression of non-value-added time. This time compression can result in a number of cost savings associated with the removal of fixed and variable overheads (such as rent and management), direct costs (such as labor and materials) and working capital(Beesley, 2010).

2.1.1. The Need for Supply Chain Management

The purpose of a supply chain analysis is to maximize company's profit in the process of generating value for the customer, namely maximizing the difference between the final

product worth and the total cost expended by the supply chain to provide the product to the customer (Franca *et al.*, 2010); (Bratić, 2011:2).

The goal of supply chain management is to link all components of the supply chain so that market demand is met as efficiently as possible across the entire chain. This require matching supply and demand at each stage of the chain: (Stevenson, 2002)

1. The need to improve operation
2. Increasing levels of outsourcing
3. Increasing transportation costs
4. Competitive pressures
5. Increasing globalization
6. The complexity of supply chain
7. The importance of e-commerce
8. The need to manage inventories

The specific reasons for the increasing interest in supply chain management and global logistics can be summarized as follows: (D .Simichi-Levi et.al., 2003)

1. Concept. Companies are primarily concerned with reducing delivery times and improving responsiveness to customers, reflecting the shorter product lifecycles they face.
2. Value. Equal emphasis is placed upon cost savings (from reduced inventory levels, economies of scale and a reduction in fixed assets) and improved service quality (through reliable delivery, improved stock availability and response times).

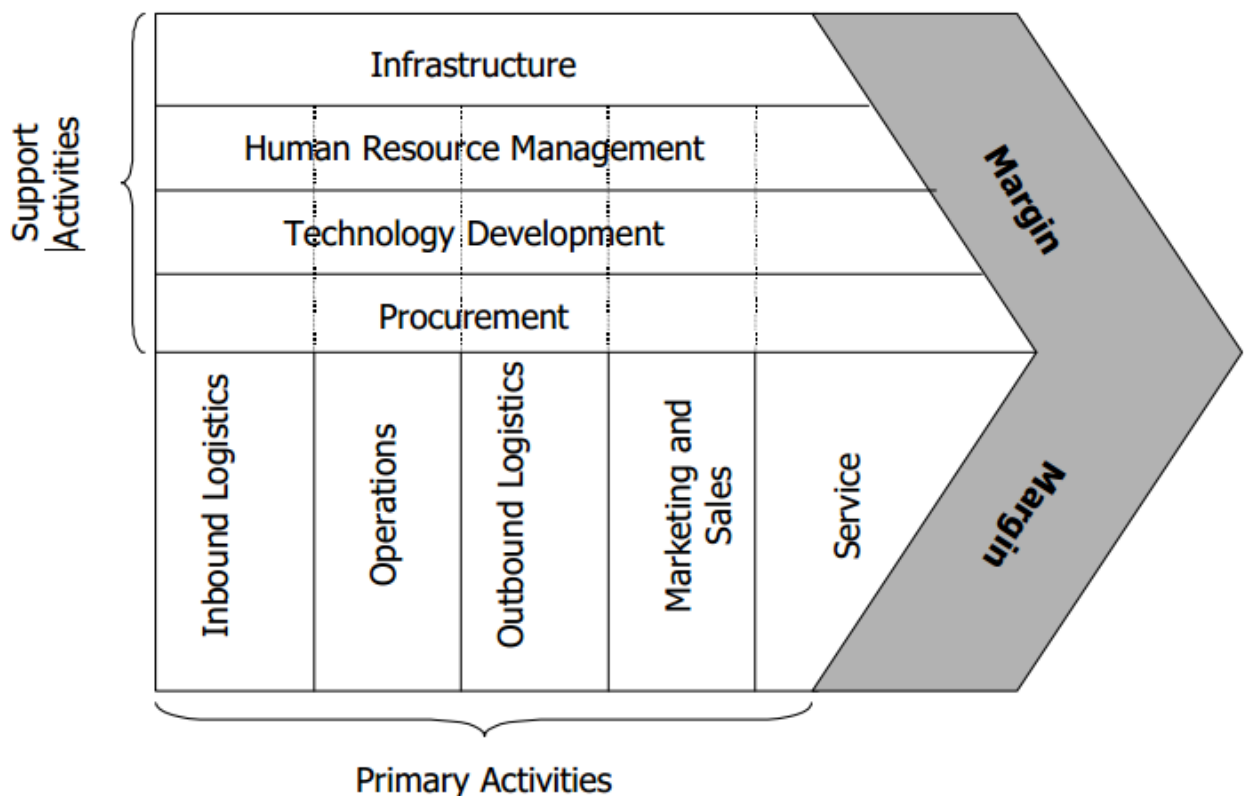
2.1.2. Creating Effective Supply Chain

Intense global competition, short product life cycles and the need to create shareholder value have resulted in significant interest in supply chain management over the past decade. (Losbichler and Mahmoodi, 2010).Creating an effective supply chain requires linking the market, distribution channels, processing, and suppliers. The design of a supply chain should enable all participants in the chain to achieve significant gains, hence giving them an incentive to

cooperate. It should enable participant to (1) share forecasts, (2) determine the status of orders in real time, and (3) access inventory data of partners.

The goal of these activities to create value that exceeds the cost of providing the product or service, thus generating a profit margin (Niyogi and Singh, 2010)

Fig. 2.1: The basic model of Porters Value Chain



Porter 1985 :(Recklies, 2001)

- Inbound logistics include the receiving, warehousing, and inventory control of input materials.
- Operations are the value-creating activities that transform the input into the final product.
- Outbound logistics are the activities required to get the finished product to the customer, including warehousing, order fulfillment, etc.
- Marketing & sales are those activities associated with getting buyer to purchase the product, including channel selection, advertising, pricing, etc.

- Service activities are those that maintain and enhance the product's value including customer support, repair services, etc.

In order to fulfill three basic tasks, when need to be accomplished for an enterprise to achieve success, it is necessary to appropriately manage production process. These tasks include :(Niyogi and Singh, 2010)

- Ensuring quality in production process- ensure that customers will receive a product desired, guaranteed quality.
- Effective management of production orders- ensure that a product will be manufactured and delivered on time.
- Control of production costs- enables cost control and optimization.

To achieve effective supply chain management, the companies involved in such an endeavor must coordinate and integrate these activities to ensure not only effective management strategies, but also quality of service and corporate profits (Mentzer, 2004).

Managers must understand that there are three very different ways of developing market and supply chain strategy. These can be defined as: (Cox, Ireland, Lonsdale, Sanderson & Watson, 2003)

- Market differentiation/ supply chain innovation;
- Cost leadership/ supply chain process efficiency;
- Market differentiation and cost leadership/supply chain innovation and process efficiency.

There is an internal dimension and an external dimension to the effective operational delivery of an SCM approach. The first success factor is the need to have competent managers, who possess a solid understanding of the technical, operational and commercial tools and techniques of SCM. Beyond this operational understanding, however, competence also requires companies to understand how their particular organizational functions (be it sales and marketing, production or procurement) must operate to support such a strategy. This includes an awareness of the operational tools and techniques used in SCM strategies and an understanding of what is required of particular organizational functions to manage demand effectively; SCM initiatives tend to fail not because there is a lack of managerial understanding or competence but because internal and external actors are not prepared to commit the substantial resources that are needed (Sanderson et al.,2001; Cox et al., 2002) Reviewed by :(Cox, et al. 2003).

Top-performing supply chains possess three qualities: (Losbichler and Mahmoodi, 2010).

- ✓ agility (i.e respond to short-term changes in demand and supply quickly and handle external disruptions smoothly);
- ✓ adaptability (ie adjust supply chain's design to meet structural shifts in markets);
- ✓ Alignment (ie create incentives to align the interests of all the firms in the supply network so that companies optimize the chain's performance when they maximize their interests).

The 5-step model to proactive supply chain management (Cox, et.al., 2003).Concentrate on core competencies.

1. Outsource all non-core competencies to suppliers.
2. Consolidate all supply inputs into categories of spend.
3. Concentrate internal resources on a limited number of long-term collaborative relationships with preferred suppliers.
4. Improve supplier and supply chain performance through proactive supply chain development activities.

2.1.3. Challenges of Supply Chain

From a purely supply chain management perspective, risk at this level is the downside financial consequences of a specific event. The loss of a sole supplier or customer is the most obvious danger here (Peck, 2009).Customer is an integral part of the supply chain. The primary purpose for the existence of any supply chain is to satisfy customer needs, in the process generating profits for itself. Supply chain activities begin with a customer order and end when a satisfied customer has paid for his/her purchase (Ensemru, 2013).To understand how a company can improve supply chain performance in terms of responsiveness and efficiency, we must examine the four drivers of supply chain performance: facility, inventory, transportation, and information these drivers not only determine the supply chain's performance in terms of responsiveness and efficiency, they also determine whether strategic fit is achieved across supply chain. Strategy fit means that both the competitive and supply chain strategies have the same goal. It refers to consistency between the customer priorities that competitive strategy hopes to satisfy and the supply chain capabilities that the supply chain strategy aims to build (Chopra and Meindl, 2004).

Successful supply chain management requires many decisions relating to the flow of information, product, and funds. Each decision should be made to raise the supply chain surplus. These decisions fall in to three categories or phases, depending on the frequency of each decision and the time frame during which a decision phase has an impact.as a result, each category of decisions must consider uncertainty over the decision horizon(Chopra and Meindl, 2007).

- Strategic level deals with decisions that have along lasting effect on the firm. This includes decisions regarding the number, location, and capacity of warehouses and manufacturing plants and the flow through the logistics network (D.Smichi-Levi Kaminsky& E. Simichi-Levi, 2003). The strategic level measures influence the top level management decisions, very often reflecting investigation of broad based policies, corporate financial plans, competitiveness and level of adherence to organizational goals.(Sharahi and Abedian, 2009:54).
- Tactical level includes decisions that are typically updated anywhere between once every quarter and once every year. These include purchasing, and production decisions, inventory policies, and transportation strategies, including the frequency with which customers are visited (D.Simichi-Levi *et.al.*,2003).companies starts planning phase with a forecast for the coming year (or a comparable time frame) of demand in different markets(Chopra and Meindl, 2007).
- The operational level refers to day-to-day decisions such as scheduling, lead time quotations, routing, and truck loading (D. Simichi-Levi *et.al.*, 2003). During this phase companies make decisions regarding individual customer orders. The goal of supply chain operation is to handle incoming customer orders in the best possible manner (Chopra and Meindl, 2007).

There are three factors that practitioners will need to consider once they have already ascertained that SCM initiatives are strategically and operationally practical: (Cox, Ireland, Lonsdale, Sanderson & Watson, 2003)

- identify the demand profile for your own product/ service;
- understand the three generic types of SCM approach that can be created;
- Link your product/ service to the right supply chain type.

a framework for performance measures and metrics is considering the four major supply chain activities/processes (plan, source, make/assemble, and deliver) (Sharahi and Abedian, 2009:54).

Supply chain management involves coordinating internal and external operations (buyers and suppliers) to achieve timely and cost-effective delivery of goods through the system (Stevenson, 2002).

This strategy can be based upon the principles of lean thinking, as follows (Womack and Jones, 1996): Reviewed by (Cox, *et.al.*, 2003).

- specify value from the customer perspective, not the perspective of any of the supply chain participants;
- identify the value stream that delivers the value proposition to the customer;
- identify those activities within the value stream that add-value, are non-value adding but necessary or are non-value-adding;
- make those actions that create value flow without interruptions or impediments;
- Only make what is pulled by the customer. The value stream should be operating a just-in-time pull system, rather than a producer-focused push system;
- Create transparency of strategies and costs within the supply chain. The issue of competitive advantage must be understood at a supply chain level rather than at the individual firm level;
- Constantly pursue perfection – the process of reducing waste never ends.

Supply chain practice also includes: technology, cost competitiveness, inventory management and external regulation (McMullan, 1996); All those have to be managed effectively to realize supply chain's strategic position which allows competitive advantage. SCM has to be integrated with inventory management, supplier management, production management, information management, technology management and quality management (Jacobs, 2003); (Bratić, 2011:3).

Perception of winning with the success of the other in mind is the key top partnership. Building a lire partnership takes into account elements such as cost versus price, long term versus short term, quality control versus checks, and single versus multiple sourcing (Quayle, 2006).

Long-term trends pose challenges for supply chain managers and make increasing requirements on the strategic management expertise of today's companies. These trends include ongoing globalization and the increasing intensity of competition, the growing demands of security, environmental protection and resource scarcity and, last but not least, the need for reliable,

flexible and cost-efficient business systems capable of supporting customer differentiation. More than ever, modern supply chain managers are confronted with dynamic and complex supply chains and therefore with trends and developments that are hard to predict. In years to come, supply chain management will therefore take on additional strategic tasks that extend beyond its current more operational scope of activity. In order to respond to these changes and remain competitive, supply chain managers need to be able to identify and understand new sustainability issues in their company and business environment (Cetinkaya et al., 2011).

A supply chain organization might be required to redesign its internal production process, alter its capacity planning/allocation, introduce new management information (ERP) system, or reorganize its in-bound and out-bound logistics to create a synergy with any SCM initiative. All these organizational innovations will carry a substantial cost in terms of managerial and financial resources (Cox, et al., 2003).

The three competitive market strategy options :(Cox, et al., 2003)

- a. Market differentiation-Supply chain management strategy focuses on product/service innovation, without major concern for cost reduction through the removal of unnecessary waste and inefficiency in processes.
- b. Market cost leadership-Supply chain management strategy focuses on the active removal of all unnecessary waste and inefficiency in processes, without major concern for product/service innovation.
- c. Market differentiation and cost leadership-Supply chain management strategy focuses equally on product/service innovation and the removal of unnecessary waste and inefficiency in processes.

2.2. Key Issues in Supply Chain

Corporate strategies designed to deliver products or services that satisfy customers and ensure profitability and are sustainable' has been the core dream of all business. In other words, increasing shareholder value and providing value to customers using efficient, cost-effective business practice are ultimate corporate goals. This drives all CEOs in search of tools and techniques that would help them aid in the journey of attaining excellence. Companies around this in the globe have begun changing the way they do business to meet these requirements and increase market share. The intense need to improve responsiveness, agility, and efficiencies have never been felt before. this in turn drive companies to visualize and develop sophisticated

value chain networks that pool resources, synchronized supply with demand, and integrate organization for mutual process efficiencies, inventory reduction, and customer responsiveness (Sahay, 2004).

The components of the supply chain are the key to a successful supply chain is customization, innovation, scalability (integration of unlimited number of clients); multichannel, security and flexibility. Other areas, as advanced by Professor Hau Lee, focus on agility, adaptability and alignment identifies seven core principles that underpin the company these are detailed below: (D.Simichi-Levi et.al., 2003)

1. The customer must be at the center and responsive to market demand;
2. Focus on core competency and outsource non-core activities and develop a position in the supply chain;
3. Develop a low risk and profit-sharing relationship with business partners;
4. Design, implement, evaluate and adjust the work flow, physical goods flow and cash flow in the supply chain;
5. Adopt information technologies to optimize the operation of the supply chain;
6. Shorten product lead time and delivery cycles;
7. Lower costs in sourcing, warehousing and transportation

In general, integration supports the current movement from conventional, arms-length and often conflict-laden relationships to cooperative, long-term business partnerships and strategic alliances (Harrigan 1988; Ohmae 1989; Bowersox 1990; Sonnenberg 1992; Kanter1994); (Morash, and Clinton, 1998).The purpose is to improve the effectiveness and efficiency of supply chains for ultimate consumers. As a result, supply chain integration must balance end use expectations against input or supply costs (Morash, and Clinton, 1998).

The application of modern management principles throughout the supply chain, such as Just-In-Time, lean production and Efficient Consumer Response, have led to more responsive, more flexible supply chains that enable firms to compete in a global market (Cetinkayal, et al., 2011).

2.3. Competitive Advantage and Competitiveness with Supply Chain

There is empirical evidence that high-performing supply chains have a major influence on companies' internal and external financial performance. Singhal and Hendricks (2002) and D'Avanzo, Von Lewinski and Van Reviewd by: (Losbichler and Mahmoodi, 2010). According

to a recent McKinsey study (Constantine, Ruwadi and Wine, 2009), companies with high-performing supply chains enjoy lower distribution and logistics costs, better customer service and better inventory performance than ordinary performers (Losbichler and Mahmoodi, 2010). For many this debate has led to the conclusion that supply chain management (SCM) constitutes 'best practice' in the search for improved value for money relationships with suppliers. The evidence for this viewpoint is the increasing frequency with which old purchasing, procurement and logistics departments have begun to re-brand themselves as supply chain management functions (Cox, et.al., 2003).

The objective of every supply chain is to maximize the overall value generated. The value a supply chain generates is the difference between what the final product is worth to customer and the efforts the supply chain expends in filling the customer's request. For most commercial supply chains, value will be strongly correlated with supply chain profitability (Chopra and Meindl, 2004). Competing successfully in any business environment today requires companies to become much more involved in how their supplier and customers do business (D. Wisner, Leong, & Tan, 2005).

In a number of organizations, a cost-effective supply chain is a matter of survival, as purchased goods and services account for up to 80% of sales revenue, whilst in the public sector there is an ever-increasing demand for savings in the procurement process. The globalization of some sources makes it essential that the professional practice is improved and regarded as a key element in the preparation of company or organization strategies. The linchpin in connecting functional strategies to business strategies whose intention is to provide competitive advantage. Demand for increased service, product performance and variety across supply chains that extend across the globe create new requirements and challenges (Beesley, 2010).

The goal of a corporation and its top executives is generally to maximize the long-term financial performance of the company and its value to shareholders. Financial performance and shareholder value are measured by utilizing a variety of metrics at different levels. In today's global equity markets, companies are expected to generate competitive returns for the investors. For publicly traded companies, the total return to shareholders (TSR) is measured by the increase in stock price plus the dividends paid (Losbichler and Mahmoodi, 2010).

To compete successfully in world markets, you need to be better than the competition and source suppliers who can both add value and reduce cost. Partnership sourcing is where a buyer and supplier develop such a close and long-term relationship that the two work together as partners in a win-win arrangement, as both have a vested interest in the success of the other (Quayle, 2006). Performance measurement systems vary substantially from company to company. For example, many firms' performance measures concentrate solely on the firms' costs and profits. While certainly important, managers must realize that making decisions while relying on cost-based performance alone dooms organizations to continue repeating the mistakes of the past (D. Wisner, Leong, & Tan, 2005).

Three are six mentioned perspectives in supply chain performance measurement (SCP) measurement, as follows : (Otto and Kotzab, 2003) ; (Sharahi and Abedian, 2009:54)

1. **System dynamics-perspective.** This is the primary basis of the entire discussion in this field. Related contributions are still today among the most attractive ones regarding the transformation to practice.
2. **Operations research-perspective.** It can be characterized as a primarily method or algorithm oriented approach towards SCM. A supply chain is perceived as a resource network. SCM has to configure this network and to program the flows within the configuration according to a specific objective function based on algorithms.
3. **Logistic-perspective.** The supply chain is seen from a logistics perspective as a sequence of generic processes.
4. **Marketing-perspective.** Marketing recognized SCM in the past as a part of distribution, but recently it gained strategic importance as a potential driver for marketing's positive effect on the shareholder value. SCM is the tool to connect customers with products.
5. **Organizational-perspective.** From an organization point of view, a supply chain appears as a set of inter-organizational relationships.
6. **Strategy-perspective.** Strategy perceives SCM as a mean to vary certain competencies in a chain in order to maximize profits.

Proposition, based on low cost, may be tactically viable, but is weak strategically. Costs can only be lowered to some limit. Competitors can do lower prices too. It can make customers wait for even lower prices rather than acting now. A low-cost proposition can create a somewhat negative image about the supply chain service and its value. Basically, pursuing lowest cost can

divert the supply chain organization from its primary purpose with both short-term and long-term impact. A value proposition budget on yield management is unique, creates competitive advantage and drives increased profits (D. Simichi-Levi *eta al.*, 2003). Agile manufacturing, JIT, mass customization, efficient customer response, and quick responses all terms referring to concepts that are intended to make the firm more flexible and responsive to customer requirements and changes. Particularly with the tremendous levels of competition in almost all avenues of business, firms (and their supply chains) are looking today at ways to become more responsive to their customers (D. Wisner, Leong, & Tan, 2005).

The time compression approach can be applied at two levels: first, as a holistic approach in the context of, for example, the above principles, and second, as a competitive market focus. The former could be regarded as an internal time focus of the key supply chain processes that lie on, or close to, the critical path of the business process. The latter element is the supply chain's external time that is of direct value to the customer. Both are interdependent and therefore have outcomes that are strategically significant. There must be differentiation between the elements of value and cost if competitiveness is to emerge. A time compression approach addresses these two sources of differentiation in a specific way. The first objective must be the elimination of non-value activity – that is, waste – and thereby maximize the value created in the supply chain. The removal of non-value activity in turn gives rise to a cost advantage, hence forming the basis of cost differentiation (Beesley, 2010).

A supply chain is a sequence of processes and flows that takes place within and between different stages and combine to fill a customer need for a product. There are two different ways to view the process performed in a supply chain: (Chopra and Meindl, 2007)

- i. Cycle view: the processes in a supply chain are divided in to a series of cycles, each performed at the interface between successive stages of a supply chain.
 - customer order cycle
 - replenishment cycle
 - manufacturing cycle
 - procurement cycle
- ii. Push/pull view: All process in supply chain fall in to one of two categories depending on the timing of their execution relative to end customer demand. With pull processes, execution is initiated in response to customer order. With push processes, execution is

initiated in anticipation of customer orders. Therefore, at the execution of a pull process, customer demand is known with certainty, whereas at the time of execution of a push process, demand is not known and must be forecast. Pull process may also be referred to as reactive process because they react to customer demand. Push process may also be referred to as speculative process because they respond to speculated or forecasted rather than actual demand.

The Supply Chain Processes

There are some dimensions of supply chain performance based on supply chain processes and management which have direct influence to competitive advantage: resource, output, flexibility, innovativeness and information. So, improving supply chain performance has become one of the critical issues for gaining competitive advantage for companies (Bratić, 2011). From an enterprise perspective, all processes within its supply chain can be categorized in to three main areas: processes focused downstream, process focused internally, and process focused upstream. We use this classification to define the three macro supply chain processes :(Chopra and Meindl, 2007). Usually, there are complementary or supporting processes with lean supply chain management. The additional processes may include ‘strategic sourcing’ to manage supplier performance for critical and important items; ‘strategic customer’ to gain the needed viewpoint of key customers; and ‘sales and operations planning’ to blend the strategic sourcing and customer with the tactical day-to-day supply chain management (D.Simichi-Levi et al., 2003).

1. Customer relationship management (CRM). Processes that focused on downstream interactions between the enterprise and its customers.(Chopra and Meindl, 2007). Good relationships with supply chain members, including customers, are needed for successful implementation of SCM programs (Moberg et al., 2002). (Bratic, 2011:4). Close customer relationship allows an organization to differentiate its products from the competitors, and sustain customer loyalty (Bratic, 2011).

2. Internal supply chain management (ISCM).Processes that focus on internal operation within the enterprise.(Chopra and Meindl, 2007).

According to Grey et al (2003), supply chain initiatives such as vendor management inventory, postponement and risk pooling can have a significant impact on all four drivers of financial performance (Losbichler and Mahmoodi, 2010).

Postponement is defined as the practice of moving forward one or more operations or activities (making, sourcing and delivering) to a much later point in the supply chain (Van Hoek, 1998; Beamon, 1998); In general, the adopting of postponement may be appropriate in the following conditions: innovative products, products with the monetary density, high specialization and wide range, markets characterized by long delivery time, low delivery frequency and high demand uncertainty, and manufacturing or logistic systems with small economies of scales and no need for special knowledge (Li et al., 2006; Pagh and Cooper, 1998); (Bratić, 2011; 4).

3. Supplier relationship management (SRM). is Processes that focus on upstream interactions between the enterprise and its suppliers (Chopra and Meindl, 2007).

Strategic supplier partnership is defined as the long-term relationship between the company and its suppliers and it is designed to leverage the strategic and operational capabilities of individual participating companies to help them achieve significant emphasized benefits (Stuart, 1997; Balsmeier, 1996; Noble, 1997; Li et al., 2006);(D.Simichi-Levi et al., 2003). When managers ask questions about the competence of their suppliers, they are usually interested in whether they can deliver effectively on specified quality, cost and delivery (QCD) requirements. Indeed, it is these three factors, in combination with the financial stability of a supplier, that form the basis of the vast majority of supplier assessment and selection procedures (Cox et al., 2003).It embraces managing the mobile asset –global supply chain. ‘Trade-offs’ can be extended to a range of scenarios and the decision-making must be based on priorities, **technology, cost**, quality, design and so on. Adding the financial flow is the ultimate supply chain integration (D. Simichi-Levi et al., 2003).

- ❖ Supply chain management refers to a situation where the buyer (or the buyer and its suppliers jointly) proactively seeks to drive performance improvement in value for money throughout the totality of a supply chain. This co-ordination is achieved through the development of longer-term and highly collaborative working relationships between buyers and suppliers within the chain. It is clear, therefore, that one of the critical success factors in implementing SCM initiatives is clarity about the competitive market and supply chain strategy being pursued, and then the development of the requisite

operational tools to implement the strategy effectively (Cox, et.al, 2003). Supply chain management involves coordinating internal and external operations (buyers and suppliers) to achieve timely and cost-effective delivery of goods through the system (Stevenson, 2002). The question arises: How do you distinguish the supply chain to satisfy both internal and external requirements? How do you focus to create branding to position and build competitive advantage? The value-added concept .Operation influences competitiveness through product and service design, **cost**, location, quality, **response time, flexibility**, inventory and supply chain management, and service. Many of these are interrelated (Stevenson, 2002). Value chain analysis plays a key role in understanding the need and scope for systemic competitiveness (Kaplinsky and Morris, 2000).Value creation is a prerequisite for expressing and exploring how firms differ in a competitive sense (B.stabell and D.fjeldstad, 1998).

✓ **Technological Advancement**

In today's global competition environment, facing the rapid technology progress and high customer expectations, companies find it hard to win the competition only depending one's own capacity (Su et al., 2008); (Bratic,2011:4).Technology half-lives have fallen dramatically over the past 20 years and the predictions are that they will fall faster still. Competitive edge comes from the rapid integration of new technologies into the company (if they are relevant). Consider the board looking at the choice of investing in the skills necessary to sell to its clients or the skills needed to operate the latest technology in its delivery vans or the warehouse. If resources need to be rationed, is it better to concentrate on the sales skills and the sales systems (Rinsl, 2010)?

Increasing competitive pressure and the rapid pace of technological change are motivating companies to focus on partnership with suppliers as a means of distributing risks and enhancing business processes, through the development of joint skills and shared inter organizational routines (Anderson and Christensen, 2000; Trent and Monczka, 1999); (Bratic, 2011:5).

Many manufacturers maintain their own machinery completely. Current technology comes often in 'black boxes' that are replaced on failure and the skills of the supplier used to renew them. Major UK utility companies have agreed the outsourcing of their maintenance since the

engineering companies have better skills, the latest training and the latest diagnostics; the company acts as the voice of the consumer in this instance. Health and safety legislation and the tighter requirements of the insurance industry are leading to some companies outsourcing operations because specialization of knowledge and service leads to lower risk and costs (Rinsl, 2010). In this situation, the establishment of the supply chain partnership among companies and the coordination of the partners are highly valued (Bratic, 2011). In firms with a long-linked value creation technology, the interdependencies of the primary activities are also sequential where, for example, the outputs of inbound logistics are the inputs to operations. Technology development is performed to either reduce the cost of a product, particularly through process improvements, or to raise the commendable price by improving the adaptation of the product to buyer Purchasing Criteria. The value chain analysis framework postulates that competitive advantage is understood by disaggregating the value creation process of the firm into discrete activities that contribute to the firm's relative cost position and create a basis for differentiation (Stabell and Fjeldstad, 1998).

✓ **cost**

Some producers in the sector consider that there are some possibilities to improve the chain by improving organizational and industrial culture at the firm level, more specialists within the companies with proper education and connecting with basic industries in order to decrease the price of final product and have more satisfied customers. Also, they consider that the increase of producers' bargaining power through networking could lead to more revenues and profits (Draganić, 2014). We need to focus on the value added (that is output value minus input costs) rather than the gross value of sales/exports in each link of the value chain (Kaplinsky and Morris, 2000). All the companies use most of production inputs from abroad with no bargaining power related to suppliers of those components than having a possibility to influence the price of inputs and productivity in production. This ties their hands in terms of possibility to decrease costs of raw materials (Draganić, 2014).

✓ **Demand Condition**

Both in theory and practice, we find two basic supply chain types, having the potential to assist competitive strategy in the achievement of both cost leadership and differentiation strategy: Lean, cost, efficiency-driven supply chains, and in contrast agile, fast, service driven supply chains (Cetinkaya *et al.*, 2011).

I. Lean Supply Chain Management

Market cost leadership, with

supply chain process efficiency. This is sometimes referred to in the literature as the functional or lean SCM approach (Womack and Jones, 1996; Fisher, 1997). Reviewed by: (Cox, et.al., 2003). This approach implies that the competitive market strategy of the focal company driving SCM initiatives is directed towards cost leadership rather than differentiation. This normally suggests that technological innovation for product or service differentiation is difficult to achieve and/or that any innovations that can be made will be quickly replicated. This is because the product or service is already well understood and many alternative companies can provide it to the end customer. It is interesting to remark on this because the basic approach of Toyota – that the original focus of Toyota (from which the lean ideas on SCM have been developed) has always been focused on the development of both differentiation and process improvement as a company strategically has been to continuously pursue innovation and cost reduction at the same time. This approach – which we refer to as the customer focused market and SCM approach – is not in our view the same as the lean approach. This is because lean implies that the basic strategy of the focal company will always be on process efficiency, internally and externally (Cox, et.al., 2003).

Lean supply chain management is the strategic process of developing and managing a cost-effective and efficient supply chain that is competitive in the global marketplace and has a strong empathy with the end user. It involves the ability to identify waste in the supply chain. Overall it focuses on three key areas. Lean tools have differences as to ease of use, time to implement, benefits and risk. It embraces six stages (D. Simichi-Levi *et al.*, 2003).

- A. 5 Ss –sort, straighten, sweep/shine, standardize, sustain/self-discipline. This is a visual way to organize waste removal with extra time for travel or employees. It can be used in distribution centers and in offices.
- B. Rapid set-up –or changeover –has application in the warehouse to adjust lay out for seasonal products, new products and changes in which products are fast-moving and often picked, and the complementary items that go with these fast-overs. Reducing the time can involve housekeeping and maintenance (including 5 Ss), setting up smaller areas for stock-keeping units (SKUs), technology (such as warehouse management systems) and RFID (see page 108)).

- C. Standardize –involves efficient work processes that are repeatedly followed to define who, what, how, where and when. This helps firms synchronize the time required to pull and ship all the orders and actual time to do this (cycle time). It can be the basis for employee training.
- D. Kanban –present a new, unique way to view ‘warehousing ‘and inventory positioning. A way to coordinate multi-step processes for multiple products. With Kanban, small stocks of inventory are placed in dedicated locations for supply chain control. This approach runs counter to the traditional way of large distribution centers delivering truckloads of products to stores or customers. Instead, mini ‘warehouses’ are used to position inventory closer to the customer and increase the speed of delivery and inventory turns. Point of sale and other technologies can be the withdrawal signal to trigger both drawing from and replenishing Kanbans. Items placed in supply chain Kanbans could be limited to high inventory such as ‘A’ items and then using regular warehouses for ‘B’ and ‘C’ items. A variation to Kanban is with the import supply chains and differentiating ‘A’ versus ‘B’ versus ‘C’ items, and using faster mode and faster carrier transit methods for select items. This reduces time and inventory with small batch sizes for select items. All inventories are not treated the same way from suppliers nor with regard to warehousing.
- E. Work cell –can be defined as a unit larger than an individual operation, but smaller than a department. It is self-contained as to equipment and resources. The potential application, combining multi-operations into a central area, exist where warehouses carry out additional activities such as kitting or assembly.
- F. Sigma –an advanced tool that ties to quality. The focus is variation and controlling and preventing errors. Statistical measurement is fundamental. It is used throughout the supply chain, not just in select activities or locations. Sigma takes lean supply chain management to its ultimate level.

II. Agile Supply Chain Approach

Market differentiation, with supply chain innovation, this is sometimes referred to in the literature as the responsive, innovative or agile SCM approach (Fisher,1997; Christopher, 2000)Reviewed by:(Cox, et.al., 2003).This refers to a situation where the focal company driving a supply chain initiative wants to find ways of differentiating itself from its competitors by being more responsive, agile or innovative in the ways in which it provides products or services to its

customers (Cox, et.al., 2003). Quick response, as we have seen, is a concept and a technology that is spreading rapidly across industries. For the foreseeable future, speed will be a prime competitive variable in most markets. The emphasis in logistics strategy will be upon developing the means to ship smaller quantities, more rapidly, direct to the point of use or consumption (Jones and George, 2008).Recent economic trends have de-emphasized the benefits of vertical integration (e.g. economies of scale, access to capital, and large physical infrastructure investment) and instead have focused on the benefits of being specialized (e.g. speed, agility, and rapid growth).For example, The Institute for supply Management describes supply chain management as: “the design and management of seamless, value-added processes across organizational boundaries to meet the real needs of the end customer. The development and integration of people and technological resources are critical to successful supply chain integration” (Samaranayake, 2005).Supply chain is a growth area in terms of business operations, academic study, research output, consultancy and political awareness (Quayle, 2006).By proactively working on R&D internally and throughout its supply chains, the focal company hopes to find innovative ways of increasing the functionality that customers receive from its market offerings and, by so doing, it expects to close the market to its competitors and achieve higher than normal returns. Obviously the speed with which competitors can replicate the innovations that are made will determine the frequency and regularity with which these types of innovation will have to recur (Cox, *et.al.*,2003).

➤ **Hybrid Supply Chains**

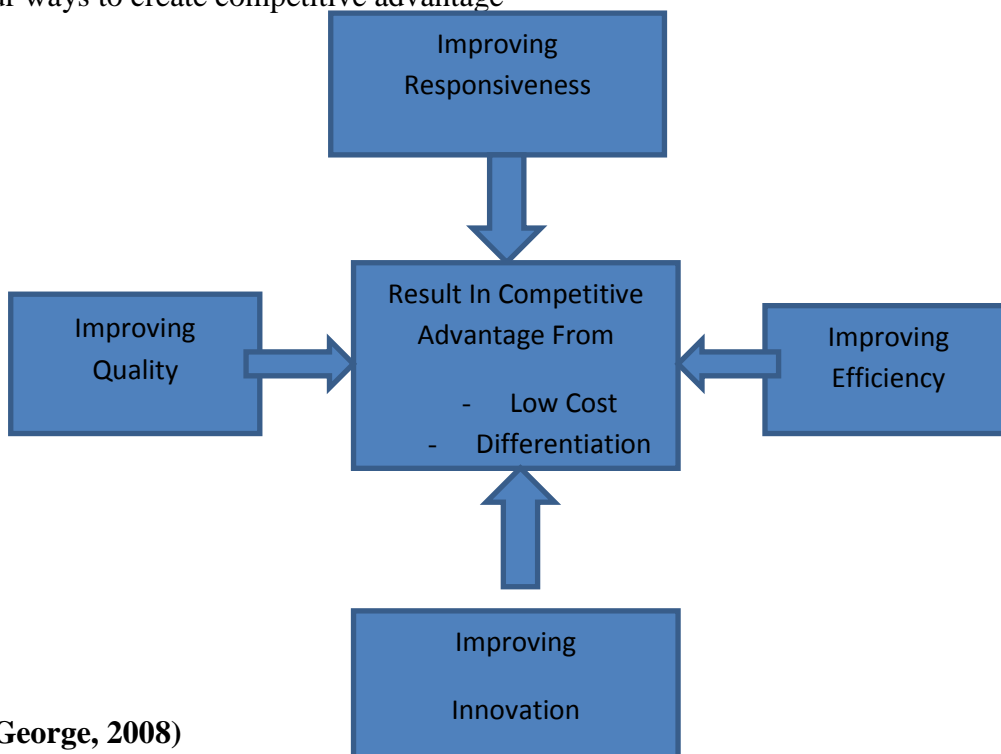
The most common situation in industry is that different combinations of demand-side and supply-side supply chain elements occur. It is rare to see a pure ‘lean’ or pure ‘agile’ supply chain all the way through. This then brings into focus the question of organization structure in both the customer and supplier segments, in a pure sense. However, where there is a mix of different elements, say lean on the supply side and agile on the demand side, then the corresponding clusters will work in a coordinated way to get the desired alignment at both ends. This is the innovative new aspect in supply chain management, which has the potential to lift performance by a quantum (Chopra and Meindl, 2007).

There are two basic business level strategies managers can use to add value to an organization’s products and achieve a competitive advantage over industry rivals. First, managers can pursue a low-cost strategy and lower the cost of creating value in order to attract customers by keeping

product prices as low as or lower than competitors' prices. Second, managers can pursue a differentiation strategy and add value to a product by finding ways to make it superior in some way to the products of other companies. If they are successful, and customers see greater value in the product, then like Toyota they are able to charge a premium higher price for the product (Jones and George, 2008).

The four specific ways in which managers can lower costs and/or increase differentiation to obtain a competitive advantage: (Jones and George, 2008).

Fig. 2.2: Four ways to create competitive advantage



(Jones and George, 2008)

Sustainable competitive advantage

For internal resources and capabilities (RCs) to be a source of sustainable Competitive advantage, Barney (1991) and Sunil (2002) identified four key characteristics: The RCs must be valuable, rare, inimitable, and not substitutable. And competitive scope — is that of the product strategies. They are considered valuable if they enable the organization to carry out its value chain activity with greater effectiveness (Quayle, 2006). Global competitive forces around the world are placing increasing pressures on markets and supply chains (Beesley, 2010).

Today's definition of competitive strategy is a holistic, long-term plan for a company to find a distinctive way of competing in order to guarantee profitability over a limited time span, considering the development of its business environment. A competitive strategy is specified by a bundle of aims and objectives to establish a competitive advantage, which allows the company to outperform others in the same industry or market. One indicator for this outperforming capability is the company's profitability, compared to the industry average. According to Porter, there are two basic types of competitive advantage a company may pursue: low cost, or differentiation. Porter combines these with the scope of activities that a company seeks to pursue and derives three generic strategies for achieving excellence and market success: cost leadership, differentiation, and focus. The focus strategy has two variants, cost focus and differentiation focus. In general we can distinguish – following markets and competition theory – three decisive factors which determine the business environment and consequently the strategy of a corporation: Demand (e.g. customers, target groups, etc.); Supply (e.g. competitors, employees, suppliers, etc.); and the General Environment (e.g. regulations, society, natural resources, etc.). In today's business environment all these three factors are becoming increasingly complex, are changing over time, and together determine the behavior of market players. Hence a great challenge for strategists is to satisfy on the one hand shareholders, and on the other hand more and more other stakeholders; especially with regard to the latest developments involving sustainability, where certain stakeholders like interest groups for CSR or environmental protection (e.g. **Greenpeace**) are becoming more and more powerful (Cetinkayal, et al. 2011).

- **Recycling for reuse and remanufacture.** Has the potential to be profitable scenario and a value stream. This has become particularly true in industries that have experience increasing cost of raw materials, such as steel industry .(Jones and George, 2008)
- **Closed/-loop supply chains (CLSC)** focus on taking back products from customers and recovering added value by reusing the entire product, and/or some of its modules, components, and part. Product recovery and reuse do serve as the foundation for the development of industrial systems that are both economically and environmentally sustainable (Guide, Jr. and. Van Wassenhove, 2009).
- **'reverse logistics'** where the customer becomes the supplier and again we must embrace 'alignment' principles for best results (Rinsl, 2010).

Supply chain management has raised high on the corporate agenda as companies recognize the potential that it offers for creating sustainable competitive advantage in an

increasingly turbulent business environment. Customers' requirements are becoming more stringent and companies aim to be increasingly customer-focused – and it is often the supply chain that is able to provide the added value that customers are looking for. There is a need to look strategically beyond the immediate environmentally driven aspects of supply chain management. With all stakeholders giving attention to the quality of management and corporate governance – demonstrated through supply chains and sustainability. Sustainable development is: (McIntyre and H-Packard, 2010).

- Social progress which recognizes the needs of everyone;
- Effective protection of the environment;
- Prudent use of natural resources; and
- Maintenance of high and stable levels of economic growth and employment.

A company's supply chain now plays an important part in the aforementioned three decisive factors and therefore represents an essential strategic resource in the achievement of the strategic goals. The strategic sustainable supply chain program (SSC-program) determines the set of actions/initiatives needed to close the gap and to create your customized sustainable supply chain on the long-term; customized because it fits your gap precisely. (Cetinkayal, et al., 2011).

They conclude that six broad practices have significant impacts on customer service, inventory, and distribution / logistics costs: (Losbichler and Mahmoodi, 2010).

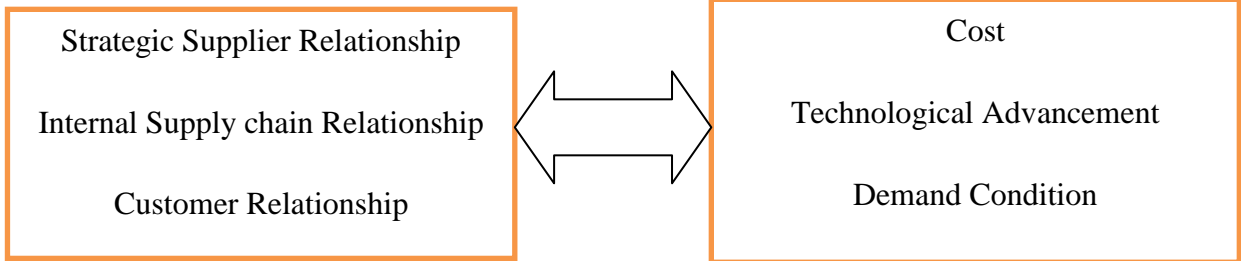
- linking supply chain strategy to corporate strategy;
- segmenting the supply chain to master the product / service complexity that matters most;
- tailoring the supply chain network to optimize service, cost and risk goals;
- using lean tools to optimize supply chain from end to end;
- creating integrated sales and operations planning processes; and
- Finding top talent, and holding people accountable.

Overall, the benefits are intrinsic, embracing gaining market share, reducing capital tied up in inventory, increasing profitability, improving customer service, increasing capacity and taking time out of the entire company's way of doing things –a management culture change. Planning is an essential ingredient. Its objective is to remove waste from the workflow processes (D.Simichi-Levi et al., 2003).

Fig. 2.3: Conceptual Frame work

Supply chain management practice

Organizational Competitiveness



CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Research Design

The study used explanatory research design to show the relationship between supply chain management and competitiveness of the organization in causal form. That means using correlation that is appropriate to know the degree of association between supply chain management practices and competitiveness of the organization. The study used quantitative research approach; i.e the questionnaire used to obtain quantitative information.

3.2. Target Population and Sampling Techniques

The target population of this study is employees of EPPSc including professionals working on the areas of inbound logistics, operations and outbound logistics sections. Census survey has been used to collect the required data.

Table 3.1: Target population of the study

Section	The Chain employees	Target population size
Inbound Logistics	Raw material Inventory employees and purchasers	16
Operation Section	Production Persons With Major Executives	21
Outbound Logistic	Finished inventory and Marketing Department employees	12
TOTAL		49

3.3. Data Types and Source

Both primary and secondary data were used for this study. The types of data that used for the study includes primary data that was obtained through questionnaire. The study also used secondary data that obtained from unpublished firm report, publication (books, magazines, pamphlet, bulletins, journals), and firm's database which are retrospective in nature collected to compare with result obtained from primary data analysis.

3.4. Data Gathering Instruments

The researcher developed a questioner that requires a form of an answer for relation of supply chain management practices with competitiveness of the organization. by using variables of supply chain that are strategic supplier relationship, customer relationship and postponement; With dimension of cost, demand condition and technological advancement that measures the organization competitiveness.

3.5. Procedure of data gathering

The primary data collected from employees who work in Addis Ababa office and wonji mill. The questioner was distributed in person and collected after giving them adequate time filling it.

3.6. Data Analysis Method

The Primary data that have been collected and analyzed using quantitative analysis which mainly involve six major activities namely, data preparation, counting, grouping, relating, predicting and statistical testing (descriptive and inferential statistics). The Descriptive statistics that have been used for the study are mean & standard deviation. And the inferential statistics have been used is correlation. The data analysis tool used for the study is primarily SPSS packages.

3.7. Validity and Reliability

Validity is the ability of an instrument to measure the variable it is intended to measure. The process of validating instruments was doing purposely to reduce errors in the measurement process. In this study reliability testing was conducted, using IBM SPSS version 20, before subjecting data to statistical analysis. Cronbach's alpha whose value varies from 0 to 1 is most widely used method. However, satisfactory value is required to be more than 0.6 for the scale to be reliable (Malhotra, 2002; Cronbach, 1951) cited in Robert, 2013. In this study, therefore, Cronbach's alpha scale was used as a measure of reliability.

Table 3.2 Cronbach's Alpha for each field of the questionnaire

No	Field	Number of Items	Cronbach's Alpha
1.	Customer relationship management	3	0.532
2.	Internal supply chain management	3	0.704
3.	Strategic Supplier relationship management	3	0.675
4.	Cost efficiency measurement	7	0.851
5.	Technological advancement	3	0.677
6.	Demand condition	3	0.730
7.	Supply chain performance measurement	10	0.818

Source: Own Survey (March, 2017) n=47

In the study the Cronbach's alpha coefficient was calculated for each field of the questionnaire. Table 3.1 above shows the values of Cronbach's Alpha for each field of the questionnaire and the entire questionnaire. For the fields, the values Cronbach's Alpha ranged between 0.532 and 0.851. This range is considered high. Hence, the result ensures the reliability of each field of the questionnaire. Cronbach's Alpha for the entire questionnaire equals 0.942 which indicates very good reliability. Therefore, it can be said that the above questionnaire is adequately reliable.

3.9. Ethical Issues of the Research

The research respect the right of the respondent, it ensures the willingness of the respondent that fill the questionnaire before starting data collection i.e. they won't enforced to provide feedback. The researcher explained the objectives of the research for the respondents that the feedback of the questionnaire from them will only be used for the research purpose and can never be used as a tool for corrective action in relation to their jobs or activities. Also the researcher was responsible not to disclose their identity while providing feedback.

CHAPTER FOUR

DATA PERESENTATION, ANALYSIS AND INTERPRETATION

4.1. Introduction

The chapter deals with presentation and discussion of the statistical result of both the descriptive and inferential statistics.

4.2. Response rate on Questionnaire

For this study a questionnaire with 32 close-ended items were used to collect information from employees of the Eppsc regarding **supply chain management practices** (strategic supplier relationship management, internal supply chain management and customer relationship management) and on measurement of **organizational competitiveness** (cost efficiency, technological advancement and demand condition)is used. A total of 49 questionnaires were distributed to employees Eppsc and from total dispatched questionnaires, 47(96%) were filled up and returned.

4.3. Demographic Characteristics of the Respondent

Table 4.1 below shows the gender of the respondents. As we can see from the table, 36 (76.6%) of the respondents were male and the remaining 11 (23.4%) of them were females. The next demographic variable was work experience. Again table 4.2 indicates that the one working above 15 years and 2-5 years were 12(25.5%) of the respondents, 10(21.3) had been working in the Eppsc for the last 5 -10 years. Similarly, 7 (14.9%) and 6 (12.8%) of them are working in the Eppsc for the year between 11-15 and 1year and less, respectively.

Regarding position in EPPSC the 16(34.0%) were inbound logistic section, 10(21.3%) of the respondent were operation section, 11(23.4%) were the directorate and the rest 10(21.3%) were out bound logistic sections people.

As far as the educational qualification of employees is concerned, the below Table 4.2 shows that from the total respondents majority, 32 (.68.1%) of the respondents were BA degree holders, 12(25.5%) of the respondents were diploma holder and the rests 3 (6.4%) persons had vocational school background.

Table 4.1: Frequency and %age of Respondents' Demographic Characteristics

No	Demographic Factors	Classification	Frequency (n = 47)	%age (%)
1.	Sex	Male	36	76.6
		Female	11	23.4
2.	Experience in EPPSC	1 year and less	6	12.8
		2 – 5years	12	25.5
		5 – 10 Years	10	21.3
		11 – 15 Years	7	14.9
		Above 15 years	12	25.5
3	Position in Eppsc	Inbound logistic section	16	34.0
		Operation section	10	21.3
		Directorate	11	23.4
		Outbound logistic section	10	21.3
4.	Education level	Vocational school	3	6.4
		College Diploma	12	25.5
		First Degree	32	68.1

Source: Own Survey (March, 2017) n=47

4.4. Descriptive Statistics of Variables

4.4.1. Perception Level of Employees on SCM Practices and Organizational Competitiveness

In this section of the analysis, the employees' responses were used to assess their perception level on supply chain management practices and organizational competitiveness of the Eppsc. From the collected data, mean scores and standard deviations were calculated for all Five-Point Likert Scale items. Then to assess the employees' perception level of on each supply chain management practices and organizational competitiveness of the Eppsc descriptive statistics, mean and standard deviation were considered.

Table 4.2: Mean Score Range for Five-Scale Likert's Response

Mean	Response
From 1.00 to less than 2.00	Strongly Disagree
From 2.00 to less than 3.00	Disagree
From 3.00to less than 3.10	Neutral
From 3.10 to less than 4.00	Agree
From 4.00 to less than 5.00	Strongly Agree

4.4.2. Employees' Perception on Strategic Supplier relationship management

A strategic partnership emphasizes direct, long-term association and encourages mutual planning and problem Supply chain management crosses the organization in both strategic and tactical terms. It embraces both cost and service mandates; it can be global in scope and reach. Success requires process, technology and people (D.Simichi-Levi et al., 2003).

Table 4.3: Mean and Standard Deviation Results of Strategic supplier relationship management

		mean	Std. Deviation	Over all Response
EPPSC uses strategic supplier selection mechanism	47	3.3617	.94237	Agree
EPPSC uses push (supplier driver) production or just in case inventory system.	47	2.8723	.89969	Disagree
The organization collaborates with supplier in long relation for smooth supply chin practices.	47	3.2979	.97613	Agree
Group Mean& Standard Deviation		3.1773	.93940	Agree

Source: Own Survey (March, 2017) n=47

As shown in Table 4.4 above, strategic *supplier relationship management* was assessed by three measurement items. According to the mean score of the items that describes, EPPSC uses strategic supplier selection mechanism score the highest mean (mean = 3.3617& standard deviation = 0.94237) relatively from that determine the organization collaborates with supplier in long relation for smooth supply chin practices (mean = 3.2979, standard deviation =.97613) and

then the question states about whether EPPSC using push (supplier driver) production or just in case inventory system with (mean = 2.8723, standard deviation =.89969) had the last score. Therefore the supplier relationship of the company has Agree scale with (mean = 3.1773& standard deviation = .93940).

4.4.3. Employees' Perception on Internal Supply Chain management

There is no shortage of strategic opportunities for using supply chains and supply chain capabilities to achieve competitiveness and to achieve faster, more profitable company growth. There is a shortage of companies that achieve full potential and develop and leverage all needed supply chain capabilities (Hoek, 2009).

Table 4.4: Mean and Standard Deviation Results of internal supply chain management

	N	Mean	Std. Deviation	Over all Response
The organization use promotion and marketing research to attract new customers and to hold existing customers.	47	2.5745	1.07834	Disagree
EPPSC uses Pull (customer driver) production or just in time (JIT) inventory system.	47	3.1489	.99954	Agree
The organization is adaptable or can adjust its supply chain's design to meet structural shift in markets alignment.	47	2.9149	1.05973	Disagree
Group Mean& Standard Deviation		2.8794	1.04587	Disagree

Source: Own Survey (March, 2017) n=47

As shown in Table 4.4 above, key internal supply chain management was assessed by three measurement items. According to the mean score of the items that describes, EPPSC uses Pull (customer driver) production or just in time (JIT) inventory system Score the highest mean (mean = 3.1489& standard deviation = 0. .99954) relatively from that determine the organization is adaptable or can adjust its supply chain's design to meet structural shift in markets alignment (mean = 2.9149, standard deviation =1.05973) and the organization how extent use promotion and marketing research to attract new customers and to hold existing customers with (mean = 2.5745, standard deviation =1.07834). Therefore the statistical results on Table 4.4 above

depicts, employees Agree with item of internal supply chain management on(using of Pull (customer driver) production or just in time (JIT) inventory system. Whereas, they disagree on adaptation or adjusting its supply chain’s design to meet structural shift in markets alignment and organizational activity in promotion and marketing research to attract new customers and to hold existing customers. So, first the Eppsc is poor in the promotion and research work and also supply chain reaction for customer interest does not fall in satisfactory level. In general the internal supply chain is Disagree in scale with group mean= 2.8794& standard deviation = 1.04587.

4.4.4. Employees’ Perception on customer relationship management

Customer relationship comprises the entire array of practices that are employed for the purpose of managing customer complains, building long-term relationships with customers and improving customer satisfaction (Tan et al., 1998; Claycomb et al, 1999; Li et al., 2006).

Table 4.5: Mean and Standard Deviation Results of customer relationship management

	N	Mean	Std. Deviation	Over all Response
marketing department handle customer compliant	47	3.5957	.79836	Agree
The company facilitates potential customer.	47	3.5319	.95214	Agree
The delivery time of consignment is fast.	47	2.7872	1.12165	Disagree
Group Mean& Standard Deviation		3.304933	0.957383	Agree

Source: Own Survey (March, 2017) n=47

As shown in Table 4.3 above, customer relationship management was assessed by three measurement items. According to the items that describes, the highest mean score was attained by the level how the organization marketing department handle customer compliant with (mean = 3.5957& standard deviation = 0.798336) and the least mean was scored by an item stated how much the delivery time of consignment is fast with (mean = 2.7872, standard deviation =1.12165) also the other question that states about the company facilitation for potential customer fall on (mean = 3.5319, standard deviation =0.95214) .As the statistical results on Table 4.4 above depicts, employees agree with two items of customer relationship management (handling customer compliant and potential customer facilitation) whereas Disagree with the remaining question about of delivery time. This indicates that even though the delivery time of consignment is not fast as such the ‘agreement’ on customer relationship of marketing department is somehow good. So the overall group mean& standard deviation fall with (mean = 3.304933&standard deviation = 0.957383).

4.4.5. Employees’ Perception on Organizational Competitiveness

In a number of organizations, a cost-effective supply chain is a matter of survival, as purchased goods and services account for up to 80% of sales revenue, whilst in the public sector there is an ever-increasing demand for savings in the procurement process. The globalization of some sources makes it essential that the professional practice is improved and regarded as a key element in the preparation of company or organization strategies. The linchpin in connecting functional strategies to business strategies whose intention is to provide competitive advantage. Demand for increased service, product performance and variety across supply chains that extend across the globe create new requirements and challenges (Beesley, 2010).

Table 4.6: Mean and Standard Deviation Results of Organizational Competitiveness

	N	Mean	Std. Deviation	Over all Response
The EPPSC is cost effective in using of raw material.	47	2.6383	1.15015	Disagree
The company procurement system has cost advantage in quantity discount and in shortens process.	47	3.0638	.98696	Neutral
The organization is efficient in optimizing of the total energy balance and economic scale of production	47	2.8936	1.20206	Disagree
EPPSC tries to keep production cost by minimizing maintenance cost and by maximizing by product recycle.	47	3.2128	1.10210	Agree
Marketing department is effective on attraction of customer in low price advantage.	47	2.6170	1.07447	Disagree
EPPSC finance department administers costs and manages cash for promoting attractive price of paper and corrugated box product.	47	2.7021	1.19628	Disagree
Out sourcing non-core competencies like the EPPSC machine maintenance project is cost effective.	47	2.9787	.98884	Disagree
The EPPSC produce quality standardizes products by using advanced technological mechanism.	47	2.8298	1.10962	Disagree
The organization use advanced method of electronically marketing and procurement (e-commerce system).	47	2.1064	1.02648	Disagree
EPPSC strive to comply with ISO and environmental regulation.	47	3.5957	1.01424	Agree
EPPSC use market cost leadership system in paper and corrugated box products.	47	2.8723	1.13477	Disagree
The organization has a strategy that focus on consumer preference with innovative product and service.	47	3.0000	1.00000	Neutral
The company focuses on both removal of inefficiency (unnecessary waste) and improving quality product.	47	3.0213	.98884	Neutral
Group Mean& Standard Deviation		2.887062	1.074985	Disagree

Source: Own Survey (March, 2017) n=47

As it can be seen in the Table 4.5 above, for organizational competitiveness measurement within cost efficiency, technological advancement and demand condition measure, from the technological advancement question that is EPPSC strive to comply with ISO and environmental regulation had the highest mean (mean=3.5957 and standard deviation =1.01424). An item with the least mean value was also related to measure the technological advancement question that is

determine whether the organization use advanced method of electronically marketing and procurement (e-commerce system) or not with (mean=2.1064 and standard deviation=1.02648). But in the group mean& standard deviation fall Disagree scale with (mean = 2.887062&standard deviation = 1.074985), the scale that show the organization in not competitive in the industry market.

4.4.6. Employees' Perception on *supply chain performance measurement*

“The emergence of supply chain management has broadened the scope across which companies make decisions. This scope has expanded from trying to optimize performance across the division, to the enterprise, and now to the entire supply chain (Chopra and Meindl, 2007). A framework for performance measures and metrics is considering the four major supply chain activities/processes (plan, source, make/assemble, and deliver) (Sharahi and Abedian, 2009:54).

Table 4.7: Mean and Standard Deviation Results of supply chain performance measurement

	N	Mean	Std. Deviation	Over all Response
The competitive strategy of the organization and supply chain strategy fit together.	47	3.0426	1.04168	Neutral
EPPSC use benchmark or standard for its operational, managerial and structural decision.	47	3.4681	.88098	Agree
The company has effective supply chain plan that leads the organization to competitiveness.	47	3.3191	1.00231	Agree
The organization value stream is proper in identifying value adding activities from wastes.	47	3.2553	.89608	Agree
Supply chain innovation and Process efficiency is applied to competitiveness of the organization.	47	2.8936	.84014	Disagree
EPPSC has successful supply chain that satisfies best decision in flow of product, fund and information.	47	2.7447	.89608	Disagree
There is Working capital shortage and currency problem that affect the smoothness of supply chain in EPPSC.	47	4.1064	.91447	Strongly Agree
The EPPSC market share is related with enhancing of its supply chain practice.	47	3.2979	.88256	Agree
Procurement cycle delays the activation customer order delivery throughout the supply chain.	47	3.6596	1.00599	Agree
The company supply chain integration can balance end use expectation against input or supply cost.	47	3.1277	.94678	Agree
Group Mean& Standard Deviation		3.2915	0.930707	Agree

The supply chain performance measures in Table 4.6 show the measures to assess the practice of supply chain in the EPPSC. The one that has the highest mean question determine the organization Working capital shortage and currency problem that affect the smoothness of supply chain in EPPSC with (mean=4.1064 and standard deviation=.91447). Then the next highest point with (mean=3.6596 and standard deviation=1.00599) is measurement for how Procurement cycle delays the activation customer order delivery throughout the supply chain. The next greater mean question is about how EPPSC use benchmark or standard for its operational, managerial and structural decision with (mean=3.4681 and standard deviation=.88098). These three items of supply chain performance with the other four question fall on agree scale. But the two questions fall on the Disagree point with (mean=2.8936 and standard deviation=.84014) and (mean=2.7447 and standard deviation=.89608) i.e Supply chain innovation and Process efficiency is applied to competitiveness of the organization &EPPSC has successful supply chain that satisfies best decision in flow of product, fund and information respectively. And also the competitive strategy of the organization and supply chain strategy fit together fall neutral scale with (mean=3.0426 and standard deviation=1.04168).

In general the scale in measurement of the organization supply chain performance is Agree with group mean= 3.2915&standard deviation = 0.930707.

4.5. Results and Discussion of Inferential Statistics

4.5.1. Correlation result of supply chain management practices and organizational competitiveness

In this study, to process the correlation analysis, data from the scale typed questionnaires were entered in to the SPSS software version 20.

Pearson correlation coefficient is used to specify the strength and the direction of the relationship between SCM practices (customer relationship management, internal supply management and supplier relationship management) and organizational competitiveness (Cost efficiency, technological advancement and demand condition measure). The results of the correlation between these variables are shown in Table 4.9 below. As it is indicated in the Table 4.9 below, generally there is a positive, strong and statistically significant correlation between supply chain management practices and organizational competitiveness at 1% level of significance ($P < 0.01$) which signifies the effect of SCM on organizational competitiveness of EPPSC.

To be specific for each dimensions, from presented correlation matrix table again we can observe that there is a positive, strong and statistically significant correlation between SCM practices (customer relationship management, internal supply management and supplier relationship management) and organizational competitiveness Cost efficiency, technological advancement and demand condition measure, as the correlation coefficient between each dimensions and organizational competitiveness described as 0.686, 0.718 and 0.726 respectively and in all cases at 1% significance level ($p < 0.01$).

Table 4.8: Correlations between Supply chain management practices and Organizational competitiveness

No.	Items	Organizational Competitiveness		
		Degree of the correlation	Level of significance	Significance
1.	Strategic Supplier relationship management	.726**	0.000	Significant
2.	Internal supply chain management	.718**	0.000	Significant
3.	Customer relationship management	.686**	0.000	Significant

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

Source: Own Survey (March, 2017) $n=47$

4.5.2. Discussion of the Correlation Results and Hypothesis Testing Results

The findings of this research supported the earlier works on this subject matter. The hypothesis was to check for a significant relationship between all the practices of SCM and Organizational Competitiveness of the EPPSC. The correlation results presented in Table 4.6 above indicates that all of the SCM practices are correlated with EPPSC's competitiveness at 1 % level of significance. The result of correlation analysis of this study was consistent with the findings of (Lema, 2015)in which all SCM practices significantly and positively related to organizational competitiveness.

By taking the strength of their relationship, the finding further indicates that the Supplier relationship management practice has highest correlation with organizational competitiveness and followed by internal supply chain management. Comparatively the least relationship was found between Customer relationship management and organizational competitiveness.

The correlation coefficient between SRM practice and organizational competitiveness is placed first from all correlation results of SCM practices with ($r=0.726$; $p<0.01$). This means if the organization supplier relationship practices, the company's competitiveness will be improved. From this it is possible to say that the extent of SRM practice can determine the organizational competitiveness of the EPPSC.

The second practice of SCM which has a correlation result ($r= 0.718$, $p<0.01$) is internal supply chain management. In this regard the correlation result shows that there are strong positive relationships between key ISM and organizational competitiveness at 1 % level of significance .i.e. If the organization improves internal supply chain practice, the change will bring a increment of organizational competitiveness in the market.

Finally the relatively least correlation result ($r=0.686$, $p<0.01$) was realized between customer relationship management and organizational competitiveness. In this case, although relatively it is weak to the other correlation results, the result shows that there is a positive, strong and significant relationship between CRM and organizational competitiveness. This is to mean that if the company adopted a mechanism to handle Customer, it is definite that its organizational competitiveness also changes in the same direction. The following table 4.6 shows the hypotheses summary of the SCM practice (CRM, ISM and SRM) has a correlation with organizational competitiveness.

Table 4.9. Summary of hypothesis testing of correlation

Hypothesis	Tool	Outcome
H₁ : Strategic supplier relationship management has correlation with organizational competitiveness.	Correlation	Accepted
H₀ : Strategic supplier relationship management has no correlation with organizational competitiveness.	Correlation	Rejected
H₂ : Internal supply chain management has correlation with organizational competitiveness.	Correlation	Accepted
H₀ : Internal supply chain management has no correlation with organizational competitiveness.	Correlation	Rejected
H₃ : Customer relationship management has correlation with organizational competitiveness.	Correlation	Accepted
H₀ : Customer relationship management has no correlation with organizational competitiveness.	Correlation	Rejected

Source: Own Survey (March, 2017)

n=47

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter deals with the summary of major findings of the study and conclusions drawn from the analysis made. Furthermore, based on the findings of the study possible recommendations are made.

5.1. Summary of Major Findings

The big purpose of this study is to determine to what extent the supply chain management related with the competitiveness of the organization under study. The specific objectives were: To assess the practice of supply chain management of EPPSC and To determine the relationship between supply chain management practice and organizational competitiveness of the selected organization. Before going to the main analysis of the study, a reliability test was administered to check whether the questionnaire is reliable or not. All the quaternaries were reliable and acceptable with Cronbach's Alpha result 0.942.

- Regarding employees perception towards SCM practices
 - ✓ Supplier relationship management is in mid-point that not got much focus in the case company.
 - ✓ Internal supply chain dimension is at the low level in practice from other SCM dimension of the organization.
 - ✓ Customer relationship management practice is good in the company relatively from other supply chain practices.
- Regarding employees perception towards organizational competitiveness
 - ✓ The organization is not competitive in its industry market.
- The overall performance of supply chain practice is not in satisfactory level.
- In addition the result of correlation analysis shows that all the supply chain management practices (customer relation management , internal supply chain management and strategic supplier relationship management) are positively and significantly correlated with the organizational competitiveness at 1 % level of significance ($P < 0.000$). The highest correlation is attached to strategic supplier relationship management ($r=0.726$), followed by internal supply chain management ($r= 0.718$) and customer relationship management ($r=0.686$) become at the last.

5.2. Conclusion

Prior empirical work on SCM implies that in building organizational competitiveness, supply chain management plays a key role. The present research seeks to investigate the relation of SCM with competitiveness of Ethiopian pulp and paper. Thus, on the base of the finding the following conclusions were made.

regarding summarized given depend on the employees perception, on supply chain practices in EPPSC (CRM, ISCM& SRM) and it's organizational competitiveness in the market is not effective.

Accordingly the analysis of correlation, the supply chain management practice: customer relationship management, internal supply management and strategic supplier relationship management has strong, positive and significant relationship with organizational competitiveness. Although, due to all the three loose practice of supply chain management in the EPPSC, the company competitiveness is affected in the market that shows its sustainability have no assurance.

5.3. Recommendation and Future Research Implications

Ethiopian pulp and paper share company (EPPSC) is the organization that have long years in experience. However its practice of supply chain is not well organized. Therefore, the researcher forward the following recommendation points based on the finding.

- The company supply chain practice integration has to balance end use expectation against input or supply cost. That means as stated in the study the company has high raw material cost, the one that affect the pricing decision of organizations. So as to find this supply chain integration of the organizational sections found in the line of value chain (inbound section, operation & out bound) have to smoothly interconnect in the over flow of the system. This integration can be achieved by a means of:-
 - Cost efficient system called **lean**.
 - ✓ using of by product recycle (broke paper)
 - ✓ outsourcing non-core competency
 - ✓ minimizing maintenance cost (schedule maintenance time for long life of machine)
 - ✓ Optimizing of the total energy balance by technological advanced machines.

- responsiveness to the market called **agile**
 - ✓ shorten the procurement system and supplying machine spare parts
 - ✓ using just in time inventory system
 - ✓ using customer drive production
 - ✓ Be adaptable or adjusting supply chain's design (like advance corrugated box production machine).
- Eppsc has the supply chain strategy that not strictly much with the competitive strategy of the organization. If the company uses lean and agile system i.ein hybrid point, it can touch the demand conditions of both market cost leader and differentiation strategy. That can make the company be competitive in the market. However the system of both cost efficiency and responsiveness can be accomplished by identifying value adding activity from waste i.e proper value stream.
- The organization is weak in promotion and pulling the customer by using technological exposure. But in this dynamic world without forward integration to customer can't achieve growth strategy. To be competitive in the market the EPPSC have to be integrating like interring in to printing industry and using of postponement mechanism. Also using of supplier collaboration mechanism is advantageous for technological advancement and expanding of e-commerce system.
- To be sustainable in competitive world, the organization has to be environmental sensitive and socially responsible. even if the organization have some practice regarding environmental regulation and social make up, it has to more develop close loop supply chain (CLSC) or reverse logistics system.
- The researcher recommended further research on impact of supply chain management on organizational competitiveness. That will help to show how improving the organization supply chain management affect companies competitiveness. Therefore based on the study the EPPSC have to give much focus to its supply chain management practices especially for supplier relationship and can improve the lowest practice of internal supply chain or overall operation system of the company to be competitive enough in the industry's market.

REFERENCE

- Anderson, Sven A. 1942. *Trends in the Pulp and Paper Industry: Economic Geography*, Vol. 18, pp. 195-202.
- Beesley A. 2010. Time compression in the supply chain. In Waters, D., *GLOBAL LOGISTICS New directions in supply chain management* (6th ed). US: Kogan Page Limited. (pp. 69-91).
- Bratić, D. 2011. *Achieving a Competitive Advantage by SCM*. Zagreb: IBIMA Business
- Cetinkaya, B., Cuthbertson, R., Ewerl, G., K-Wissing, T., Piotrowicz, W., & Tyssen, C. 2011. *Sustainable Supply Chain Management*. Berlin Heidelberg: Springer-Verlag.
- Chopra, S. and Meindl, P. 2004. *Supply Chain Management: Strategy, Planning and Operation*. IN: Prentice Hall .
- Chopra, S. and Meindl, P. 2007. *Supply chain Management Strategy, Planning, And Operation* 2nd ed. US: Pearson Prentice Hall.
- Cox, A., Ireland, P., Lonsdale, C., Sanderson, J., & Watson, G. 2003. *Supply Chain Management A guide to best practice*. Great Britain: Prentice Hall Financial Times.
- Cousins, P. and Spekman, R. (2003), "Strategic supply and the management of inter- and Intra-organizational relationships", *Journal of Purchasing and supply Management*, Vol. 9, No. 1.
- D. Simichi-Levi, Romins, P. & E. Simich, - Levi. 2003. *Designing & managing the supply chain concepts, strategies & case studies*. 2nd ed. US: McGraw-Hill/Irwin.
- Draganić, A. 2014. *Value Chain for Shoes Production*. Sweden: Banjaluka.
- Ensermu, M. 2013. *Logistics and Supply Chain Management*. A.A: Addis Ababa University School of Commerce.
- Farahani, Reza Z., Asgari, N., & Davarzan, H. 2009. *Supply Chain and Logistics in National, International and Governmental Environment*. Lo & NY: Springer Dordrecht Heidelberg.
- Guide Jr. and Van Wassenhove, 2009. *The Evolution of Closed-Loop Supply Chain Research: Operations Research*. Vol. 57, No. 1, pp. 10-18.
- Gattorna, J. 2009. *Dynamic Supply Chain Alignment*. 2nd ed. Farnham: Gower.
- Hoek, R. v. 2010. Building more agile supply chains. In Waters, D., *GLOBAL LOGISTICS New directions in supply chain management* (6th ed). US: Kogan Page Limited. (pp. 92-107).

- Jones.G. R and George. J. M. 2008. *Contemporary Management* (5th.ed). US: McGraw-Hill/Irwin.
- Kaplinsky, R. and Morris, M.* 2000. *A Handbook for Value Chain Research*. pp1-113. Review. Vol. 2011 (2011), 13 pages.
- Lema, A. 2015. Implication of supply chain management to competitiveness: A case in BGI Ethiopia plc. A.A: St.marry University.
- Losbichler, H. and Mahmoodi, F. 2010.Creating shareholder value through supply chain management. *GLOBAL LOGISTICS New directions in supply chain management* (6thed) .US: Kogan Page Limited. (pp. 143-163).
- McIntyre,K. and H-Packard 2010. Delivering sustainability through supply chain management. In Donald Waters, *GLOBAL LOGISTICS New directions in supply chain management* (6thed) US: Kogan Page Limited. (pp. 245-260).
- Melesse, M. 2015. *Training Manual on Paper Making Process*. EPPSC: Wonji.
- .Mentzer, John. T. 2004. *Fundamentals of Supply Chain Management twelve drivers of competitive advantage*. California: Sage.
- Morash, Edward A. and Clinton, Steven R. 1998. *Supply Chain Integration: Customer Value through Collaborative Closeness versus Operational Excellence*: Journal of Marketing Theory and Practice, Vol. 6, No. 4: pp. 104-120.
- Niyogi, Hitendra.A and Singh, H. 2010. *Production and Operation Management*. IN: Knowledge Book Distributers.
- Pec, H.2010. Supply chain vulnerability risk and resilience. *GLOBAL LOGISTICS New directions in supply chain management* (6thed) .US: Kogan Page Limited. (pp.192-207).
- Pyzdek T. and Keller Paul A, 2009, *The Six Sigma Handbook: A Complete Guide for Green Belts, Black Belts, and Managers At All Levels*.3rded.US: McGraw-Hill.
- Quayle, M. 2006. *Purchasing and Supply Chain Management: Strategies and Realities* .US: IRM Press.
- Recklies, D.2001. *Management Project GmbH* βwww.themanager.org
- Rinsl, S.2010. Outsourcing: the result of global supply chains?. In Waters,D., *GLOBAL LOGISTICS New directions in supply chain management* (6thed). US: Kogan Page Limited. (pp. 164-177).
- Rogers Dale S. and Leuschner, R. 2004. *Supply Chain Management: Retrospective and Prospective: Journal of Marketing Theory and Practice*, Vol. 12, No. 4. pp. 60-65.

- Sahay, 2004. *Supply Chain Management for Global Competitiveness* 2nd ed. IN: RajirBerl for macmilan.
- Samaranyake, P. 2005. *A conceptual framework for supply chain management: a structural integration*, *Supply Chain Management: An International Journal*, Vol. 10 Iss: 1, pp.47 – 59.
- Shapiro, Jeremy F., Singhal, Vijay M., and Wagner, Stephen N. 1993. *Optimizing the Value Chain: Interfaces*, Vol. 23, No. 2 .pp. 102-117.
- Sharahi and Abedian, M. 2009. Performance Measuremen. In Farahani, R. Z., Asgari, N., & Davarzan, H. *Supply Chain and Logistics in National, International and Governmental Environment*. LO& N Y: Springer Dordrecht Heidelberg. . (pp. 21-42).
- Stabell Charles B. and Fjeldstad, Øystein D. 1998. *Configuring Value for Competitive Advantage: On Chains, Shops, and Networks*: *Strategic Management Journal*. Vol.19. No. pp. 413-437.
- Stenger, Alan J. 1998. *Super charging Supply Chains: New Ways to Increase Value Through*. *Global Operational Excellence* by Tyndall, G., Gopal, C., Partsch, W., & Kamauff, J.: *Transportation Journal*, Vol. 38, No. 1. pp. 47-48.
- Stevenson, William J. 2002. *Operation Management*. 7th ed. US: McGraw-Hill/Irwin.
- Wilhelm, F. 2016. *From Supply Chain to Value Chain: Collaboration is the international-supply-chain-solutions-iscs* <https://www.linkedin.com/.../>
- Winsor, Joel D., Leong, G. Keong, and Tan, Keah- Choon, 2005. *Principles of Supply Chain Management A Balanced Approach*. IN: Cengage Learning.

APPENDICES

Appendix I: Questionnaire

Department of Business School

Post Graduate Program in Masters of Business Administration

Questionnaire to be filled by- EPPSC employees

Dear Respondents,

I am graduating class of MBA student at St. Mary University. This questionnaire is prepared to conduct a research on **‘Impact of Supply Chain Management Practices on Organizational Competitiveness: The Case of Ethiopian Pulp and Paper S.C (EPPSC).’**

As member of this organization, your participation in this study will be valuable and greatly appreciated. Information gathered will be treated with utmost confidentiality and will be used only for academic purpose.

INSTRUCTION: The questionnaire contains statements about supply chain management practices and Organizational Competitiveness. Generally the questions include all the three levels that are strategic, tactical and operational decision areas of supply chain management. Give your own opinion and feeling about each item.

Section1. Demographic Information: Please tick your response in the box.

1.1. Gender:

1. Male =
2. Female =

1.2. Age:

1. 20-30 =
2. 31-40 =
3. 41-50 =
4. Above 50 =

1.3. Your level of education:

1. Vocational school=
2. College diploma =
3. First Degree =
4. Master’s degree =

1.4. Years of experience in EPPSC:

- 1. 1Years and less=
- 2. 2- 5years =
- 3. 6 -10 years =
- 4. 11-15 years =
- 4. Above 15 years=

1.5. Position in EPPSC

- 1. Raw material inventory person and purchaser (Inbound logistic section) =
- 2. Production person (Operation section) =
- 3. Major executive (Directorate) =
- 4. Finished material inventory and marketing person (Outbound logistic section) =

Section2. Please respond to each of the following items by ticking the letter in the box that represent the scales are: **SD= strongly disagree, D= Disagree, N= Neutral, A= Agree and SA= strongly agree**

S.N	Items	SD	D	N	A	SA
A	Supply chain management practices					
I	Strategic supplier relationship management					
1	EPPSC uses strategic supplier selection mechanism					
2	EPPSC uses push (supplier driver) production or just in case inventory system.					
3	The organization collaborates with supplier in long relation for smooth supply chin practices.					
II	Internal Supply Chain Management					
4	The organization use promotion and marketing research to attract new customers and to hold existing customers.					
5	EPPSC uses Pull (customer driver) production or just in time (JIT) inventory system.					
6	The organization is adaptable or can adjust its supply chain's design to meet structural shift in markets alignment.					
I	Customer relationship management					
7	Marketing department handle customer compliant.					
8	The company facilitates potential customer.					
9	The delivery time of consignment is fast.					
B	Organization Competitiveness					
I	Cost efficiency measurement					
10	The EPPSC is cost effective in using of raw material.					
11	The company procurement system has cost advantage in					

	quantity discount and in shortens process.					
12	The organization is cost effective in optimizing of the total energy balance.					
13	EPPSC tries to keep production cost by minimizing maintenance cost and by maximizing by product recycle.					
14	Marketing department is effective on attraction of customer in low price advantage.					
15	EPPSC finance department administers costs and manages cash for promoting attractive price of paper and corrugated box product.					
16	Out sourcing non-core competencies like the EPPSC machine maintenance project is cost effective.					
II	Technological advancement					
17	The EPPSC produce quality standardizes products by using advanced technological mechanism.					
18	The organization use advanced method of electronically marketing and procurement (e-commerce system).					
19	EPPSC strive to comply with ISO and environmental regulation.					
III	Demand condition					
20	EPPSC use market cost leadership system in paper and corrugated box products.					
21	The organization has a strategy that focus on consumer preference with innovative product and service.					
22	The company focuses on both removal of inefficiency (unnecessary waste) and improving quality product.					
C	supply chain performance measurement					
23	The competitive strategy of the organization and supply chain strategy fit together?					
24	EPPSC use benchmark or standard for its operational, managerial and structural decision.					
25	The company has efficient supply chain plan that leads the organization to competitiveness.					
26	The organization value stream is proper in identifying value adding activities from wastes.					
27	Supply chain innovation and Process efficiency is applied to competitiveness of the organization.					

28	EPPSC has successful supply chain that satisfies best decision in flow of product, fund and information.					
29	There is Working capital shortage and currency problem that affect the smoothness of supply chain in EPPSC.					
30	The EPPSC market share is related with enhancing of its supply chain practice.					
31	Procurement cycle delays the activation customer order cycle throughout the supply chain.					
32	The company supply chain integration can balance end use expectation against input or supply cost.					

Thank you for your time

Appendix II: SPSS outputs

Correlations

		CRm	ISCM	SRM	OC
CRm	Pearson Correlation	1	.724**	.490**	.686**
	Sig. (2-tailed)		.000	.000	.000
	N	47	47	47	47
ISCM	Pearson Correlation	.724**	1	.573**	.718**
	Sig. (2-tailed)	.000		.000	.000
	N	47	47	47	47
SRM	Pearson Correlation	.490**	.573**	1	.726**
	Sig. (2-tailed)	.000	.000		.000
	N	47	47	47	47
OC	Pearson Correlation	.686**	.718**	.726**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	47	47	47	47

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

Reliability

Strategic supplier relationship management Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.675	3

Internal supply chain management Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.704	3

Customer relationship management Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.532	3

Cost efficiency measurement
Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Cronbach's Alpha	N of Items
.851	7

Technological advancement
Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.677	3

Demand condition
Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.730	3

Supply chain performance measurement

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.818	10

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	47	100.0
	Excluded ^a	0	.0
	Total	47	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.942	32

ENDORSEMENT

This thesis has been submitted to St. Mary's university, School of Graduate Studies for examination with my approval as a university advisor.

Advisor

St. Mary's university, Addis Ababa

Signature

June, 2017