Addis Ababa University

School of Commerce

Graduate Studies Department of

Logistics and Supply Chain Management

The Effect of Supply Chain Management on Oils Seeds (Sesame) Export Performance in Ethiopia: The Case of Three Sesame Export Companies

A Thesis Submitted to the School of Graduate studies of Addis Ababa University School of Commerce in Partial Fulfilment of the Requirements for the Degree of Master of Arts degree in Logistics & supply chain management

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May, 2018

Letter of Certification

This is to certify that the thesis prepared by Melaku Dubai, entitled: the Effect of Supply Chain Management on Oils Seeds (Sesame) Export Performance in Ethiopia in the Case of three sesame export companies. and submitted in partial fulfilment of the requirements for the Degree of Master of Social Work (MSW) complies with the regulations of the University and meets the accepted standards with respect to originally and quality.

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Declaration

I, the undersigned, declare that this thesis under the title "The Effect of Supply Chain Management on Oils Seeds (Sesame) Export Performance in Ethiopia: The Case of Three Sesame Export Companies" is my original work and has not been presented for a degree in any other university, and that all source of materials used for the thesis have been duly acknowledged.

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Acknowledgements

First of all, I would like to thank my Almighty God for supporting and giving me the strength to accomplish this thesis with all the challenges.

My heartfelt thanks goes to my advisor Fesseha Afework (Asst. Prof.), for the wholehearted and helpful support he gave in the process of doing this research.

I am also highly indebted to Nigusse Gebremariam for his positive support by advising as well as helping in the data collection process.

My great thanks goes to my wife for being a strength throughout doing this research. I am grateful to my family for being on my side throughout this research. My gratitude extends to all my friends who helped me during the data collection process.

Last but not least, my appreciation goes to all the staffs of Dipasa Agro plc., Ambasel Trading House and Selet Hulling Plc., for being very cooperative in providing the necessary information about the supply chain management practice in their organization.

Acronyms

AACCSA Addis Ababa Chamber of Commerce and Sectorial Associations

APICS American Production and Inventory Control Society

BOARD Bureau of Agriculture and Rural Development

BRC British Retail Consortium

ECC Ethiopian Chamber of Commerce

ECX Ethiopian commodity exchange

EPOSPEA Ethiopian Pulses, Oilseeds and Spices Processors and Exporters Association

EQSA Ethiopian Quality and Standard Authority

FAOSTAT Food and Agriculture Organization Corporate Statistical Database

FDRE Federal Democratic Republic of Ethiopia

HACCP Hazard Analysis and Critical Control Points

IACSIT International Association of Computer Science and Information Technology

JCEBI Journal of Contemporary Economic and business Issue

PLC Private Limited Company

SAS Statistical Analysis System

SC Supply Chain

SCM Supply Chain Management

SPSS Statistical Package for Social Sciences

STAT Statistical Database

USA United States of America

USAID United states agency for international development

USD United States Dollar

Abstract

This research was conducted on the Effect of Supply Chain Management on Oils Seeds (Sesame) Export Performance in Ethiopia in the Case of three sesame export companies. The study aims to articulate the effect of supply chain management on sesame export performance in Dipasa Agro plc., Ambasel Trading House and Selet Hulling Plc. This research is conducted to answer the following research questions: ***What are the current supply chain management practices of oil seed exporting companies?*** *How is the integration between the suppliers and the processor? How responsive is the supply management process of the supply chain? and Are there changes that the management brings in terms of time, cost and quality? The study employed a quantitative research specifically descriptive survey research method. Data is collected from the higher management team, supervisors and operation workers of the above three companies. The research used structured questionnaire and document review to collect data. The major findings of the study show that the organizations integration with their suppliers is good except that there is weak strategic partnership with major suppliers. This study also identified gaps in managing supply chain inventories in relation to visibility of the inventory status along the supply. The result also shows the information flow within the organizations and with strategic customers; and the communication with customers is moderately good. From the result of the analysis it is concluded that each SCM practices of the organizations such as supplier integration, internal integration, information flow and customer integration affected the export performance of the organizations both in positive and negative ways. The study has great implication in the area of supply chain management of oilseed exporting companies, and for further research.*

Keywords*: supply chain management, export performance*

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Chapter One

Introduction

1.1Background of the Study

Supply Chain Management has an important role to play in moving goods more quickly to their destination. LaLonde defines supply-chain management as follows: "The delivery of enhanced customer and economic value through synchronized management of the flow of physical goods and associated information from sourcing to consumption. (Sotiris, 2000) Supply chain management is, "a set of three or more entities (organizational or individuals) directly involved in the upstream and downstream flow of products, services, finances, and/or information from source to customer" (Mentzer et al., 2001).

Over the last decade the competitive landscape has shifted from lowest priced product, to highest quality or best-performing product to the ability to respond quickly to market needs and get the right product to the right customer at the right time. This shift toward speed has pushed organizations to compete with their entire supply chain. Consequently understanding and practicing supply chain management (SCM) has become a mandate to compete and improve supply chain surplus in the global arena. (Ebrahim and Mahmoud, 2014)

Some of the major supply chain execution functions are as follows: Managing the flow of products from the manufacturers to distributors to retailers and finally to customers in order to ensure the accurate delivery of products. Providing information about the status of orders being processed so that the vendors could provide the exact delivery dates to customers and tracking the shipment and accounting for the products that have been returned or are to be repaired and serviced. Supply Chain Management includes services such as inventory management, transportation operations management, distribution strategy, operational analysis and design materials handling, warehouse design project management and computer systems.

Sesame is produced in around 75 countries of the world. The production of sesame seeds in the world is dominated by a few countries that lie in the African and Asian continents. All the major producers of the seed produce a total of around 30 million tons annually. China produces the maximum out of them sharing approximately 25% share in the total world's production. The 5 topmost producing countries contribute to around 70% of the total production in the world. The production level has grown steadily over the last decade and is still rising the same way. The top ten sesame producing countries are China, India, Myanmar, Sudan, Uganda, Nigeria, Pakistan, Ethiopia, Bangladesh, and Central African Republic (FAOSTAT, 2008). The major actors in the Ethiopian sesame market are exporters, wholesalers, brokers/agents, local traders (assemblers), primary cooperatives and their unions, commercial farms and small scale farmers.

Ethiopia is one of the centers of biodiversity for several oilseeds which can be considered as specialty high value seeds on the international market. These are sesame seed, niger buy cialis pills seeds, mustard seed, pumpkin seed, sunflower, rape seed, castor seeds and ground nuts. Among the oil crops of Ethiopia, sesame seed commands a leading position because it is highly adapted to arid & semiarid low land environment and yields well. Ethiopia is the world's 3rd largest sesame exporter, supplying 14% of the global market for raw seeds. These seeds are then processed abroad. Sesame is one of Ethiopia's highest value crops, earning $1,330 / MT raw. (USAID, 2012) In addition Ethiopia has high quality sesame seed varieties suitable for wide range applications. The types of Ethiopian Sesame are Whitish Humera Type which has good demand in the world market & known for its top quality and reference for grading in the international market; and Wellega type which is mixed /brownish. (Ethiopian Pulses, Oilseeds and Spices Processors Exporters Association)

1.2 Background of the Organizations

The following information is obtained from Trade and Industry Minister and the websites of the organization in the internet.

The study was conducted in Dipasa Agro plc., Ambasel Trading House and Selet Hulling Plc. which are found in Addis Ababa. The company's vision is to be a specialized leading supplier of high quality products of sesame seeds to a high value markets that substantially contributes to raising our market share in world market. Dipasa Agro Plc is one of the Dipasa groups and established in April 30, 2008 as a joint venture company between Dipasa Europe B.V of the Netherlands which is highly experienced in processing and marketing of sesame seeds products for more than 30 years and Agro prom International Plc. of Ethiopia who also has a good experience in exporting agricultural products including sesame seeds to world market. It is processing the Humera type sesame seed. It is excellent for bakery products and desert food preparation. The organization currently engaged in exporting the following processed products of Humera type sesame seeds namely cleaned natural sesame seeds, mechanically hulled sesame seeds and Hulled and roasted sesame seeds. (Trade and Industry Minister)

The other study area is Selet Hulling PLC which was established in December 2007. The mission of the organization is to be the world food and bakery industry's premier supplier of top quality, competitively priced, certified organic hulled sesame seeds for a healthier living. The organization has a positive impact on the livelihoods of many Ethiopian people and on the economy as a whole in bringing higher incomes for the families of the targeted 1500 farmers, creating employment, introducing new technology of dry hulling in Ethiopia, capacity building through training at both the factory and farming levels, and supporting local health and educational initiatives. In addition, the project is very environmentally friendly and has no negative health effects on project participants because of the nature of the products that are organic, for which the production processes are centered on promoting the environment and ensure no exposure to hazardous materials. Selet has plans of expanding its product line to include roasted sesame; tahini, halva and sesame oil within the very near future.

Ambasel Trading House is one of the leading Import - Export companies in Ethiopia. It engages in a wide variety of commodities and several other goods, which include; Chemical Fertilizers, Agro Chemicals, Agricultural Machineries and Implements, Building Materials, Tires and Tubes, Spare Parts, Earth Moving Machineries, Industrial Raw Materials, etc. The type of raw material (sesame seed) that is hulled is popularly known as the "Humera" type. This sesame is very popular due to its predominantly white and comparatively large uniform seeds; sweet, nutty taste and sweet aroma.

1.3 Statement of the Problem

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. Effective supply chain management is then mandatory in exporting firms. There are many benefits of effective supply chain management. These are improved forecasting, planning and scheduling capabilities; reduced lead times, reduced costs and inventory levels, improved decision-making (due to real-time knowledge of sales rates, inventory and production rates), improved customer service and improved quality levels.

Exports are of immense importance to the development of a country in terms of economic and societal prosperity especially in developing countries (Westhead, 2008 and Koksal, 2008). In fact, firms have begun to consider export activities as prerequisites for future growth, profitability and even survival (Mavrogiannis et al., 2008). However, Ethiopian firms are not sufficiently getting the benefits of SCM due to lack of the practice of integration, collaboration and not having willingness and the practice of managing supply chains. Supply chain management practice in Ethiopia is in the beginning stages, there are small numbers of companies integrating it to their organizational system. The traditional way of managing from suppliers to customers is just a buy and sale (Transactional) relationship, Belay (2011).

Regarding oil seed export in Ethiopia, problems are observed which are becoming challenges for the organizational performance. The unreliability of suppliers is one of the problems in these firms. The exporting companies source the oil seed from the farmers. One of the problems of that are faced by these firms is the farmers change their contract whenever they want. This is due to the fact that there are few farmers who produce oil seeds in Ethiopia. (J. Wijnands (LEI), J. Biersteker, & R. Hiel., 2007) New areas are virgin, fertile and offer good opportunities for expansion. Most new areas are in the lowlands. But the problem is that the new areas less attractive for settlement. The main challenge for new areas is to grow products with an increased added value, which can cover the additional cost of development and logistics. In those new areas organic farming of oilseeds is a major possibility.

Lacking international market orientation is the other problem observed. International market orientation is insufficient. Little information from the interviewed stakeholders is retrieved on the requirement of final customers in highly developed export markets. (J. Wijnands (LEI), J. Biersteker, & R. Hiel., 2007).

A general lack of regulatory standards has led to adulteration of different grades (standard qualities) of sesame that has affected both edible oil processing companies in the country and exporters competing in the international market. Apart from this, market information for sesame, mainly that of international market, is not widely available and infrastructure is generally weak in Ethiopia. (Hailemichael, 2016)

High transaction costs is also a problem in oil seed export in Ethiopia. The oilseeds chain starts with a very large number of smallholders, each producing a very limited quantity. (J. Wijnands (LEI), J. Biersteker, & R. Hiel., 2007). This requires additional efforts from middlemen, brokers and traders to collect sufficient large quantities, meeting the required export volumes. In Ethiopia at present, the presence of high transaction costs, related to the lack of sufficient market coordination between buyers and sellers, the lack of market information, the lack of trust among market actors, the lack of contract enforcement, and the lack of grades and standards, implies that buyers and sellers operate within narrow market channels, that is, only those channels for which they can obtain information and in which they have a few trusted trading partners.

Even though it has been two decade since Ethiopian exporters have started to actively participate in the global sesame industry, no permanent and visible relationship has existed between Ethiopian exporters and foreign buyers in China or any other market. Rationally, this can be linked to Ethiopian Exporters' lack of current market know-how and principles mainly that of the global supply chains, both within their private businesses as well as in their relation globally. (Hailemichael, 2016)

In addition, the Ethiopian consumer markets are still in the infant stage. This results in general in poorly developed quality standards and thus in products not suited to developed high income export markets. Most oilseed crushing and refining plants do not meet European quality standards. Most processors do not meet the European quality standards on safety and hygiene. These imports cause large problems to local refineries. Refining capacities are heavily underutilized. In urban areas consumers prefer imported packaged, refined edible oil for prices not outrageously higher than local bulk oil. It means that the Ethiopian oil seeds sector especially the refineries, needs to understand the quality requirements of the end users, which differ considerably from the domestic user.

In the past years, demand for sesame has been high, but incentives for quality production and value addition are weak. Global production has increased, and a price decline is intensified with increased competition and greater demand for quality. Most of the traders at ECX also argue that China takes large quantities, but it wants products as cheap as possible. Hence, they believe that sales of organic farming cannot be sustainable with China, as its focus is more on price than on quality (Sesame Business Network, 2014). Majority of sesame seed traded through ECX goes to the low paying markets of China, Israel, Turkey, and other countries in the Middle East. This is because trading through ECX does not meet the quality requirements by customers in several high value end markets of USA, Europe and Japan (Jennie V. Mheen-Sluijer, 2010). Worldwide, the concept of quality products among consumers is growing: taste is important but so are the conditions in which products were made. Hence, product quality increasingly includes criteria related to environmental and socio-economic sustainability. This can be clearly identified by looking at market trends in Western countries. (Hailemichael, 2016)

Storage facilities need to be improved in most cases. Creating a demand driven supply chain for high demanding markets requires storage capacity which complies with quality assurance systems. Vulnerability of storage to pest, moisture or rodents should be banned out.

Availability of inputs like quality seeds, fertilizers and other complementary inputs and credit facilities is limited. The aim should be enhancing an efficient and effective input market system. Seeds are traditionally selected and sometimes mixed. It is unclear whether new varieties (bred or imported) are suited for the growing conditions in Ethiopia. (J. Wijnands (LEI), J. Biersteker, & R. Hiel., 2007). The low levels of fertilizer use might result in soil degradation and unsustainable farming systems in the long run.

1.4 Research Questions

1. What are the current supply chain management practices of oil seed exporting companies?
2. How is the integration between the suppliers and the processor?
3. How responsive is the supply management process of the supply chain?
4. Are there changes that the management brings in terms of time, cost and quality?

1.5 Research Objectives

The general objective of the study is to articulate the effect of supply chain management on sesame export performance in Dipasa agro plc., Ambasel Trading House and Selet Hulling Plc.

The specific objectives of the study are:

- to determine which supply chain management practice are performed in oil seed exporting companies
- to Identify the integration between the suppliers and the processor
- to investigate and measure the perceived performance of the supply chain responsiveness
- to Identify the changes that the management brought in terms of time, cost and demand

1.6 Significance of the Study

As different literatures point out, effective and efficient supply chain management creates value to customer as well as the rest of the supply chain actors and enables the supply chain firms to maintain or gain competitive advantages over their competitors. Besides, in the contemporary business environment, individual firms will not perform and compete independently. Therefore, this research is believed to give basic insight and understanding concerning effective Supply Chain Management (SCM) in oil seed export companies especially for sesame export companies. The study is believed to improve the company's customer service by delivering them the right product at the right time and at the right location. It will also enable the companies to bring the products to the market at a quicker rate and helps to increase the firm's profitability by lowering the total supply chain cost, including procuring materials cost, transportation cost, inventor, and carrying cost. In addition, it serves other researchers as an additional source of information to conduct further study on this area.

1.7 Scope of the Study

The study was delimited in three sesame exporting companies. The selected companies for this study are Dipasa Agro Plc., Ambasel Trading House and Selet Hulling Plc. The data was collected from the higher management team, supervisors and operation workers of the three companies. The topic covers the issues of integration with suppliers, internal process, information flow and integration with customers on export performance.

1.8 Limitation of the Study

One of the limitations of this research was lack of cooperation of the respondents to completely fill the questionnaires. The other limitation was the research sample did not incorporate all the supply chain participants like the suppliers and customers due to time and budget constraint.

1.9 Definition of Terms

Supply Chain: A supply chain is a set of three or more organizations linked directly by one or more of the upstream or downstream flows of products, services, finances, and information from a source to a customer. (Robert M. et al., 2009).

Supply Chain Management: SCM practices have been defined as the set of activities undertaken in an organization to promote effective management of its supply chain (Li *et al.,* 2006).

Customer integration: is defined as "demand management practices through long-term customer relationship, satisfaction improvement, and complaint management" (Tan et al., 1998).

Information sharing: is defined as "The extent to which critical and proprietary information is communicated to one's supply chain partner" (Li et al., 2004).

Internal integration: is defined as "the degree to which a manufacturer structures its own organizational strategies, practices and processes into collaborative, synchronized processes, in order to fulfill its customers' requirements and efficiently interact with its suppliers" (Flynn et al., 2010).

Supplier integration: is defined as "The long-term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits" (Li et al., 2004).

1.10 Organization of the Study

The study comprises five respective chapters, Reference and Appendix.

Chapter one: Introduction

This chapter would contain the background of the study and the organizations; statement of the problem, basic research questions, objectives of the study, definition of terms, significance of the study, limitation of the study, scope of the study and organization of the study.

Chapter Two: Review of Related Literature

This part of the study deals with the literature relevant to the proposed study and conceptual framework.

Chapter Three: Research Methodology of the Study

In this chapter the researcher described the research design, study area, study participants, sampling technique and sample size; data collection instruments, data collection procedure, method of data analysis, ethical considerations of the study and data quality assessment.

Chapter Four: Results and discussion

This chapter would summarize the results, and findings of the study; interpretation and discussion of the findings.

Chapter Five: Summary, Conclusions and Recommendations

It is a chapter that comprises the four sections, which include conclusions and recommendations.

Chapter Two

2.1 Literature Review

In today's highly competitive and complex marketplace, a company with a more effective and efficient supply chain can have more advantage than its competitors. Thus, supply chain management, as a source of competitive advantage has become a big challenge for the companies in different industries (Mentzer, 2004). The literature review includes the theoretical and empirical review regarding supply chain management and oil seed export specifically sesame export. The theoretical part categorized into supply chain, supply chain management, key elements in SCM, and Supply Chain Management as a Source of Competitive Advantage. The empirical part includes the findings of researchers about the relationship of supply chain management practices, sesame seed export and export performance.

2.1.1Theoretical Literature Review

2.1.1.1. What is Supply Chain?

Supply Chain is a linkage of various organizations and the chain comprises vendors that supply raw materials, producers who convert the raw material into finished product, warehouses that store products, distributor's that deliver products to retailers and retailers who deliver products to the ultimate consumer through upstream and downstream linkages in different kinds of activities and processes (Christopher,1998). There are two characteristics that describe supply chain performance: responsiveness and efficiency. There are four measurement categories for the supply chain performance. These are customer service, internal efficiency, demand flexibility, and product development. Customer service measures the ability of the supply chain to meet the expectations of its customers. Depending on the type of market being served, the customers in that market will have different expectations for customer service. Customers in some markets both expect and will pay for high levels of product availability and quick delivery of small purchase quantities. Customers in other markets will accept longer waits for products and will purchase in large quantities.

Internal efficiency refers to the ability of a company or a supply chain to operate in such a way as to generate an appropriate level of profitability. As with customer service, market conditions vary and what is an appropriate level of profit varies from one market to another. Demand flexibility measures the ability to respond to uncertainty in levels of product demand. It shows how much of an increase over current levels of demand can be handled by a company or a supply chain. It also includes the ability to respond to uncertainty in the range of products that may be demanded. Product Development encompasses a company and a supply chain's ability to continue to evolve along with the markets it serves. It measures the ability to develop and deliver new products in a timely manner. This ability is necessary when serving developing markets. A number of stages are involved in a supply chain, typically including suppliers, manufacturers, warehouses, distribution centers, retailers, and customers.

2.1.1.2 What is the Supply Chain Management (SCM)?

Several definitions of supply chain management were proposed by researchers in the literature. Stock and Boyer (2009) defined SCM as "The management of a network of relationships within a firm and between interdependent organizations and business units consisting of material suppliers, purchasing, production facilities, logistics, marketing, and related systems that facilitate the forward and reverse flow of materials, services, finances and information from the original producer to final customer with the benefits of adding value, maximizing profitability through efficiencies, and achieving customer satisfaction". (Abdallah et al., 2014)

In the APICS Dictionary, Cox and Blackstone described SCM as "the design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand, and measuring performance globally." (Cox et al, 2005)

SCM is a set of approaches that efficiently integrate and coordinate the materials, information and financial flows across the supply chain so that merchandise is supplied, produced and distributed in the right quantities, to the right locations, and at the right time, in the most cost-efficient way, while satisfying customer requirements (Hugo, et.al, 2011).

2.1.1.3 Key Elements in SCM

From the above definitions, SCM comprises of a lot of issues related to different stages in the supply chain. The six key elements in the SCM and the coordination and integration between them have been given extensive research attention. These key elements are service level management, customer segmentation, order and demand management, sales demand planning and forecasting, inventory management; and order entry and fulfillment.

SCM basically also encompasses other basic elements such as customer integration, internal integration, supplier integration and information sharing. Customer integration includes different activities and practices such as integrated problem-solving initiatives, direct customer contacts, managing customer complaints, increasing customer satisfaction, and establishing long-range relations with customers.

Internal integration deals with integrating and linking information among different organizational departments, creating an easy access to inventory information, developing an easily accessed integrated database that encompasses main operational data, integrating production processes using advanced information systems, and linking production and marketing departments using computerized planning systems (Lee et al., 2007). In another study it is also explained that internal integration is a systematic way of creating inter-functional interaction, collaboration, coordination, communication and cooperation that takes functional areas together to create a cohesive organization. (Flynn *et al*, 2010) Modern information technology makes possible the fast and safe transmission and processing of extensive amounts of data, both internally for users within the company, and externally for suppliers and customers (Shukla *et al*., 2011).

Supplier integration characterized by various aspects and activities such as information sharing, coordination, trust, shared technology, integrated processes, long-term contracts, assisting suppliers to improve production processes, fostering quality improvements, investing in supplier's assets, including suppliers in new product development, improving supplier's overall capabilities, risk and reward sharing, and shared gains from development efforts. According to Jonsson (2008), strategic sourcing and the development of the supplier relationship is really significant for the company's and supply chain performance. The efficiency and the competitiveness of the company's supply chain can be affected by the choice of, sourcing strategy, collaboration strategy with suppliers. Suppliers are as equally important as the customers for a company's performance and competitiveness. (Sintayehu, 2016)

The advancements of information technology have greatly contributed to the evolution of sharing information throughout the SC. Information sharing can vary from strategic to tactical & from information about logistics activities to general market & customer information (Mentzer et al. 2004). Information sharing enables SC parties to perform as a single body (Stein & Sweat, 1998). It may also include information about quality, logistics, customer and general market information, and design information (Singh, 2013). In order to yield best results, shared information has to be adequate, accurate, credible, and timely (Li et al., 2004). Another research also reveals that High levels of responsiveness can be achieved when companies collect and share accurate and timely data generated by operations (Nel & Badenhorst-Weiss, 2010). Information sharing affects performance in terms of improved customer responsiveness, decreased costs, enhanced service levels, and reduced levels of complexity (Zhao et al., 2002).

The impact of information sharing on SCM depends on what information is shared, quality on shared information, and company's capability in using and translating the information in to a supply chain strategy and operational activities (Moberg et al, 2002). As Whang stated, poor information sharing between partners in a supply chain will result in poor coordination that will lead to many serious problems such as high inventory levels, inaccurate forecasts, low resource utilization, and high production costs (Hana, 2016). The quality of the shared information becomes a critical aspect of effective supply chain practice. For that reason, organizations need to view their information as a strategic asset & ensure that it flows with minimum delay & distortion (Feldman et al. 2003)

2.1.1.4 Supply Chain Management as a Source of Competitive Advantage

Because of the collaboration between members of the chain, SCM gives significant opportunities for partners involved in terms of cost reduction, revenue enhancement, flexibility, customer satisfaction, speed and economy of time (Hoole.R, 2005). Implementing appropriate supply chain strategy enables to achieve a better supply chain performance in terms of responsiveness and efficiency over that of rivalries in a given industry. In the modern era of technology, manufacturing firms are looking forward to increase their efficiencies and performances using advance information technology in supply chain management. Supply chain management is one of the major tools that play a vital role to enhance organizational efficiency in this world of new technology. (Sintayehu, 2016)

Every organization needs to have good supply chain management through good financial planning, timely and high quality of service; elimination of duplicates and wastes, information systems integration, collaboration and teamwork; measurements, continuous improvements, and return on investments in supply chain.

Tan argues that it is the service aspect and customer satisfaction that actually drives the change towards SCM and the importance of having a process approach: "A key facilitating mechanism in the evolution of supply chain management is a customer-focus corporate vision, which drives change throughout a firm's internal and external linkages." (Tan, 2001)

In order to facilitate SCM implementation and create a true SCM environment, different firms in different industries have developed suitable business and management concepts for them (Svensson, 2003). Very often consultants and other experts have been involved in this when investigating the effects and working out strategies and structures for how to best start collaborations. The promised effects of SCM, such as a lower total cost, service improvements and reduced inventory levels, should be achieved more easily. Modern supply chain practices need to be highly proactive, horizontally integrated, information driven, network based, and technology enabled.

Researchers have pointed to several objectives and goals of SCM. Long term objectives include improving efficiency and effectiveness of supply chain partners, improving market share and profits, and increasing customer satisfaction. Short term objectives of SC include increasing productivity, and reducing cycle time and inventories. (Ayman et al., 2014)

Integrated Supply Chain Management Systems has a great importance in lowering costs by adding an effective SCM system to a business. This system efficiently plans for materials to be brought to a certain company from the lowest cost provider possible and at just the right time to ensure there is no excess or deficiency in the material. Patterson suggests that: Supply chain capabilities are likely to play a large part in; reducing costs and thus impacting on price, determining the speed of availability of the product to the customer; influencing the degree of product customization possible; impacting on customer choices; capturing and sharing information with suppliers and customers, and negotiating initial aspects of the relationship with distributors and key accounts. (Patterson, 2007)

Improved Collaboration is the other benefit of SCM. This knowledge can keep relationships between these businesses strong. This system often includes the development of reports on how the chain of goods progresses from supplier through distributor. A SCM system also improves cycle times and ensures that raw materials are provided when businesses need them so that companies never have to stop production. A SCM system also lets companies better cope with problems at either side of the production spectrum.

Although SCM is currently no longer a new strategy, there are still some serious practical problems that have yet to be addressed. Like lack of basic knowledge of SCM amongst the business practitioners and even though some of the practitioners have realized the importance of SCM, they lack an understanding of what constitutes a comprehensive set of SCM practices. (Makena, 2014) Hence, other researchers have listed the supply chain design and management problems as poor coordination of effort, incompatible information systems, long cycle times, communication problems, customer service issues, excessive waste and environmental degradation, relatively high inventory for the level of customer service achieved and lower than optimal profits. (Fawcett & et al., 2007)

The benefits of implementing supply chain management in the manufacturing sector include Improve forecast accuracy; Improve planning and scheduling; Reduce inventory levels; Increase asset utilization; Reduce manufacturing replenishment lead times; Reduce costs for logistics; Improve customer service; Reduce volume of errors; Improve delivery of services; Improve organization internally; Improve income due to better monitoring of the markets; and Improve utilization of resources.

2.1.1.5 Export Performance

Export performance of a firm reflects a firm-specific behavior in leveraging its resources and capabilities in an international context at a given point of time. (Beleska-Spasova, 2014) According to Aaby and Slater, export performance is determined by four variables: firm characteristics (size, managerial commitment, managerial perceptions), firm competences (technology, market knowledge, market planning, export policy, control systems, quality control, communication skills), export strategy (market selection, use of intermediates, product mix, product development, promotion, pricing), and external environment. Empirical research over the past 40 years has identified and tested a number of internal influences, often labelled as managerially controllable factors. They can be grouped in four broad groups: firm characteristics, management characteristics, management attitudes and perceptions, and export strategy. The most frequently cited factors as firm-specific determinants in the export performance literature are marketing mix variables, management characteristics, firm specific variables, and export strategy factors.

Firm export performance is regarded as one of the key indicators of the success of a firm's export operations. According to numerous studies that have been conducted revealed that well managed export strategy make exporting a successful endeavor. Studies examining the internal factors assume that the firm's export performance is under the control of the firm and its management. (Beleska-Spasova, 2014)

There are many indicators used to understand the performance status of a firm. Strong financial result, satisfied customers and motivated employees, high levels of individual initiative, high level of productivity and the degree of innovation, aligned performance measurement and reward systems are the main attributes that indicate operational achievements.

Export performance is the relative success or failure of the efforts of a firm or nation to sell domestically produced goods and services in other nations. Export performance can be described in objective terms such as sales, profits, or marketing measures or by subjective measures such as distributor or customer satisfaction. (Hailegiorgis, 2011)

Ethiopia's share in total world exports has been very low, according to the findings of Alemayehu, Abay and Zewdu. Each argues that Ethiopia's external trade has major problems both on the supply side due to its dependency on few primary products characterized by large fluctuations in volume; and a very high degree of concentration of exports on few commodities. (Azmera, 2011)

2.1.2 Empirical Literature Review

2.1.2.1 Supply Chain Management and Operational Performance

A strong SCM carefully implemented would enable Kenyan manufacturing firms to compete favorably locally and internationally in today's difficult business environment; where firms are constantly searching for improvement in product production, systems management and customers. (Republic of Kenya, 2000).

(Mustefa, 2014) conducted study on the supply chain management practices and firm performance in case of awash tannery P.L.C. in Ethiopia. His study assessed the relationship between SCM practices with operational performance and organizational performance. The research found out that there is strong relationship between SCM practices, operational performance and organizational performance. The study showed that SCM practice have an influence both on operational performance and organizational performance.

Another study conducted in Jordan indicated that the results of the first step in the regression model showed internal integration, information sharing, and customer integration contribute to supply chain performance. The results also showed that the impact of internal integration on SC efficiency became more significant under high levels of competitive intensity. Internal integration proved to be the most contributing SCM practice to SC efficiency. Also, the interaction effect of competitive intensity on the relationship between internal integration and SC efficiency was significant and positive. The findings implied that whether the markets are characterized by low competition or intensive competition, internal integration represents a crucial SCM tool to improve SC efficiency. (Abdallah et al., 2014)

A study conducted by Natnael Gebreyesus on Employees' Perception on the Effects of Supply Chain Management Strategy on Firm Performance in MOHA Soft Drinks Industry S.C. Addis Ababa, Ethiopia indicated that the correlation test conducted on customer service strategy and supply chain performance indicates that there is strong and positive relation between customer service strategy and supply chain performance. (Natnael, 2016)

The generally agreed benefits of implementing supply chain management by the respondents of a study conducted in Kenya on Benefits of Supply Chain Management in the Manufacturing Sector by William K. Koech and Richard K. Ronoh are improved customer service, reduced volume of errors, improved planning and scheduling, increased asset utilization, reduced manufacturing replacement lead times, improved forecast, and reduced costs of logistics.(2015) These results indicate that manufacturing industries have benefited by implementing SCM. Other benefits as gathered from the interview include: improve customer service, reduce volume of errors, improve delivery of services, improve organization internally, improve income due to better monitoring of the markets, and improve utilization of resources. (Koech & Ronoh, 2015)

A study was also conducted on the effect of service supply chain management practices on the public health care organizational performance in Malaysia. Information and technology management demand management, customer relationship management, supplier relationship management capacity and resource management were found to have significant and positive direct relationship with organizational performance and alliance network was found to have the mediation effect on the direct relationship.

2.1.2.2 Sesame Seed Export

The main export markets of Ethiopia are in the Middle East countries and China. Algeria, Djibouti and Egypt are also some of the African countries that import Ethiopian Sesame. The Ethiopian sesame export market is getting wider from time to time. Sesame seed is by far the most important Ethiopian export oilseed crop. Most of the Ethiopian sesame is exported in the form of raw seed. Beyond the traditional importers, European and Japanese markets, which are most potential markets for big volume exports in different forms except for their stringent quality conditions, are also significant potentials. (Sorsa, Mesfin et al., 2009)

The potentials from the international markets side are also ever increasing. There is well demonstrated international market demand for Ethiopian sesame seed, and this is expected to continue increasing. The increasing international market demand for sesame is not only evident in the rise of export volume or value but also in new buyers coming to the market. (Sorsa, Mesfin et al., 2009)

In spite of the country's immense potential to increase further its production and productivity and significant increment of the international market demand, both the production and marketing system of sesame is said to be full of challenges for all involved parties. Small amounts of sesame must be collected from a multitude of farmers, which then need to be transported and sold to different markets. As a result, there is very long chain and different transaction risks and costs due to inadequate coordination among the chain actors and which ultimately resulted in lack of competitiveness in the international market.

Unlike Ethiopia, the destination for Indian and Chinese sesame export is the high-value end markets of Japan, Korea, USA, Europe, and some other Asian countries where better prices are offered for sesame. Here, it is important to note that these markets require cleaned sesame (up to 99-99.53%) in addition to non-adulteration of seeds of different varieties. (Hailemichael, 2016)

To avert some of these problems, the Ethiopian Commodity Exchange (ECX) tried to include sesame as one of compulsory products to be traded through its floor of exchange. This arrangement is believed by the ECX authority to minimize the problems related to quality, hoarding by the informal traders, etc., as both the quality of sesame and the business actors will be controlled at its warehouses. (Sorsa, Mesfin et al., 2009) Some exporters interviewed by the study team also indicated that the international market for Ethiopian sesame is very wide and is not easily satiable if the quality issues are well addressed and the local price is also adjusted to the international market price.

World production of sesame seeds is estimated at 3 million tones, and is steadily growing. Currently, Ethiopia is among the top five producers of sesame seed in the world, ranked at fourth place by covering about 8.18 percent of the total world production (FAOSTAT, 2012). The main Ethiopian sesame seed production regions are situated in the North West and South West. The North West regions have the highest yields per ha. More than 600,000 farmers with an average acreage of 0.3 ha are involved in sesame seed production. This results in many collectors gathering quantities suitable for trading. The Ethiopian sesame export market is getting wider from time to time. Most of the exporters are also the local traders who collect the seed from the producers and/or small local collectors. In the international market, the level of sesame cleanness is expected to be 99.5% pure seed, which means the impurity rate shouldn't exceed 0.5% in addition to other quality standards. However, the Ethiopian sesame which still suffers from 3% impurity rate average coupled with adulteration of different verities of seeds needs to go very long distance to meet the market requirement in this regard. (Sorsa et al., 2009)

Before reaching at export processing and storage level, sesame production in Ethiopia has to pass through a series of long chains. It is disclosed that sesame exporters are facing problems of impurities such as dirt, branches, stones etc. (Terefe, 2016) Cleaning this low quality sesame to make it exportable would obviously require high costs of labor and machinery that in turn reduces competitiveness in the global market. One of the most challenging tasks in sesame marketing in Ethiopia is therefore, reducing the market chain of the product. In line with the goals and objectives of the Ethiopia Commodity Exchange (ECX), relentless efforts have to be made to reduce market chain and discover sesame prices based on the level of quality.

A general lack of regulatory standards has led to adulteration of different grades (standard qualities) of sesame that has affected both edible oil processing companies in the country and exporters competing in the international market. (Hailemichael, 2016) Apart from this, market information for sesame, mainly that of international market, is not widely available and infrastructure is generally weak in Ethiopia. The situation for the oilseeds sector, however, is critical due to the volatile and unpredictable price structures.

In order to identify the role of ECX in reducing transaction costs and coordination risks, it is important to understand the possible costs and risks of the current marketing system. The following are the most common feature of the current sesame marketing system: Lack of reliable and timely market information in the system. This hinders the different market actors to make decisions based on supply, demand and prices. In turn, this has lead to: The existence of many unlicensed traders and unfair competition with licensed traders and other licensed market actors; Non-competitive price setting mechanisms, reducing the competitiveness of the Ethiopian sesame in the international market; There is an increasing preference of Ethiopian sesame in the international market; However, exporters in Ethiopia face several quality problems in terms of adulteration especially by mixing sesame seed of different origin (Humera, Metema and Wellega) and also addition of other materials, which considerably reduces the quality of the sesame. This has led to Difficulty in setting prices for certain quality grades; Additional costs incurred in improving the quality through cleaning and grading; The export procedure in Ethiopia requires phytho-sanitary certification from the Bureau of Agriculture and Rural Development (BOARD) as well as quality and standard certification from the Ethiopian Quality and Standard Authority (EQSA), which has been reported to take a long time as well as prone to corruption; The limited marketing capacity of cooperatives and their unions which makes it difficult for them to compete with local traders; High transportation cost due to long distances over poor roads; Considerable amount of default and cheating leading to mistrust (Dawit and Gerdien, 2009)

2.2 Conceptual Framework

The conceptual framework proposes that SCM practices will have an effect on export performance. The use of categorizing the variables into dependent and independent variables is to show clearly what kind of SCM practices has effect on the export performance.

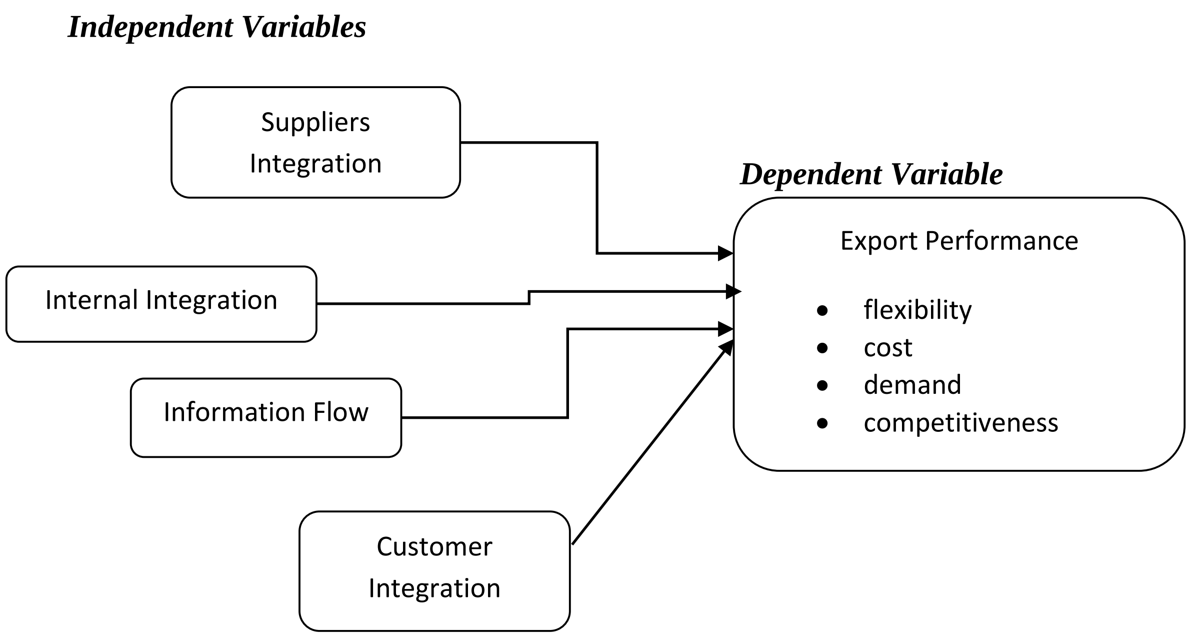

Fig 1. Conceptual Model for Supply Chain Management.

Source: adapted from Binyam Gizaw (2016)

Chapter Three

3. Methodology

This part describes the methodologies that was used in this study, it include description of study area, research approach, research design; target population and sample, data source and types, data collection procedure, ethical consideration and data analysis techniques along with an appropriate justification associated with each approach.

3.1 Description of the Study Area

Dipasa Agro. Plc. is one of sesame exporting companies found in Ethiopia. The company has established a modern sesame seeds processing factory that meets quality requirements of high value markets. The organization is located in Ethiopia, Oromia Regional State at Burayu town which is 15 km to the west of Addis Ababa. It is located in Ethiopia, Oromia Regional State at Burayu town which is 15 km to the west of Addis Ababa.

Dipasa Agro PLC is engaged in sesame seed processing such as hulling and roasting of sesame seeds for export to various countries of the world in general and high value markets of Far East, Middle East, North America and European Countries in particular. This company is member of Ethiopian Chamber of Commerce (ECC), Addis Ababa Chamber of Commerce and Sectorial Associations (AACCSA), Ethiopian Pulses, Oilseeds and Spices Processors and Exporters Association (EPOSPEA). The company has its own farm land and also working intensively in cooperation with sesame seed out grower farmers associations since March 2012.

The objectives of Dipasa are to produce HACCP and BRC based hulled sesame seeds that fully address customers' interest; production of diversified sesame seeds such as sesame powder, Tahini, halva, sesame oil and candies that meet an international quality requirements; to initiate organic sesame seeds production on its farm and by creating strong linkage without growers so that increases an opportunity for income generation for local farmers; actively participate in the agro-industrial development of the country; to create an international linkage between them and the foreign companies who are engaged in similar business towards promoting and maximizing market share of the company based on win-win principle; to earn foreign currency for the benefit of the country; and to create job opportunities for citizens.

Selet Hulling PLC was established in December 2007 as a joint venture between Trading Organic Agriculture BV (the Netherlands) and Kaleb Trading PLC (Ethiopia). Selet started construction of its facilities in November 2008 on a 6,000 m2 plot located 20 kilometers outside of Addis Ababa. The joint venture started selecting equipment and building its facilities to establish a state-of-the-art cleaning, hulling and packaging plant. In addition, Selet Hulling has chosen the dry-hulling technique that minimizes the water-usage in the processing and therefore harms the environment less. The factory consists of a raw material warehouse, sesame cleaning line, sesame dry-hulling line and a finished product warehouse with a total square area of 2,200 m2.

Export is started in June 2009. Selet Hulling is also engaged in farming activities in Humera. Both, through an own 300 hectares farm, as well as an out grower scheme of 1000-1500 farmers. 'Supply of certified organic seed is the key to establishing a sound organically hulled sesame supply chain'. Selet Hulling has a full-time agronomist, six extensionists and a well-experienced part-time farm manager employed in Humera, to assist farmers and guarantee an effective organic quality assurance system. Furthermore, a laboratory is equipped at factory level, intrinsic and organic quality testing protocols, pest control systems and computerized traceability systems are set in place. Selet Hulling is a first mover in the hulling, or better phrased de-hulling, of sesame in Ethiopia. High purity, graded, de-hulled and attractively packed sesame provides a sharp premium over the currently poorly cleaned, raw exported sesame. At present, two companies operate in the de-hulled sesame market and a third party is involved in Tahini.

Ambasel Trading House P.L.C. was established in November 1993 under the commercial laws of the FDRE. After 14 years of rapid growth Ambasel has become a modern company with assets of nearly USD 10,000,000. Its 300 employees are spread and integrated with operations in different geographical regions, engaged in domestic and foreign trade. Ambasel's headquarter is located in Addis Ababa, the capital city of the country, on the road to / from the Addis Ababa International airport. The company is the first of its type in integrating: A dependable import - consumer - producer - export marketing bridge; A host to satisfied customers support with market outlet and the widest geographical market catchments with branches, sales / purchase center and points, adequate warehouses and full logistic facilities.

Ambasel imports & locally purchases Tyres, Tubes and Spare Parts and distributes it all over the country. Ambasel is also a distributor agent for a leading manufacturer "Addis Tyre Company". Ambasel distributes over 65 different sizes of Addis tyres all over the country. The greater part of this supplies is to the sister company, Tikur Abay Transport Share Company. The company also acts as a business representative to several reputable international business organizations.

3.2 Research Approach

There are different research methodologies that are used, depending on the type of research that is undertaken. The study problem of this research is more likely to be answered through a quantitative approach. This method enables us to understand the very nature of what we are actually looking at it. For the quantitative methodology, researchers use the scientific method, which starts with the specific theory and hypotheses, and where researchers quantitatively measure and analyze based on established research procedures (Swanson & Holton, 2005).

3.3 Research Design

Research design is defined as a general framework of how the researcher intends to go about answering the research questions. According to Cooper and Schindler, descriptive research design enables the researcher to narrate how various behaviors and events occur (2006). In this research descriptive survey research method was employed as the researcher wants to identify and describe the correlation among the identified supply chain management practice variables with customer satisfaction.

3.4 Population of the Study

Population refers to the target population, which is the group of units (individuals or elements) of interest for study (SAS/STAT, 2011). The population for the study was the employees of Dipasa Agro Plc., Selet Hulling Plc. and Ambasal Trading, where the population size is 356.

3.5 Sampling Technique and Sample Size Determination

Both stratified random sampling and purposive sampling techniques were used to select respondents from the target population. With stratification you can ensure adequate sample sizes for subgroups of interest, including small subgroups, or you can use stratification to improve the precision of overall estimates. (SAS/STAT, 2011). Therefore, the strata for this study was the management, supervisors and operation workers. The sampling technique that the researcher employed to gather data is purposive sampling technique. Purposeful sampling is used so that individuals are selected because they have experienced the central phenomenon (Creswell, 2007). Hence, the study subjects were chosen purposefully from each departments.

For the sample size determination, Singh, Ajay S and Masuku, Micah B described that sampling error range is often expressed in percentage points usually ±5 percent (2014). However, for continuous data, 3% margin of error is acceptable (Krejcie & Morgan, 1970). As the study used five-point Likert scale to measure a continuous variable its sampling error is 3%. There is always a probability that the sample obtain by the researcher or investigator does not represent the true population value (Singh et al., 2014).

Singh, Ajay S and Masuku, Micah B. described that, the degree of variability in the attributes being investigated, refers to the distribution of attributes in the population (2014). The variables with more homogeneous population, the smaller the sample size required. If the more heterogeneous population, the larger the sample size required to obtain a given level of precision. Because a proportion of 0.5 indicates the maximum variability in a population, it is often used in determining a more conservative sample size, that is, the sample size may be larger than if the true variability of the population attribute were used. Hence, the study used a proportion of 50% level of variability.

Cochran’s sample size formula for continuous data is presented as follows:

$$\text{no} = \frac{(t)^2 * (s)^2}{(d)^2}$$

Where t =The alpha level of .05 indicates the level of risk the researcher is willing to take that true margin of error may exceed the acceptable margin of error.

s = estimate of standard deviation in the population =

d = acceptable margin of error for mean being estimated

Therefore:

t= value for selected alpha level of .025 in each tail is 1.96.

s=1.25 for 5 point scale calculated by using 5 [inclusive range of scale] divided by 4 [number of standard deviations that include almost all (approximately 98%) of the possible values in the range].

d=number of points on primary scale * acceptable margin of error

points on primary scale = 5;

acceptable margin of error = .03 (error researcher is willing to accept)

5*0.03=0.15

$$\text{no}= \frac{(1.96)^2 * (1.25)^2}{(0.15)^2} = 267$$

For a population of 356, the required sample size is 267. Since this sample size is above 5% of the population 356*.05=18 the study applied Cochran's (1977) correction formula to calculate the final sample size. These calculations are as follows:

$$\text{n}= \frac{\text{no}}{1+\frac{\text{no}}{population}} = \frac{267}{1+ \frac{267}{356}} =153$$

Where population size = 356

Where n= required return sample size according to Cochran's formula= 267.

Where n= required return sample size because sample > 5% of population.

Therefore, the study was sought to gather information from 153 employees. This sample was deemed good representation of the populations since the sample size is greater than 10 percent of the target population.

3.6 Data Sources and Types

The study relied on both primary and secondary sources of data. Primary data was collected from respondents using a structured questionnaire. Secondary data was collected from different documents of the organization.

3.7 Data Collection Instruments

3.7.1. Questionnaire

Quantitative data was gathered from the respondents using five point Likert scale questionnaires designed by the researcher for self-administration. The questionnaires were designed based on the conceptual framework and the research questions to investigate and analyze the performance of supply chain management practices in the case of three sesame export companies. For quantitative data, the respondents were asked to indicate their level of agreement and disagreement using a five-point Likert scale (1= strongly disagree 2= disagree, 3= neutral 4=agree and 5= strongly agree) about the performance of the supply chain management practices.

3.7.2. Document Review

In the document review, the researcher collected the necessary information from Annual report of the Ministry of Industry and Ministry of Trade.

3.8 Data Collection Procedures

Before collecting data the researcher have taken the formal letter from Addis Ababa University, department of Logistics to Dipasa Agro Plc., Selet Hulling Plc. and Ambasal Trading House, to get the permission of collecting the necessary information from the research participants. Then the researcher and the data collectors have approached the respondents by introducing themselves briefly and explain the objective of the study. Finally, the researcher and the data collectors distributed questionnaires to the respondents and collected them when the respondents finish.

3.9 Ethical Consideration

In dealing with the research process the following ethical consideration were done.

1. **Informed consent:-**The purpose and the importance of the study were explained for the participants of the study. Then, the respondents were informed that they have the right to participate or not in the filling the questionnaire.

2. **Keeping confidentiality:-**The participants were informed that any information they provide is to be kept confidentially so that they can answer and discuss freely. The researcher used code whenever necessary for the sake of confidentiality.

3. **The procedures of the study:-**Procedures should not cause confusion and harm participants. The questionnaire was prepared clearly and free from bias.

3.10 Data Analysis

After collecting and sorting the relevant data using data collection tools, quantitative responses were sorted, coded, and computed using the Statistical Package for Social Sciences (SPSS), version 20. The analyzed data was presented using tables.

3.11 Data Quality Assessment

For assuring the data that was collected is reliable, enough orientation about the data collection process was given to the data collectors. In addition to that, the process of the data collection was supervised by the researcher. The accuracy of the gathered data was checked through checking the organizations export performance from secondary data.

Chapter Four

4. Findings, Interpretation and Discussion of Results

This chapter deals with data presentation, analysis and interpretation. The data are presented and analyzed based on data collected through structured questionnaires, and secondary data.

4.1 Respondent's Demographic Data

In the following table, the demographic information of respondents is presented. These include gender, age, educational level, position and work experience of the respondents.

Table 4:1 Demographic Data

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	105	68.6	68.6	68.6
Female	48	31.4	31.4	100.0
Total	153	100.0	100.0	
Age				
20-30	30	19.6	19.6	19.6
31-40	91	59.5	59.5	79.1
41-50	32	20.9	20.9	100.0
Total	153	100.0	100.0	
Education Level				
Diploma	16	10.5	10.5	10.5
Degree	109	71.2	71.2	81.7
Masters	28	18.3	18.3	100.0
Total	153	100.0	100.0	
Position				
Manager	30	19.6	19.6	19.6
Division Head	46	30.1	30.1	49.7

Supervisor	32	20.9	20.9	70.6
Operation Worker	45	29.4	29.4	100.0
Total	153	100.0	100.0	
Experience				
<1yr	30	19.6	19.6	19.6
1-2yrs	44	28.8	28.8	48.4
3-4yrs	15	9.8	9.8	58.2
5yrs. & above	64	41.8	41.8	100.0
Total	153	100.0	100.0	

Source: Survey result, 2018

Gender frequency of the respondents shows that the majority (68.6%) of the respondents are male. Regarding their age, 59.5% of the respondents fells with in the age category between from 31 up to 40. The data also indicates the educational level of the respondents. As the result shows, most of the respondents (71.2%) are degree holders, 10.5 % have diploma and 18.3% are in masters level.

The position of the respondents in the organizations indicates that most of the respondents are division heads (30.1%) and operation workers (29.4%). The rest are managers (19.6%) and supervisor (20.9%). The respondents have different work experience and most of them (41.8%) have five and more than five years' experience.

4.2 Supply Chain Management Practice of the Organization

The following results focused on the supply chain management practice which are grouped into supplier integration, internal integration, information flow and customer integration.

4.2.1 Integration with Suppliers

Table 2: Supplier Integration

	N	Minimum	Maximum	Mean (X)	Std. Deviation
Strategy	153	2	4	2.40	.642
Quality	153	3	5	4.11	.950
Planning	153	3	5	4.31	.782
Valid N (listwise)	153				
Aggregated Mean				3.61	

Source: Survey result, 2018

The above table indicates the range of the respondents answer is from disagree (2) to strongly agree (5). As the mean of the result shows, the majority agreed that the organization's integration with the suppliers is agree. The respondents also almost disagreed that there is strong strategic partnership with major supplier (X=2.40) and their company considers quality as number one criterion in selecting suppliers (X=4.11). They also agreed that their company includes key suppliers in the planning and goal setting activities of the organization (X=4.31).

Contract.

The overall supplier integration of the organizations with their suppliers is good as the aggregated mean (3.61) indicates in the above table. The exporting companies in this study have almost weak strategic partnership. Supplier integration is vital for operational performance as supposed by Jonsson. According to him, strategic sourcing and the development of the supplier relationship is really significant for the company's and supply chain performance. (2008) Collaborating with key suppliers and service providers is very essential. However, the companies under the study have weak supplier integration and they are limited to the mutual exchange. In general they work to align the process between both parties so that there is smooth flow with minimal time.

4.2.2 **Internal Integration**

4:3 Internal Integration

	N	Minimum	Maximum	Mean (X)	Std. Deviation
Inventory	153	2	4	3.30	.670
Cycle	153	2	4	3.21	.878
Technology	153	2	4	3.10	.535
Product	153	2	4	3.40	.662
Valid N (list wise)	153				
Aggregated Mean				3.25	

Source: Survey result, 2018

The table shows that the response of most respondents tending to there is no adequate strong integrative inventory management in their company (x=3.30). However, the response of the majority shows that they are almost neutral to the questions about if the company has short process cycle time (X=3.21) and whether adequate investment are made in developing technology for SCM practice (X=3.10). Most of the participants' answer inclined to neutral that the company has short products deliveries cycle time (X=3.40).

Organizations must have willingness to integrate capabilities through data, system and process internally before they engage in meaningful external integration. (Biniyam, 2016) The organizations under study has strong integrative inventory management in their company as indicated in the above table. However, the aggregated mean indicates that mostly the respondents answer lean towards neutral which means that the exporting companies still have gaps in creating inter-functional interaction, collaboration, coordination, communication and cooperation in the organizations.

Regarding the process and deliveries cycle time; and developing technology for SCM practice the exporting companies in this study has some gaps. Automated orders and automated productions are the key enablers to realize the quick response program (Perry and Sohal, 2000). The use of new technology is very essential to facilitate the companies' internal performance so that they can escalate their export performance. Additionally, through a more stable and efficient supply chain, you can greatly enhance customer satisfaction and retention. This can greatly reduce the time spent delivery, receiving, tracking, and compiling order data, which will save the companies' both time and money.

4.2.3 **Information Flow**

Table 4:4: Information Flow

	N	Minimum	Maximum	Mean	Std. Deviation
Market	153	3	5	3.81	.759
Coordination	153	1	4	3.21	.871
Free	153	3	5	3.61	.812
Timely	153	3	5	3.61	.812
Valid N (list wise)	153				
Aggregated Mean				3.56	

Source: Survey result, 2018

The table shows that the information flow in the supply chain is moderately good. Most of them agree that there is good level of market information sharing with major customers (x=3.81). As the mean 3.21 indicates, most of the respondents are neutral about the presence of inter-organizational information coordination and sharing. The result also shows that there is high level of free and timely sharing of accurate information across members of supply chain (x=3.61)

As most of the respondents' answer inclined to the presence of free and timely sharing of accurate information in the organizations, this also agrees with Li, Rao & Ragu-Nathan. According to their finding, shared information has to be adequate, accurate, credible, and timely in order to yield best results (Li et al., 2004). Another study also reveals that accurate and timely information allows a firm to minimize inventories, improve routing and scheduling of transportation vehicles, and generally improve customer service levels (Barve, 2011). Modern information technology makes possible the fast and safe transmission and processing of extensive amounts of data, both internally for users within the company, and externally for suppliers and customers (Shukla *et al*., 2011).

4.2.4Customer Integration

Table 4:5 Customer Integration

	N	Minimum	Maximum	Mean	Std. Deviation
communication	153	3	5	3.81	.759
Computerized	153	4	5	4.21	.408
Information	153	3	5	3.92	.707
Feedback	153	3	5	4.12	.701
Complaint	153	4	5	4.31	.466
Valid N (listwise)	153				
Aggregated Mean				4.07	

Source: Survey result, 2018

The responses of the study participants showed that there is moderately effective communication with major customers (X=3.81) and mostly they agreed that there is computerized system in their organization for major customer ordering. As their response incline to agree with the existence of supply chain information sharing with strategic customers (X=3.92), the organization has systematic processes for handling customer complaints(X=4.31). The majority also agreed that there is follow up with major customer for feedback (X=4.12).

As it is indicated in the aggregated mean in the above table (X=4.07), the exporting companies under study has good customer integration. As it is indicated in another research, quality and availability of the product that provides superior service to the customers is very important for the firm (Makweba& Xu, 2009). In the finding of this study it is showed that there is computerized system in their organization for major customer ordering which is one indicator for quality service. This also agrees with the findings of Evans which shows that computerization for ease of customer ordering and establishment of quick ordering system should be ensured for improved performance (Evans, 2013)

Customers Integration involves sharing of customer's demand information, aiding producers to understand customer's demand in a better manner and expecting customer's demand as well as collaborating and cooperating with customers to design, to reach products with better quality, lower costs and greater flexibility in response to customer's demand. The majority also agreed that there is follow up with major customer for feedback.

4.3 **Export Performance of the Organization**

Table 4.6: Export Performance

	N	Minimum	Maximum	Mean	Std. Deviation
High market share	153	3	5	3.98	.782
Inc. market share	153	3	5	3.98	.782
Inventory	153	2	4	2.99	.639
High cost	153	2	5	3.58	.800
Trans. Cost	153	3	4	3.90	.298
Flexible	153	3	4	3.70	.460
Feedback	153	2	5	3.52	.812
Competitive	153	4	5	4.30	.460
Profit	153	2	4	2.90	.535
Investment	153	3	4	3.50	.502
Valid N (listwise)	153				
Aggregated Mean				3.64	

Source: Survey Result, 2018

The respondents gave different responses regarding the export performance of the organization. As indicated in the table, the mean of 3.98 indicates that the majority of the respondents agreed that the companies have high market share which is increasing. However the mean 2.99 indicates that the majority of the respondents almost disagreed that the inventory carrying cost of the organizations is low. The majority also agreed that the processing (X=3.58) and transportation (X=3.90) cost is high. The company is flexible in accommodate changes to delivery schedule earlier/later than the delivery schedule according to the respondents (X=3.70) and it accepts customer's feedback with willingness and works for improvement (X=3.52). The mean 4.30 indicates that the company is competitive in oilseed exporting market yet most of the respondents are neutral regarding the question about the company's' profit margin on sale. The company has good return on investment as the result of most respondents agree (X=3.50).

As the result indicates, the inventory carrying cost of the organizations is high. The number of days that inventory is held is an important part of the cash conversion cycle. Reducing inventory levels and days of inventory improves profits and frees up needed capital. When the inventory cost of the organizations high, it will lower their profit. Implementing technologies that automatically track and notify inventory is necessary to avoid high inventory cost. Suppliers have great impact on the supply chain as to time, inventory and costs. Having smooth communication with them can lower the inventory cost. Their impact goes far beyond pricing and placing purchase orders.

Accepting customers' feedback is very essential for the companies to be competitive in the exporting industry. Higher quality of products increases customer satisfaction and decreases returns. So, the companies' relationship with their customers helped them to be the first three competitive sesame exporting companies in Ethiopia. Though, they still should work on the quality not only by accepting feedbacks from their importing customers but also by being practical in increasing the quality of their products. The three companies have high market share. The market share is increasing through time according to the respondents. The secondary data also reveals that.

4.4 Findings of the Open-ended Questions

This part comprises the respondent's answer for the open-ended questions. From 153 respondents, only 40 of them responded the questions. For the question about the existence of a problem in the process of practicing supply chain management in the organizations, 25 respondents answered that there is no problem. However there are 15 respondents who said there is a problem. These are:

- ✓ shortage of stock;
- ✓ the export trading system is mostly to china, it does not participate other potential countries;
- ✓ there is quality problem;
- ✓ late shipment;
- ✓ discrepant document;
- ✓ shortage of skilled human power;
- ✓ less training to the staff
- ✓ Price fluctuation;

The respondents in general suggested that there must be quality products and low default; the company must be competitive enough; there should be quality management; continuous improvement with regard to complaints arising from customers; the company should have well skilled workers; immediate response to buyers; fast shipment; timely market assessment; removal of delinquent lists; and assurance of diversity of products.

4.5 **Secondary Data from Ministry of Industry and Ministry of Trade**

N.o	Name of company	Installed Capacity	Product type	Estimated current World price
1	Ambasel Trading	7500 tons/year	Hulled sesame, Tahina food	Tahina 1850-1897/ton Hulled 1710/ton
2	Selet hulling PLC	6000tons/year	Hulled sesame, roasted sesame	organic light roasted 1452-1511 /ton and hulled 1710 to the Netherland
3	Dipaza Agro-Industry PLC	6864tons/year	Hulled sesame, roasted sesame	Hulled 1720/tone

Source: Ministry of Industry and Ministry of Trade Annual Report

The above table shows the installed capacity, product type and estimated current world price of the top three sesame exporting companies in Ethiopia.

Export performance for the last four years (value added export Vs Raw sesame seed export)

N.O	TYPE	Year 2013/14		Year 2014/15		2015/16		2016/17		2017/18 10 months	Total export
		Volume	Value in USD	Volume	Value in USD	Volume	Value in USD	Volume	Value in USD	Value in USD	
1	Sesame seed	270,234	619,033	292,298	482,812	393,968	431,709	280,473	307,512		Including v/addition
2	Selet hulling hulled organic and roasted sesame		3,191		2,062		1,415		3,000	2207	
3	Dipasa Agro. hulled organic		1,293		1,558		1,018		1,500	904	
4	Ambasel Trading hulled and Thinia food		1,225		324		468		1,800	1340	

Source: Ministry of Industry and Ministry of Trade Annual Report

The above table shows the export performance of the total sesame seed export in Ethiopia; and Selet Hulling PLC, Dipasa Agro plc., and Ambasel Trading House individually. Comparing the income of Selet Hulling PLC starting 2013, it decreases from 3,191USD (2013/14) to 2,062USD (2014/15), 1,415USD (2015/16), but increase to 3,000 USD (2016/17), and again decrease to 2207USD (2017/18). The income of Dipasa Agro plc., shows that it increases from 1,293 (2013/14) to 1,558 (2014/2015) but decreases to 1,018 (20/2016) and again increases to 1,500 (2016/17) but decreases to 904 (2017/18). The income of Ambasel Trading House shows that it decreases from1, 225 (2013/14) to 324 (2014/15) but increases to 468 (2015/16) and again to 1,800 (2016/17) but decreases to 1340 (2017/18).

As the table indicates, there is fluctuation in income from year to year. The problems mentioned in the problem statement and also in the findings of this research can be a contributing factor for this. Even though the three organizations are the top sesame exporting companies in Ethiopia that does not mean that they are free from drawbacks. Instead it means that they are working for better performance in spite of the challenges.

Chapter Five

5. Summary of the Findings, Conclusion and Recommendation

5.1 Summary of the Findings

The study has investigated the effect of supply chain management on oils seeds export specifically sesame export performance in Ethiopia in the Case of three sesame export companies namely Dipasa Agro plc., Ambasel Trading House and Selet Hulling Plc. The researcher used quantitative data for the study. The quantitative data was collected from managers, supervisors, division heads and operation workers using five point Likert scale. Secondary data was also collected from the organizations.

The majority of the respondents are male and from age perspective the majority are within 31 up to 40 age interval. The division heads take the largest part in the participation of the study. Most of the respondents are degree holders and regarding experience, the majority has more than five years of work experience.

The supply management practice of the organizations was discussed through four independent variables that are supplier integration, internal integration, information flow and customer integration; and a dependent variable that is export performance. The result shows that the organizations integration with their suppliers is good. There is strong strategic partnership with major suppliers and their company considers quality as number one criterion in selecting suppliers In addition the companies include key suppliers in the planning and goal setting activities of the organization.

The result also shows that there is strong integrative inventory management in their company nevertheless, the response of the majority shows that the companies have moderate short process cycle time. Most respondents are neutral about adequate investment is made in developing technology for SCM practice and most of the participants' answer inclined to neutral that the company has short products deliveries cycle time. The result shows that the information flow in the supply chain is moderately good. There is good level of market information sharing with major customers and there is high level of free and timely sharing of accurate information across members of supply chain. The result also indicates that most of the respondents are neutral about the presence of inter-organizational information coordination and sharing.

According to the respondents, there is moderately effective communication with major customers and existence of supply chain information sharing with strategic customers. There is also computerized system in their organization for major customer ordering. The organization has systematic processes for handling customer complaints and follow up with major customer for feedback.

Regarding export performance of the organizations under study, the companies have high market share which is increasing. The company is flexible in accommodate to changes to delivery schedule earlier/later than the delivery schedule according to the respondents and it accepts customer's feedback with willingness and works for improvement. The company is competitive in oilseed exporting market and has good return on investment. However, the majority of the respondents almost disagreed that the inventory carrying cost of the organizations is low and agreed that the processing and transportation cost is high. In addition, most of the respondents are neutral regarding the question about the company's' profit margin on sale.

The result of the open-ended questions shows that there is shortage of stock, quality problem, late shipment; discrepancy of document; shortage of skilled human power; less training to the staff, and price fluctuation. In addition, the export trading system focused mostly on china.

5.2 Conclusion

Even though the exporting companies under the study have weak strategic supplier integration, the overall supplier integration of the companies is good. The companies consider quality as number one criterion in selecting suppliers and include key suppliers in the planning and goal setting activities of the organization. However, the unreliability of suppliers affects the export performance because the farmers change their contract whenever they want. This might affect the companies' relationship with their customers because it affects the product delivery time.

The overall result indicates that the exporting companies still have gaps in creating inter-functional interaction, collaboration, coordination, communication and cooperation in the organizations. Regarding to the use of technology, the organization still have some gaps. The companies also are weak in integrative inventory management. This is manifested in the inventory cost. As the above result indicates supply chain operation costs of the organizations related to transportation and inventory are considered high. The process and delivery cycle time of the products are long. This affects the profit and satisfaction of the customers. This in turn affects the companies' competitiveness. Technology also can help to simplify the supply chain management, which will enable the organizations to operate more efficiently, get more visibility, control over the inventory, and help to reduce the companies' operational costs. It also facilitate the communication with customers.

Regarding information flow within the exporting organizations under the study, there is good level of market information sharing with major customers; and high level of free and timely sharing of accurate information across members of the supply chain. This helps the organizations to know their position in the market and if there is new demand from customers. By doing this, the companies can easily know their weakness by receiving feedback from customers. However, there is little inter-organizational information coordination and sharing. This implies that the companies have limitation in knowing their external influence.

The overall result of customer integration indicates that there is moderately effective communication with major customers and computerized system in their organization for major customer ordering. The organizations also have systematic processes for handling customer complaints and follow up with major customer for feedback. Good customer integration helps the organizations to be competitive in the market so that their market share will increase.

Even if the result shows the market share of the exporting companies is high, still shortage of stock, quality problem, late shipment; discrepancy of document; shortage of skilled human power; less training to the staff, and price fluctuation affects the companies' competitiveness in the market. The export trading system focused mostly on china because the Chinese importers mostly focus on quantity than quality. Because there is quality problem as indicated in both in the problem statement and result of the findings, the exporting companies do not give more attention to other importing countries such as USA and other European countries.

5.3 **Recommendation**

Based on the study findings, the researcher suggests the following points as recommendations to the problem.

- The majority of sesame exporting companies export raw sesame seed. But to be competitive in the market, the organizations should add value to the seeds instead of raw seeds.

- For being competitive internationally, the organizations should focus on exporting quality products. To bring the intended result, there should be quality management and advanced technology. In addition, it is recommended that it is better to have their own farmland to keep and control the quality starting from seeding up to delivering to customers.
- The companies should continue their customer integration by improving the shipment and delivery time. This helps the organizations to give immediate response to their importers.
- The companies should develop good strategy in terms of keeping the contract they have with their suppliers by having legal contract.
- The government should work on facilitating custom clearance for the exporting companies to minimize delinquent lists.

References

Abdallah., A. B., Obeidat., B.Y., & Aqqad., O. N. (2014) *The Impact of Supply Chain Management Practices on Supply Chain Performance in Jordan*: The Moderating Effect of Competitive Intensity. International Business Research; Vol. 7, No. 3; 2014

Azmera Andemo Kello. (2011) The Role of Government in Promoting Export: Comparative case study of Ethiopia, South Korea and Vietnam.

Bartlett, II, *James E*., *Kotrlik*, *Joe W*., & *Higgins*, *Chadwick*. *C*. (*2001*). Organizational research: Determining appropriate sample size in survey research. Information Technology,. Learning and Performance Journal, 19(1).

Barve, A. (2011). Impact of supply chain agility on customer satisfaction. International Conference on E-business, Management and Economics, IPEDR vol.3 (2011), IACSIT Press, Hong Kong.

Belay M. (2011).*Challenges of supply chain management and their relationship with the competitive position of Cement industry*: Graduate school of business leadership university of South Africa.

Beleska-Spasova, E. (2014). *Determinants and Measures of Export Performance*, JCEBI, Vol.1 (2014) No.1, pp. 63 – 74.

Benefits of Supply Chain Management. file:///I:/mele%20theses/supply%20chain/Supply%20Chain%20Management%20System.htm

Biniyam Gizaw.(2016) *The effect of supply chain integration on operational performance in Ethiopian trading enterprises*

Christopher, M. (1998). *Logistics and supply chain management* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall

Christopher, M. (1998). *Logistics and Supply Chain Management*

Cochran, W. G. (1977), *Sampling Techniques*, Third Edition, New York: John Wiley & Sons.

Company Profile of Ambasel Trading House plc. www.ambaseltrading.com.et

Company Profile of Dipasa Agro plc. http://www.dipasaagro.com

Company Profile of Selet Hulling Plc. www.selethulling.com

Cooper, D. R., & Schindler, P. S. (2006). *Business Research Methods* (9th edition). USA: McGraw-Hill.

Creswell, J.W. (2007). Qualitative inquiry and research design: Choosing among five approaches (2nd ed.). Thousand Oaks,. CA: Sage.

Cox, J.F., Blackstone, J.H. (eds.) (2004) *APICS Dictionary*, 11th Edition. Falls Church: APICS-The Educational Society for Resource Management.

Dawit Alemu & Gerdien Meijerink. (2010).*The Ethiopian Commodity Exchange (ECX.)* A Report on Oil Seed Export.

Ebrahim, K. and Mahmoud, R. International Journal of Academic Research in Accounting, Finance and Management Sciences Management Sciences Vol. 4 (1), pp. 1–15, 2014

EOSPEA. *Ethiopian Sesame and Oilseeds.*

FAOSTAT: *Top Five Sesame Seed Producing Countries*. http://www.FAOSTAT.Com

Fawcett, S.E., Ellram, L.M. and Ogden (2007) *Supply Chain Management from Vision to Implementation, Pearson Education*, Inc New Jersy

Flynn, B.B. Huo, B., & Zhao, X. (2010). The impact of supply chain integration on performance: a contingency and configuration approach, *Journal of Operations Management, Vol. 28, 2010.*

Hailegiorgis Biramo Allaro (2011) Export Performance of Oilseeds and ITS Determinants in Ethiopia. American Journal of Economics 2011; 1(1): 1-14

Hailemichael Hailu. (2016). *Assessing Managers' Perception on Supply Chain Practices and Export Competitiveness*. Ethiopia.

Hana Feleke. (2016). *Effect of supply chain management practices on customer satisfaction: In case of Ethiopian Sugar Corporation.* Ethiopia.

Hoole, R. (2005).Five ways to simplify your Supply chain, Supply Chain Management: An international Journal, Vol.10, Issue 1.

Hugo, W.M.J., Badenhorst-Weiss J.A. & Van Biljon E.H.B. (2011). Supply chain management: logistics in perspective. 5th edition, Pretoria: Van Schaik.

J. Wijnands (LEI), J. Biersteker , & R. Hiel. (2007). Oilseeds business opportunities in Ethiopia.
Li, S., et al, The impact of supply chain management practices on competitive advantage and organizational performance, Omega, *Vol. 32*, 2006, 107–24.

Jorge C. (2011). *Determinants of Export Performance*: A Study of Large Brazilian Manufacturing Firms. Rio de Janeiro, Brazil.

Koech, W.K and Ronoh,R.K. (2016) *Benefits of Supply Chain Management in the Manufacturing Sector*. Article in International Journal of Science and Research (IJSR). *Vol. 6, Issue 11,* November 2016.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30, 607-610.

Li, S., Rao, S. & Ragu-Nathan, B. (2005). Development and validation of a measurement for studying supply chain management practices, *Journal of Operations Management, Vol. 23(6), 2005, 618-41*.

Makena, N.M. *Impact of Supply Chain Management Practices on Organizational Performance*: A Case Study of Haco Industries Limited (Kenya). *IOSR Journal of Business and Management. Volume 16, Issue 4. Ver. III (2014), PP 62-6.*

Makweba, R. & Xu. Q. (2009). Supply Chain Management and Challenges Facing the Food Industry Sector in Tanzania. Vol. 4 No. 12

Mavrogiannis, Bourlakis & Ness (2008), "assessing *export performance in the Greek food and beverage industry: an integrated structural equation model approach*, British food journal.

Mentzer, J.T. (2004) *Fundamentals of Supply Chain Management:* Twelve Drivers of Competitive Advantage. Thousand Oaks: Saga Publications.

Mentzer, J.T., Flint, D.J., and Hult, G.T.M. (2001). *Logistics Service Quality as a Segment customized Process*, Journal of Marketing, *65(4)*, 82-104.

Michael, H. (2003). *Essentials of Supply Chain Management*. Published by John Wiley & Sons, Inc., Hoboken, New Jersey. Purchasing & Supply Management, 7, pp. 39-48.

Ministry of Industry. (2018). Annual Report.

Ministry of Trade. (2018). Annual Report.

Moberg, C.R. (2002). Identifying antecedents of information exchange within supply chains. International Journal of Physical Distribution and Logistics Management, Vol.32, no. 9, pp.755–70.

Mustefa Mohammed. (2014). *SCM practices & firm performance in case of Awash Tannery PLC*; management Unpublished MA., Thesis Submitted to Addis Ababa University, College of Business and Economics, Department of Management, Addis Ababa.

Natnael Gebreyesus. (2016). *Employees' Perception on the Effects of Supply Chain Management Strategy on Firm Performance;* AAU Degree of Masters in Logistics and Supply Chain Management

Nel, J.D. & Badenhorst-Weiss, J.A. (2010). Supply chain design: Some critical questions. Journal of Transport and Supply Chain Management, 4(1): 198–223. Patterson, L. (2007). Marketing and sales alignment for improved effectiveness. *JDAM*, *3*(4), 185-189.

Republic of Kenya (2000). *Economic survey central Bureau of statistics* Ministry of finance and planning. Nairobi, Kenya.

Robert, M. M., Robert, B. H., Larry, C. G., and James, L. P. (2009). *Purchasing and Supply Chain Management*. South-Western Cengage Learning. Mason, USA. 4th Ed.

Robinson, E. P., & Satterfield, R. K. (1998). Designing Distribution Systems to Support Vendor Strategies in Supply Chain Management*. *Decision Sciences*, *29*(3), 685-706.

SAS/STAT. (2011). *Introduction to Survey Sampling and Analysis Procedures*. SAS User's Guide. SAS Institute Inc., Cary, NC, USA.

Shukla, K.R., Garg, D. & Agarwal, A. (2011). Understanding of supply chain: A literature review. International Journal of Engineering Science and Technology (IJEST), 3(3): 2059–72.

Singh, Ajay S and Masuku, Micah B (2014): "Sampling Techniques & Determination of Sample Size in Applied Statistics Research: An Overview", International Journal of Economics, Commerce and Management United Kingdom. Vol. II, Issue 11, Nov 2014. *http://ijecm.co.uk/* ISSN 2348 0386.

Sintayehu Asmamaw. (2016). *Assessing the perceived performance of supply chain management*: The case of two brewery companies in Addis Ababa. A thesis submitted to the school of graduate studies of Addis Ababa university school of commerce.

Sorsa Debela, Mesfin Haile, Tarkegn Garomsa, Getu Alemu, Girma Baye and Rahel Alemu. *Sesame Value Chain Analysis Report:* The case of Metema. Nov. 2009 Addis Ababa

Sotiris Zigiaris. (2000). *INNOREGIO: dissemination of innovation and knowledge management techniques.* Report produced for the EC funded project.

Stein, T & Sweat, J 1998, 'Killer supply chains', *Information week*, Vol. 708, no. 9, pp.36–46.

Supply Chain Business Solutions. (2013). *Supply Chain Management Typical Problems and Solutions.* Sydney, Australia.

Svensson, G. (2003). *Holistic and cross-disciplinary deficiencies in the theory generation of supply chain management.* Supply Chain Management: An international journal, 8 (4), pp. 303-16.

Swanson, R. A., & Holton, E. F. III. (Eds.) (2005). *Research in organizations: Foundations and methods of inquiry*. San Francisco.

Terefe Negasa Abebe . Review of Sesame Value Chain in Ethiopia. International Journal of African and Asian Studies. ISSN 2409-6938, Vol.19, 2016.

USAID. (2012). The Business Case for Investing in the Hulling and Export of Sesame Seeds in Ethiopia: Investors Presentation.

Yap, L. L. and Tan, C. L., (2012) *The Effect of Service Supply Chain Management Practices on the Public Healthcare Organizational Performance,* International Journal of Business and Social Science Vol. 3 No. 16

Zhao, X., Xie, J., Zhang, W. J. (2002). The impact of information sharing and ordering co- ordination on supply chain performance. Supply Chain Management: An International Journal, 7(1), 24-40.

Appendix

Addis Ababa University

School of Commerce

Questionnaire

This study is being carried out on the title "The Effect of Supply Chain Management on oil seed (sesame) in Export Performance in the Three case organizations: Dipasa Agro Plc., Ambasal Trading House and Selet Hulling Plc. in partial fulfillment of the Award of a Master of Art Degree in Logistics and Supply Chain Management.

Confidentiality

Any information you present will be kept absolutely confidential and will be used only for academic purpose. Your cooperation and on time response will be highly appreciated.

Informed consent

Taking part in this study is completely your choice. If you choose not to participate in the study or if you decide to stop participating in the study you will continue to be treated normally. You can stop participating in this study at any time, even if you have already given your consent and if for any reason you would wish to come back into the study after withdrawal, we will be ready to accept you to continue with the study. Refusal to participate or withdrawal from the study will not involve penalty or loss of any benefits to which you are otherwise entitled.

General Instructions

There is no need of writing your name. Where answer options are available please tick (√) in the appropriate box for part I, part II and part III. In part IV, please write your answers freely on the blank spaces.

PART I: Demographic Information

1. Gender

Male ☐ Female ☐

2. Age

20-30 ☐ 31-40 ☐ 41-50 ☐ >50 ☐

3. Educational Qualification

Diploma ☐ First Degree ☐ Masters ☐ Phd ☐ Others ☐

3. Your position in the organization

Manager ☐ Division head ☐ Supervisor ☐ Operation worker ☐

4. How long have you been employee of this organization?

Less than 1 year ☐ 1– 2 years ☐ 3 – 4 years 5 years and ☐ve

PART II: Supply chain management practice of the Organization

Please thick in the appropriate box to indicate the extent to which you agree or disagree with each statement. With 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 =agree, 5 = strongly agree.

1. Supplier Integration	strongly disagree	disagree	neutral	agree	strongly agree
1.1 There is strong strategic partnership with major supplier					
1.2 Your company considers quality as number one criterion in selecting suppliers					
1.3 Your company includes your key suppliers in your planning and goal setting activities.					
2. Internal Integration					
2.1There is strong Integrative inventory management					

2.2 The company has short process cycle time					
2.3Adequate investment are made in developing technology for SCM practice					
2.4 The company has short products deliveries cycle time					
3. Information Flow					
3.1 There is good level of market information sharing with major customers					
3.2 There is Inter-organizational information coordination and sharing					
3.3 There is high level of free sharing of accurate information across members of supply chain					
3.4 Timely sharing of information across the members of supply chain					
4. Customer Integration					
4.1 Use of effective communication with major customer					
4.2 Computerized system for major customer ordering					
4.3 There is supply chain information sharing with strategic customers					
4.4 There is follow up with major customer for feedback					
4.5 The organization has systematic processes for handling customer complaints					

PART III. Export Performance of the Organization

Export Performance	strongly disagree	disagree	neutral	agree	strongly agree
The company has high market share					

The company's market share is increasing					
The inventory carrying cost is low					
The processing cost is high (labor, machine,…)					
Transportation cost is high					
The company is flexible in accommodate changes to delivery schedule earlier/later than the delivery schedule					
The company accepts customer's feedback with willingness and works for improvement					
The company is competitive in oilseed exporting market					
The company has good profit margin on sale					
The company has good return on investment					

PART IV. Open-ended Questions

1. Is there any problem in the process of practicing supply chain management in your company? Yes or no?

   ____

2. If the answer for the above question is yes what are they?

____
____
____
____

3. What is your suggestion for your company's future regarding good supply chain management?

____
____
____
____

4. If you have any comment

____
____
____