Addis Ababa University School of Commerce Department
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Logistics and Supply Chain Management
(Graduate Study)

ASSESSMENT OF SUPPLY CHAIN MANAGEMENT PRACTICE AND CHALLENGES IN ELFORA AGRO-INDUSTRY PLC

BY
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A Thesis Submitted to the Addis Ababa University School of Commerce for the Partial Fulfillment of the Requirements for the Degree of Masters of Arts in Logistics and Supply Chain Management

Research Advisor: Shiferaw Mitiku (Ph.D)

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A CASE STUDY OF ELFORA AGRO INDUSTRY

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DECLARATION

I, the undersigned, declare that, this study **"Assessment of supply chain management practices and challenges a case study of ELFORA Agro-Industry"** is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the study have been duly acknowledged.

Declared by:

Name_____

Sign_____

Date_____

Confirmed by Advisor:

Name_____

Sign_____

Date_____

Statement of certification

This is to certify that Ermias Tarekegn has carried out his research work on the topic entitled "Assessment of Supply Chain Management Practice and Challenges: the case of ELFORA Agro-Industry P.L.C". The work is original in nature and it's suitable for submission for the reward of the Master's Degree in Logistics and supply chain Management.

Advisor: Shiferaw Mitiku (PhD) _____

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I would like to take this opportunity to forward my deepest gratitude to my advisor Dr.Shiferaw Mitiki(Phd) who contributed a lot for my achievement.

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It also gives me pleasure to extend my gratitude to ELFORA Agro-Industry's employees; working in the sales and marketing department, procurement and supply department, and Production Department for the support they showed during the preparation of this project.

ABSTRACT

Supply chain management (SCM) has become a fundamental element to improve the efficiency and productivity in recent decades. The purpose of this paper was to study the practice of supply chain management from the five SCM practice and the challenges of SCM in ELFORA Agro Industry PLC. For achieving the objective of this study, 45 Questionnaires' were distributed by using random sampling particularly stratified sampling technique for the employees who have knowledge and awareness about different supply chain management and participate in the practices, and 40 of they were successfully Completed and analyzed using descriptive (mean and Standard Deviation) statically analysis.

Both Primary and Secondary Source of data were used for this Study. The method of data collection was Interview and Questionnaire in the form of Closed and open ended question. The Questionnaire was rated using five point's likert Scale. The major finding indicates that, most of SCM Practices are needs improvement with in the ELFORA Supply chain; whereas, internal operation practice, IT and training Practices are poorly applied. Willingness to share risk, unplanned orders financial Impact, Subsequent design change, inventory fluctuation and employee ineffectiveness are major challenges of the Company's SC. The Study helps to create awareness to ELFORA Company owners, and it gave Chance for others who are interested on SCM Practice and Challenges to make further studies.

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Acronyms

FAO: - Food and Agriculture Organization

EDI: - Electronic Data Interchange

IS: - Information system

IT: - Information technology

ILP:- Internal Lean Practice

JIT: - Just In Time

RBC: - Resource Based View

SC: - Supply Chain

SCM: - Supply Chain Management

SCR: - Supplier and Customer Relationship

Chapter One

1. Introduction

This study going to assess supply chain management practice in ELFORA Agro-Industry plc. The researcher try to evaluate SCM practice in relation to company internal integration, supplier and customer relationship, information sharing, and internal processes of SCM and customer services.

1.1. Background of the Study

Supply chain management (SCM) is a new concept involving the integration of all the Value-creating elements in the supply, manufacturing, and distribution processes, from raw material extraction, through the transformation process, to end user consumption. SCM activities are motivated by the ideals of customer service, compression of lead time, and inventory reduction. SCM is facilitated greatly by the latest in communication technologies, such as the electronic data interchange (EDI) and the internet. This permits quick communication of end-consumer demand to the upstream stages of the supply chain.

Many organizations and professionals misunderstood supply chain. Many people interpret this as another process of an organization, which deals with logistics and shear IT operation. A supply chain consists of various stages, which take part in conversion of raw material in to final products and its delivery to the end customer. It not only includes suppliers and manufactures but also the distributors, transporters, retailers and customers within each organization. It includes all the important functions i.e. order management, planning, shop-floor operations, inspections, packaging and dispatch, etc. Moreover, supply chain is the approach to regulate the flow of material, information and finances (Gupta & Sahay, 2007.

Because of globalization, steep competition, change in market demand and the rapid adoption of outsourcing, today's organizations are operating in a "networked" business environment. As far as the business world is concerned the customer, who is perceived as the ''king'', is the driver of change in the market place. Their changing attitudes are pushing businesses to rethink their strategies. In general, business environment is characterized by unpredictability and changeability. Therefore, adopting a more integrated approach to supply chain (SC) relationship management has been increasingly viewed as a way of meeting changing customer needs (Eyong, 2009).

As it was mentioned by Neeley, (2006) that Forrester was the first researcher who gave the concept that would eventually become Supply Chain Management. Forrester's theory of distribution management was introduced in 1950's. This theory was about an understanding of inter-organizational relationships and coordination. Supply chain management (SCM) has raised the interest in the past years as organizations started to realize that, the actions taken by one member of the chain actually have an influence on the profitability of other members in the chain. This scheme generated the act of competing as a part of supply chain against the other supply chains instead of competing as a single firm against other individual firms (Silver. *et al*., 1998).

This is due to the fact that, nowadays the new source of business competition lies outside the walls of organizations, and it is determined by how effectively companies link their operations with their supply chain partners such as suppliers, manufacturers, distributors, wholesalers, retailers and end customers (Silver. *et al*., 1998).

Therefore, Supply chain management offers a management philosophy to manage activities and integrate with down-streams, up-streams as well as firms internal supply chain operations (Ross, 1998). With the growth of inter-network competition, individual business may no longer compete solely as independent company but must do as supply chains. Companies associated in the same network require efficient supply chain integration in order to optimize their collective performance. Moreover, numerous companies have started to appreciate that, as SCM plays a major role in building a sustainable competitive edge for their products in highly competitive markets (Jones, 1999).

Because of the collaboration between members of the chain, supply chain management gives significant opportunities to the firms involved in terms of cost reductions, revenue enhancement, flexibility, customer satisfaction, speed and economy of time (Forrester, 1958 cited in Neeley, 2006).

Morten (2003) concluded the general understanding of the business environment in most industries as, competition has been increasing and the condition under which business is running becomes more turbulent. By understandably this, many companies are now focusing on improving and developing their supply chain processes because it can play a significant role in customer service and their profitability.

In today's world, SCM is a key strategic factor for increasing organizational effectiveness and for better realization of organizational goals. So SCM can achieve the organization goal through

enhancing competitiveness, better customer care and by increasing profitability. The era of both globalization of markets and outsourcing has begun, and many companies select supply chain and logistics to manage their operations (Gunasekaran, Patel and Tirtiroglu, 2001). The integration of supply chain processes can provide an effective means by which costs can be reduced and customer service levels improved. To achieve it, organizations should become part of an extended, integrated supply network can also expect that this will require an infrastructure enabling effective information flows and streamlined logistics. The most effective network therefore is the mix of information requirements, physical logistics and collaboration right, providing shared benefits to a majority of partner organizations (Power, 2005).

Nowadays, Ethiopia is becoming increasingly customer driven business environment, competitive, and technology based. Thus, it is seen to build an integrated companies; A seamless and real wealth in a way that would flow through the system faster on the supply chain.

In developing country including Ethiopia SCM and its participant actions are traditional and the partners have made efforts to harmonize strategies, especially with business with them Suppliers, vendors are full, distributors, and customers.

1.2. Company background

ELFORA was established in 1997 by acquiring eight (8) Livestock Enterprises from the Federal Government of Ethiopia through the privatization process.

The word ELFORA stands for natural products without the exposition to artificial feeds or chemicals. "ELFORA" comes from two "Borena Oromo" words, "ELA" and "FORA". "ELA" means Permanent Water Point, and "FORA" means Rainy Season Grazing. The word "FORA" is also considered to be equivalent to the English word "FLORA", which signifies HIGH QUALITY Livestock and Meat Products brought from traditional pastoral system as well as modern ranching. In line with this, the company is established to accomplish the following business purposes:

1. Develop the livestock industry by producing, through natural and improved practices, high quality live animals on its own ranches, feedlots and quarantine stations.
2. Produce and market high quality livestock and meat products both to the domestic and export markets.
3. Supply special quality chilled/frozen beef, mutton and goat carcasses, beef cuts, and

broiler meat to the local and overseas markets.

4. Engage in the commercial production and marketing of poultry products, including broiler chicken, portioned chicken meat, day-old chicks and table eggs.
5. Engage in the production and marketing of cash and high value crops for the local and export markets as well as for use by own processing/canning plants.
6. Develop, process and market canned meat and vegetable products for the domestic and foreign markets.
7. Build-up a competent management and staff workmanship by constantly upgrading their skills and encouraging teamwork and a sense of belongingness.

Present Undertaking

ELFORA exports Livestock and Meat products to the Middle East Countries (Saudi Arabia, Dubai and Yemen) and African Countries (Djibouti, Congo Brazzaville, Cotê-d'ivoire and Egypt).

The Company meat plant at Melge Wondo, Debre Zeit, Dire Dawa, Kombolcha, Gondar and Metehara, are engaged in the production of meat either in canned, carcass, minced or boneless form for both domestic and export markets. Currently, Melge Wondo Meat plant is being utilized for production of vegetable soup and other canned products for local market. Debre Zeit & Metehara Abattoirs are utilized for export of mutton and goat carcass to the Middle East Countries.

Currently Cheffa, Nettle and Melge/Shallo Farms are engaged in producing different crop products including Cereals, Fruits, Vegetables, Fiber Crops, Animal Fodders, and so on. The Debre Zeit Poultry Operation produces live chicken, broiler meat and table eggs mainly for local market.

ELFORA can now process and export up to 90 tons of mutton and goat carcass per week, which is equivalent to 4680 tons per annum.

Product and services

- ELFORA Poultry-Operation produces poultry products like table eggs, day old chicks, pullets and broiler meat for local and export markets. The Operation has the capacity of producing 1,000,000 kgs of Broilers and 50,000,000 pcs of Table Eggs per year.
- ELFORA possesses the complete chain of livestock facilities from purchasing of the animals through holding, ranching, and quarantine, in which the necessary animal health care is provided. Strict control on quality is practiced, supported by health certificate. The company has both the capacity and readily available up-to-standard facilities to deliver high quality and safe live animal, beef and beef products by strictly adhering to the specifications of its customers. Customers' specifications with regards to age and weight of live animals are addressed cautiously. ELFORA Ranches have yearly capacity to accommodate 65,000 heads of Cattle and 400,000 heads of Sheep & Goats per year. Likewise, the Holding Grounds can accommodate 65,000 heads of cattle and 400,000 heads of Sheep & Goats per year. ELFORA Feedlots have the capacity of holding 16,500 heads of cattle per year.

- **FROZEN/CHILLED CARCASSES AND PROCESSED MEAT**

  - Chilled Goat & Mutton Carcass
  - Chilled Beef Fillet
  - Edible Offals
  - Fresh Meat (Beef Goulash, Beef Minced Meat, Beef Prime Cuts, Beef Tenderloin, Lamb & Goat Cube, Lamb Goulash, Lamb Leg (Boneless)
  - Processed Meat (Beef Mortodella, Beef Sausage, Chicken Mortodella, Chicken Sausage)

- **SLAUGHTERING SERVICES**

  To satisfy the ever increasing demands and the stringent requirement of its clients for quality and safe products, ELFORA is constantly engaged in developing and upgrading abattoir facilities and procedures of slaughtering and processing of chilled/frozen carcasses of beef, mutton and goat meat. Cold truck fleet of vehicles is available to transport the carcasses to the pre-shipment waiting and loading point, at Bole

International Airport in Addis Ababa, or Djibouti Port for export to the Middle East countries.

- Two ELFORA abattoirs have fulfilled hygienic standards and are approved and registered by the Ministry of Agriculture and Rural Development as "Export Standard" abattoirs. Two of ELFORA abattoirs namely Methara & Debrezeit are pioneering in the implementation of Hazard Analysis Critical Control Point (HACCP) system, following the institution of Good Manufacturing and Good Hygienic Practices. As part of ELFORA's latest development in safety control assurances and product quality improvement, the veterinary laboratory facilities are setup at its export abattoirs to perform various bacteriological examinations and tests. All meat and meat product shipments are accompanied by international sanitary certificates issued by the veterinary authorities of the Ministry of Agriculture and Rural Development.

  Moreover, slaughtering activities for Muslim customers are based on Halal system. Certification of Halal is provided from the accredited authorities of the Ethiopian Islamic Affairs Supreme Council. All Halal certificates are authenticated by the relevant Embassies of the importing countries in Ethiopia.

ELFORA offers competitive advantages in supplying Meat & Egg products to Europe and the Middle East directly to the agents of the buyers. This is supported in part by a well-developed air transport system out of Addis Ababa, where Ethiopian Airlines is constructing a new perishable cargo center at the airport and by track to Djibouti. There are also a local market through Queens Super market which is main outlet of the product and other large whole sellers. ELFORA also supplies canned food items for ministry of defense.

1.3. Statement of the problem

A number of recent trends that include globalization, urbanization and agro-industrialization, are placing increasing demands on the organization of Agri-food chains and networks. Food and agribusiness supply chains and networks which tended to be primarily characterized by autonomy and independence of actors are now rapidly moving towards globally interconnected systems with a large variety of complex relationships. This is also affecting the ways in which food is produced, processed and delivered to the market. Perishable food products can nowadays be shipped from halfway around the world at fairly competitive prices. Demand and supply are no longer restricted to nations or regions, but have become international processes. The market

exerts a dual pressure on Agri-food chains, forcing improved coordination among buyers and sellers and continuous innovation (FAO, 2009).

Lazarevic *et al*., (2007) disclosed that, in order to make the SCM effective there must be effective implementations of the supply chain management practices, namely good supplier and customer relationship, information sharing, internal operation, information- technology (SCM) and training of employees among the upstream, internal and down streams of the supply chain. This would be applicable to the extent of expected degree when there is trust and honest among the supply chain members.

On the other hand **L**ee *et al*., (2000) suggested that trading partner companies, should get out of mere coordination and move towards collaborative SCM in an effort to reduce the information imbalances that result in the "bullwhip'' effect, while increasing their responsiveness to market demand and customer service.

Even though practicing supply chain management was started in the 1950s, it has got major emphasis starting from the 1980s' (Borade and Bansod, 2007). This shows that there are no adequate researches on the subject like other field of studies (Vorst et al, 2007). However, recently supply chain management has been an emerging field and extensively under study in both theory and practice (Storey et al, 2006). The researches of Harland (1997) and Mentzer et al., (2001) showed that cultural, social and economic condition of a country influence the link between SCM practices and SCM performance. But much of supply chain management studies especially in agro business were made in Western Europe and North America (Cunningham, 2001). He has reviewed 123 formal journal articles relating to supply chain management in the agri-food industry and strongly recommended that further study on supply chain in agri-food industry is deemed necessary in developing world. But researches made on the subject and implementation of well-coordinated supply chain management is not satisfactorily developed (Lemma et al, 2015). Agro processing industries need to plan their supply chain considering producers (farmers), how the agricultural products are harvested, transported and delivered to the industries (Minae, 2009). Hence, these agro processing industries need to construct an efficient supply chain from the producer to the manufacturer and through the distributor and retailer to the end customers. Therefore, food supply chain needs effective management, integration, knowledge, and due attention throughout the supply chain. If properly implemented SCM can improve the company's responsiveness, flexibility and efficiency (Olsson and Skjolde, 2008)

Agricultural supply chain needs unique supply chain management practices because of seasonality of the product, perishable commodities, the goods includes live animals and plants, herbicides and pesticides.

A number of researchers conduct different types of researches in related with agricultural SCM in developed countries, it is difficult to generalize to directly apply other countries findings because, there are different variables differentiate developed countries with developing countries.

In ELFORA Agro-industry P.L.C about 20,000 chickens are dying in transit every year. According to data of the case company most of the deaths occur in rout from the supplier's port of lading to poultry farm. The data shows that in five shipments in 2016 from 4% to 60% of the birds died in transit. Some 120- 8000 one day old chickens died in one shipment alone (ELFORA MMS report, 2017).

On the other hand the main fodder for poultry and Dairy farming are maize. During 2016 twenty thousand quintal of maize has purchased from the market for the forage of poultry and dairy farming. In the meantime the crop production section has sold all products of maize to the market. This practice shows the internal integration of ELFORA agro industry is low.

In the case company there is no formal structure of supply chain process but, the SC practices are performed in deferent department unorganized way.

Therefore, this study was to evaluate the overall understanding of the subject company Supply chain management associated with the level of functionality and performance to the customer Service.

Basic research questions

This study were aimed to answer the following basic research questions:

- How supply and chain management is being practiced in ELFORA Agro-Industry P.L.C?
- How supply, demand are integrated and coordinated at ELFORA Agro-Industry's to satisfy its consumers?
- How ELFORA Agro-Industry working toward internal integration to satisfy its resource need as well as its customers?

1.4. Objective of the study

The general objective of the study was to examine the SCM practices and identify the major problems hampering its effectiveness at the ELFORA Agro-Industry.

Specific objective of the study were:

- To examine the integration and coordination of supply & demand relationships among supply chain partners.
- To assess the case company's supply chain practice and problems
- To study internal integration of ELFORA Agro-Industry p.l.c .

1.5. Significance of the study

The significant of the study is to play a role in including the real cause behind the problems and their effects on the supply chain activities in case company, its partners and stakeholders at large. The outcome of this study can offer an opportunity for further study related to supply chain practices.

Specifically, this study has the following main significances:

- It guides for academicians to consider when manipulating training on the subjects relating to the SCM.
- The outcome of this study can offer an opportunity for further study related to supply chain practices.

1.6. Scope of the study

Supply chain management is a new approach of managing materials, functional components, trading partners who are autonomous and interdependent entities with common goal of pursuing value creation to their respective customers in the order fulfillment cycle. Its approach is more of cooperation than competition among chain members, more of trust and long term relationship arrangement and more of integration of their business processes, information and financial flows in the order fulfillment cycle to the ultimate customers.

SCM covers massive areas of executive practices. Though, it is difficult and impossible to conduct the study in all areas that sum-up SCM in terms of time, finance, and research manageability. Then, the scope of this study restricted to practices of SCM in the case of ELFORA Agro-Industry P.L.C. The subject scope of this study is also limited to the company's

point of reference towards cooperation, supplier and customer relationship, information sharing, information technology, internal processes of SCM and customer services.

1.7. Limitation of the study

This study has encountered certain limitation during the course of conducting the study. One of the difficulties encountered were respond ants reluctant to fill out and return the questioner on time. The other difficulties faced, lack of sufficient material in the study area and absence of research documents done on Ethiopian Agro-Industries a supply chain management system, and the other difficulties due to time constraint it was not possible to collect data for reason which affects SCM in each company.

1.8. Organization of the thesis

First chapter contains Introduction, background of the study, statement of the problem, basic research questions, objectives of the study, significance of the study, and delimitation/scope of the study. In the second chapter the researcher Review different Related Literatures relevant to the study. It includes both theory and empirical evidences related to the research. Next chapter or chapter three describes the type and design of the research; conceptual framework adapted/adapted from previous studies, the subjects/participant of the study; the sources of the data; the data collection tools/instruments employed; the procedures of data collection; and the methods of data analysis is used. In chapter four has summarized the results/findings of the study, and interpret and/or discuss the findings. Here, the researcher made extensive use of the literature review. Finally in chapter five it included Summary, Conclusions and Recommendations. This chapter comprises four sections, which include summary of findings, conclusions, limitations of the study and recommendations. Summary of findings drawn from the results discussed under chapter four. Conclusions is drawn from the summary of findings Recommendations: finally a practical recommendation has generated based on the conclusion

Chapter Two

2. Related Literature Review

2.1. Introduction

In recent time globalization, technological advancements and intensive world-wide competition have created an entirely new business environment for manufacturing organizations (Power et al., 2001; Moberg et al., 2002; Agus, 2011). They have used lean production in response to this intensifying competition and achieved massive productivity gains by eliminating waste (Koh et al, 2007; Hines, 2004). Currently these manufacturing organizations have limited their massive productivity improvements and they are using the huge improvement potential to reduce the inefficiencies caused by the poor performance of suppliers, unpredictable customer demands, and uncertain business environment (Koh et al, 2007). Since 1980's organizations have given more emphasis to gain competitive advantage through implementing supply chain management practices in their operations (Kannan and Tan, 2005; Chin et al., 2010; Mutuerandu, 2014). Organizations have now realized the importance of creating an integrated relationship with the suppliers and customers. The supply chain management practices are viewed to be related to supply chain responsiveness which will increase supply chain competitive advantage and then lead to organizational performance (Sukati et al., 2011). Supply chain management performance is used to show how successfully an organization achieves its market and financial goals (Yamin et al., 1999; Li et al., 2006; Ibrahim and Hamid, 2014). Financial measurements are used to compare performance of business organizations in fact this criteria lack the characteristics of being able to address the whole in order to benchmark organizations performances (Wong and Wong, 2008). 8

2.2. Supply chain, supply chain management, supply chain management practice and its objectives

2.2.1. Supply Chain

Supply chain is a network of different companies or independent business units that starts from original supplier to end-customers (Lambert *et al*, 2005). It is a series of activities starting with unprocessed raw materials and ending with the final customer using the finished goods (*Chin et al.,* 2004). It is the material and informational interchanges in the logistical process stretching from acquisition of raw materials to delivery of finished products to the end user. All vendors, service providers and customers are links in the supply chain (Lambert, 2008). A supply chain encompasses all the parties that involved, directly or indirectly, in fulfilling a customer request. This includes manufacturer, suppliers, transporters, warehouses, retailers and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all function involved in receiving and filling a customer request (Sukati *et al*., 2012). These functions includes new product development, marketing, operation, distribution, finance, customer service and other function that related to serving customer request (Chopra and Meindl, 2007).

2.2.2. Supply chain management

Council of Logistics Management (CLM) defined SCM as the systemic and strategic coordination of business functions and tactics across these businesses functions within a particular organization and across businesses within the supply chain for the purposes of improving the long-term performance of the individual organizations and the supply chain as a whole. SCM has been defined to explicitly recognize the strategic nature of coordination between trading partners and to explain the dual purpose of SCM: to improve the performance of an individual organization and to improve the performance of the supply chain members as a whole. Tan *et al.* (1999) has defined supply chain management as the simultaneous integration of customer requirements, internal processes and upstream supplier performance. Lee and Billington (1995) have defined supply chain management as a network of facilities that produce raw materials to transform them into intermediate goods and then to final products. Fawcett and Magnan (2001) defined supply chain management as the collaboration of multiple participants in

designing, implementation, and management of unified value-added processes to fill the actual needs of the end customer. In addition to coordinated management of materials, information, and financial flows the development and integration of people and technological resources trigger successful supply chain integration. Tan *et al.* (2002) indicated that the important element of supply chain integration is inter-organizational decision making in collaboration with supply chain members and their involvement in the strategic decision making of the supply chain entities. Increasing global cooperation, vertical disintegration and a focus on core competencies have led to the concept that firms are linked in a networked supply chain (Chen and Paulraj, 2004). A truly integrated supply chain network requires commitment by all the members of chain. Tan *et al*. (2002) has showed that buyers have to revamp their purchasing cycle to integrate externally with supplier's engineering teams and internally with product designers. This shows that the need for involving all supply chain members in the business processes of the firm.

2.2.3. Supply chain management objectives

Li *et al*. (2005) stated that successful SCM implementation is expected to enhance the relationship between upstream suppliers and downstream customers, increases customer satisfaction and firm performance. Prior research has also indicated that SCM as a key driver of firm performance (Wisner et al, 2005).

Supply chain objective is not only to improve profitability, customer response and ability to deliver value to the customers but also to improve the interconnection and interdependence among firms (Sukati *et al*, 2013). The basic objective of supply chain management is to create sourcing, making and delivery processes and logistics functions seamlessly across the supply chain as an effective competitive weapon (Li *et al*., 2005). Moreover, supply chain management links the end customers, the channels of distribution, the production processes and the procurement activity in such a way that customers' service expectations are exceeded and yet at a lower total cost than their competitors (Ibrahim and Hamid, 2014). Furthermore, (Mentzer 2001) concluded that SCM is important to systematically and strategically coordinate the traditional business functions within a particular company and across businesses within the supply chain aiming at improving the long term performance of the individual companies and the supply chain members as a whole. Effective supply chain management (SCM) has become a potentially valuable way of securing competitive advantage and improving organizational performance since competition is no longer between organizations, but among supply chains.

Supply chain improves the interconnection and interdependence among firms (Li *et al*. 2006). The growth of supply chain also aims to improve profitability, customer response and ability to deliver value to the customers (Sukati *et al*., 2011).

2.3. Empirical Literature review

The term SCM was first used in the 1980s and as such is a relatively new discipline within management theory with tools and concepts still being developed. According to Tan *et al.* (2002) in last few years the concept of SCM has received increasing attention from academicians, consultants, and business managers alike. Furthermore, Li *et al.* (2006) identify as many organizations have begun to recognize that SCM is the key to building sustainable competitive edge for their products and/or services in an increasingly crowded marketplace. As Burgess *et al.* (2006) and Harland et al. (2006) describe, the academic debate over the last 20 or more years contributed to develop the SCM understanding and its relevance to firm strategy.

However, the concept of SCM has been considered from different points of view in different bodies of literature such as purchasing and supply management, logistics and transportation, operations management, marketing, organizational theory, and management information systems (Croom *et al*., 2000). Various theories have offered various insights on specific aspects or perspectives of SCM, such as industrial organization and associated transaction cost analysis (Ellram, 1990), resource-based theory and its extension relational view theory (Rugtusanatham, 2003), competitive strategy (Porter, 1985), and social–political perspective (Stem and Reve, 1980).

In addition those academic debates over the last years also produced a fragmented literature, lacking commonly accepted frameworks and clear constructs, undermining knowledge advancement (Burgess *et al.*, 2006; and Harland *et al*. 2006).

Even though different things contribute for differences on the concepts of SCM, different researchers tried to describe the concepts of SCM as follows. Ellram and Cooper (1990) identify SCM as an integrating philosophy to manage the total flow of a distribution channel from supplier to the ultimate customer. Whereas Robinson and Kalakota (2000) view the supply chain quite simply as a "process umbrella" under which products are developed and delivered to customers. From a structural viewpoint, they argue, the supply chain refers to the complex network of relationships that organizations maintain with trading partners to source, manufacture and deliver products. As Li *et al.* (2006) described, SCM is a concept which its goal is to

integrate both information and material flows seamlessly across the supply chain as an effective competitive weapon. Li *et al.* (2006) also stated that SCM applies to show the collaborative relationships of members of different echelons of the supply chain and refers to common and agreed practices performed jointly by two or more organizations. In addition, according to Arawati (2011), SCM includes managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, and delivery to the customer.

Generally, the SCM concept used in the research in its essence assumes that firms set up alliances with members of the same chain (i.e., upward stream, supplier, and downward stream, customer) to improve its competitive advantage revealed by superior operational performance of all chain members. Regarding definitions of SCM, many definitions have also been used to explain the term. The frequency with which the term SCM is used in today's environment would suggest that it is a well understood concept accompanied by an accepted set of managerial practices. However, definitions of and approaches to SCM vary substantially from organization to organization because it is influenced by many different fields and researchers in the area of SCM. Tan, *et al.* (2002) defines SCM as the simultaneous integration of customer requirements, internal requirements and upstream supplier performance. Council of Logistics Management (CLM) defines SCM as the systemic, strategic coordination of the traditional business functions and tactics across these businesses functions within a particular organization and across businesses within the supply chain for the purposes of improving the long-term performance of the individual organizations and the supply chain as a whole. SCM has been defined to explicitly recognize the strategic nature of coordination between trading partners and to explain the dual purpose of SCM: to improve the performance of an individual organization, and to improve the performance of the whole supply chain (Li *et al*., 2006).

Supply chain by Christoper (1998) defined as a network of various organizations involved both through upstream and downstream linkages in different kinds of activities and processes. Meanwhile, Adebayo (2012) summed up the many definitions of SCM by various authors and researchers as 'the task of integrating organizational units along a supply chain and coordinating materials, information and financial flows in order to fulfill (ultimate) customer demands with the aim of improving competitiveness of the supply chain as a whole'. Thus, in the end produce value whether in the form of products or services to the end user.

The key elements of supply chain and its management from these definitions are therefore the upstream parties, the downstream parties and the integration of all the organizations involved, together with the internal function of an organization itself. The upstream parties, as being described by Handfield and Nichols (1999), consists of an organization's functions, processes and network of suppliers while the downstream function on the other hand concerns the distribution channels, processes and functions where the product passes through to the end customer. Where external downstream and upstream functions are concerned, the managers involved in each upstream and downstream supplier and functions are responsible in making sure that the deliveries of products and services are done as scheduled to their destinations. If there are cases where delays are inevitable, the managers are to ensure that the impact of the delays to the supply chain and the value it carries will be minimal.

In general, regarding the definition of SCM, the researcher conceptualize it as the strategic coordination of the traditional business functions (i.e., coordinating the firm/organization with the supplier and customer) and the tactics across these businesses functions within a particular organization and across businesses within the supply chain for the purposes of improving short-term and long-term performance of the individual organizations and the supply chain as a whole. Over the past two decades, supply chain management (SCM), emphasizing the interdependence of buyer and supplier firms working collaboratively to improve the performance of the entire supply, has generated extensive interest in both academic and practitioner communities.

The definition of supply chain management Is the integration of business processes from end user through original supplies that provides products, services and information that add value to customers (Siddig Balal Ibrahim, 2012) "supply chain" seems to be common across authors than the definition of "supply chain management". (Siddig Balal Ibrahim, 2012) and Masters proposed that a supply chain is a set of firms that pass materials forward. Normally several independent firms are involved in manufacturing a product and placing it in the hands of the end user in a supply chain – raw material and component producers, product assemblers wholesalers, retailer merchants and transportation companies are all members of a supply chain(Siddig Balal Ibrahim, 2012).

2.3.1. Supply chain management practices (SCM P)

The practice of SCM is refers to complete set of actions which are done in organizations towards to improve the effectiveness in the internal supply chain. The modern evaluation of the SCM

practices that comprises of partnership with the supplier, process of outsourcing, compression of cycle time, continuousness of process flow and sharing or technology and information by using purchasing the quality and relations with the customer SCM practices are defined as a set of activities undertaken in an organization to promote effective management of its supply chain. Supply base management refers to how firms utilize their suppliers processes, technology and capabilities to enhance supply chain performance and competitive advantage and how the manufacturing, logistics, materials, distribution and transportation functions are coordinated within organizations, SCM in practice means includes the involved companies planning and strategy for coordination of their supply chain, including collaboration between functions internally as well as across company.

SCM practices are defined also as approaches applied in managing integration and coordination of supply, demand and relationships in order to satisfy consumers in effective and profitable manners. A recent study found that firms often use supplier evaluation or performance measurement to identify specific supplier deficiencies and to develop plans to address them. Such efforts may involve the measurement of supplier's delivery, quality, and cost performance, site visits, certification of supplier's products and processes, and the setting of performance goals. aspect of the SCM practices all the way through the factor study, integration of SC, sharing of information, characteristics of supply chain management of client services, physical proximity also the capabilities of just in time (J.I.T) relationship in long-standing communication, cross functional team and participation of vendor for the purpose of measuring the relationship of supplier and buyer strategic supplier partnership with the supplier. It is explained as the long-term based association between company and the supplier. The purpose is achieve the long term based benefits in the way of achieving the organizational benefits It provides the organizations with the supplier and they help the organization in the process of planning and solving any problem. It enables the organization to work effectively and efficiently with the key supplier who are ready to bear the responsibility about the winner or failure of the product and the services. The supplier involvement to designing process of the product and services could be cost efficient (Siddig Balal Ibrahim, 2012).

Customer Relationship involves about the managing the complaints of the customers and fast solutions to their problems this helps the organization for maintaining the long term and good relationship with the customers.

2.3.2. The dimensions of supply chain management practices

Many authors studied supply chain management practice and there are various elements and dimensions have measured or used to measure the supply chain practice, for example:- Chin *et al*. 2011:- information sharing, customer relationship, strategic supplier partnership, material flow management and corporate culture, Inda , *et al* ,2012 :- Strategic supplier partnership , customer relationship , information sharing, Chowa , *et al* ,2008 :-There are four elements (suppliers and customer mgt , information sharing , speed of communication , supply chain features), Min & Mentzer ,2004:- There are seven elements of supply chain practice such as a greed vision and goals, information sharing, risk and award sharing, cooperation, process integration, long-term relationship and a greed supply chain leadership, Chen & Paulraj, 2004 :- Using supplier base reduction , long-term relationship, communication, cross-functional teams and supplier involvement to measure buyer supplier relationships, Tan, Lyman and Wisner, 2002:- Six elements of supply chain practice (using factor analysis) supply chain integration , information sharing supply chain characteristics customer service management , geographical proximity and JIT capability, Alvarado & Kotzab, 2004:- Using inter-organizational system in supply chain practice such as EDI , and elimination of excess stock levels by postponing customization toward the end of the supply chain, Tan , Kannan and Handfield, 1998:- Supply chain practice includes purchasing quality , and customer relations, and Donlon , 1996:-Supply chain practice includes supplier partnership , outsourcing cycle time compression , continuous process flow and information sharing.

2.4. Conceptual framework of the Research

Considering the various dimensions of supply chain management practices proposed by several researchers, the researcher adapted a research framework that encompassed the following five dimensions of supply chain management practices:

Customers and Suppliers Management

2.4.1. Customers Management

Organizations depend on their customers and therefore should understand current and future customer needs, meet customer requirements, and strive to exceed customer expectations. Customer relationship management (CRM) is an important component of SCM Gharakhani,Davood Reza Kiani Mavi and Nasser Hamidi. (2012). A firm's customer relationship practices can generate the organizational success in supply chain management

practices efforts as well as its performance Ruben Vrijhoef and Lauri Koskela.(1999)considered that customer relationship management can be seen as the consistent organizational activity under usage of integrated selling, marketing and service strategy. That is, trying to define the real need of the customer, by the enterprise integrating various process and technology, in asking internal product and service improvement, in order to dawn effort of enhancing customer satisfaction and loyalty.

2.4.2. Suppliers Management

Supplier's partnership represents the long-term relationship between the organization and suppliers. An effective supplier's management can be a critical component of a leading edge supply chain Gharakhani,Davood Reza Kiani Mavi and NasserHamidi. (2012). through strategic supplier partnerships, organizations can work closely with suppliers who can share responsibility for the success of the company. Radas S, Bozˇic´ L (2009) found that the collaboration with other firms or organizations, also include suppliers, has positive significant impact on process innovation and incremental product innovation. Such strategic supplier partnerships should enable successful SCM.

2.4.3. Supply chain integration

The integration of supply chains has been described by Clancy as: attempting to elevate the linkages within each component of the chain, (to facilitate) better decision making and to get all the pieces of the chain to interact in a more efficient way and thus .create supply chain visibility and identify bottlenecks. The main drivers of integration are listed by Handfield, R. and Nichols, E.L. Jr (1999) as the information revolution, increased levels of global competition creating a more demanding customer and demand driven markets; and the emergence of new types of inter-organizational relationships.

They describe the three principal elements of an integrated supply chain model as being information systems (management of information and financial flows), inventory management (management of product and material flows), and supply chain relationships (management of relationships between trading partners).

The basis of integration can therefore be characterized by cooperation, collaboration, information sharing, trust, partnerships, shared technology, and a fundamental shift away from managing individual functional processes, to managing integrated chains of processes The extent of integration can begin with product design, and incorporate all steps leading to the ultimate sale of the item (Transportation and Distribution, Modern Materials Handling, Some authors also

include all activities throughout the useful life of the product including service, reverse logistics and recycling Ballou H. Ronald (2000).

2.4.4. Speed of Responsiveness

Inda, Hamid and Tan (2012), mentioned the sub-constructs for supply chain responsiveness includes operation system responsiveness, logistic process responsiveness and supplier network responsiveness. Operation system responsiveness is the ability of firm's manufacturing system to address changes in customer demand. It includes both manufacturing and service operation; Supplier network responsiveness is the ability of the firm's major suppliers to address changes in the firm's demand. A key to responsiveness is the presence of responsive and flexibility partners upstream and downstream of the firm Christopher, M. and Peck, H. (2004).

Lumnus, Duclos and Vokurka(2003), Show that responsiveness at each company of the chain is an integral component of supply chain responsiveness. Logistic process responsiveness is the ability of company's outbound transformation, distribution and warehousing system to address changes in customer demand

2.4.5. Information sharing

Information sharing is the ability of the firm in sharing knowledge with supply chain partners in an effective and efficient approach Effective information sharing is considered as one of the most important abilities of supply chain process Information sharing is one of the most important tools for achieving an integrated and coordinated supply chain Lee(2002), stated that information should be interoperable, which means that one system can talk to another.

Zailani andRajagopal (2005), add that the technological wave of internet and e-commerce provides a new opportunity to create a "smart" integrated supply chain .Sridharan and Simatupang (2002), defined information sharing as the access to private data between business partners thus enabling them to monitor the progress of products and orders as they pass through various processes in the supply chain.

They identified some of element that comprise information sharing, consisting data acquisition, processing, storage, presentation, retrieval, and broadcasting of demand and forecast data, inventory status and location, order status, cost related data, and performance status Internet, Intranet, and Extranet can be distinguished based on characteristics including access, users, and information. The Internet is a public network accessed by general users. How-ever, due to inconsistent format and diversified content, information available on the Internet is fragmented.

By comparison, the Intranet, via Internet technologies, is a private network set up within an organization; information is proprietary and only available for members within the organization.

2.5. Internal Lean Practices

Internal lean practices (ILP) are the practices of eliminating waste and non-value added activities in a manufacturing system (Womack and Jones, 1996; McIvor, 2001). The term 'lean' refers to a system that uses less input to produce at a mass production speed while offering more variety to the end customer (Li *et al*., 2005). Lean practices are therefore represented by low inventory, small lot sizes and Just-in-time delivery (Taylor, 1999; Zhu and Sarkis, 2004; Li *et al*., 2005). The practices are characterized by reduced set-up times, small lot sizes, pull production, short lead times from suppliers, streamlining ordering, receiving and other paperwork and continuous quality improvement (Womack and Jones, 1996; Li *et al*., 2005). As elimination of waste is the fundamental idea within the lean system, manufacturing companies have accomplished massive productivity gains from the implementation of this system (Koh *et al*., 2007).

According to Cooper and Slagmulder (1999), the principles in ILP include specifying activities that create value from customers' point of view; implementing just-in time production systems and continuously removing non-value added activities. To do these, it is very important to identify all steps necessary in designing, ordering and producing the product across the whole value stream in order to highlight non value-adding waste. In general, SCM seeks improved participant performance through elimination of waste and better use of internal and external supplier capabilities and technologies (Morgan and Monczka, 1996). Lean practices have become a very important aspect of effective SCM, promising not only cost savings and better productivity but also productive working partner relationships along the supply chain (Taylor, 1999; McIvor, 2001; Li *et al.*, 2005).

2.6. Training

SCM requires a change in *"mindset from adversarial to collaborative company interaction"* (Stanley *et al* 2005 pp 6). The human resources readiness highly contributes for the successful Implementation of SCM (Petrovic-Lazarevic, 2007). Organizations recognized as *"excellent in supply chain management"* practices do have a strong concern on *"training and re-training of its employees*" (C.Gowen and W.Tallon 2003).

Supply Chain Management success depends on the *"human resource development"* (C.Gowen

and W.Tallon 2003). There are different types of training that would be provided for job performers of an organization. Accordingly, C.Gowen and W.Tallon 2003 pp 40 described that, trainings like: '*team-building skills for suppliers quality evaluation, problem-solving skills for suppliers partnerships, leadership skills for customer satisfaction evaluation, job skills for competitive benchmarking, and team building skills for continuous improvement teams*'.

2.7. Challenges/Problems of SCM

Supply chain management executives face distinctive challenges, with respect to integrating supply chain strategies (Hussain and Mohammad, 2010). The implementation of SCM is not an easy task. As Handfield and Nichols (2002) explained, managers who decided to do so will most likely to face at least three challenges as categorized into several categories i.e. information systems, inventory management, and in establishing trust between SC members.

While implementing information systems, problems could occur when appropriate information is not provided to the people who need it. In some cases, the information is available but the supply chain members are unwilling to share it as a result of lack of trust and the fear that the information will be exposed to competitors.

Regarding inventory management, although it has been shown to be improving, the need for accelerate late shipments never seems to disappear entirely. The reasons for late shipments are; slowdown because of customs crossing international borders, adverse weather patterns, poor communication and simple human error are always inevitable.

Establishing trust between parties in supply chain are the most challenging task of all. Legal experts may produce a huge quantity of contractual agreements which in the end is useless when parties inevitably have a conflict. Conflict management, especially in inter-organizational relationship is becoming more difficult to manage every day.

From the above discussion it is concluded that, different driving factors forced the occurrence of the concept SCM. The implementation of SCM also has different benefits for the consumers, manufactures, and members of the SC as whole. However, the implementation of the concept has different challenges for all members of the SCM.

2.8. Identified literature gap

Different researchers conduct their works on supply chain management practices. Inda Sukati, Abu Bakar Abdul Hamid , Rohaizat Baharun and Huam Hon Tat(2012) studies the correlation analysis ofsupply chain management practices is term of strategic supplier partnership, customer

relationship and information sharing are related to supply chain responsiveness in term of operation system responsiveness, logistic process responsiveness and supplier network responsiveness. Supply chain management practices also related to competitive advantage of the firm in term of price, quality, delivery dependability, time to market and product innovation. According to the result shown information sharing was the determinant affect of supply chain responsiveness, followed by customer relationship and strategic supplier partnership respectively. The researcher found that information sharing has strong determinant on supply chain responsiveness than customer relationship and strategic supplier partnership.

On the other hand Siddig Balal Ibrahim, Abdelsalam Adam Hamid(2012), concluded that in their journal The managing of suppliers is considered one of the factors that affect the total cost of the supply chain management and therefore suppliers could help to reduce the cost and thus may contribute to improve performance through effectiveness.

Even if the above researchers are journalize that the practice of SCM, their finding are different. This thesis tried to examine the research to fill gap and add knowledge in Ethiopian context in terms of Customer management, Suppliers Management, Supply chain integration, Speed of responsiveness, Information sharing and internal lean practice.

Chapter Three

3. Methodology of the study

This part describes the methodologies that are used in this study: the choice of particular research designs, sampling techniques, sources of data and data collection tools along with an appropriate explanation combined with each approach.

Under mixed method approach, the researcher bases the inquiry on the assumption that collecting diverse types of data best provides on understanding of a research problem (Creswell 2003). This mixed approach is appropriate when either quantitative or qualitative approach by itself is inadequate to understand a research problem.

To address the general objective and to fill the knowledge gap, adequate data from both quantitative (survey questionnaire) and qualitative (in-depth interview) sources were used, and converge data collect from both sources at the same time to get a comprehensive analysis of the research problem and interpret the overall result.

Therefore, the study has used quantitative survey research questionnaire and in-depth interview data gathering instruments together with documentary analysis. Thus, the study used concurrent mixed approach during the study.

3.1. Research Design

This study was intended to investigate SCM practices based on fundamental theories, principles and SCM management philosophies that are supposed to be effective parameters just to evaluate the actual performance of the case company's key business activities. Consequently, the case company's existing SCM practices and the challenges those prohibited its effectiveness has evaluated. Therefore, in this study descriptive research type has used, which helps to use both qualitative and quantitative data analysis.

3.2. Population of the study

The total numbers of ELFORA Agro Industry employees are 747. Out of this figure 237 employees are participated in SC practice. Additionally to get full information this study included 3 officials of Queens's supermarket which is the main outlet of ELFORAs products.

3.3. Sampling Technique

For the purpose of this study, probability sampling particularly stratified sampling technique has used. The target population for the study is classified into three strata based on the departments and section in the firm which is directly related with SC of the organization. Then the samples are selected from each stratum according to their proportion to the total population. Since the information required for the study needs different people who have knowledge and awareness about different supply chain management practices/dimensions of the firm, stratified sampling technique were used to have the right proportion of people from every concerned department or section. The departments considered as strata, from which data collected, are: production department (poultry, agriculture, abattoir, and food processing), Material Management and foreign purchase department, and Marketing Department.

John Curry, (Fall, 1984), provided his research students with the "rule of thumb" on sample size. Based on this rule, sample size of 101-1000 population is 10% of population.

Accordingly, the study was taken 45 samples that are 19% for the total employees of ELFORA employees. (π=n*α/N*100). Where, π = confidence level, α = error of the sample, n= sample size and N= target population. Random selection applied in taking these samples. (Confidence interval will be 95% it has true effect). Random selection is applied in taking these samples.

On the other hand this study has drawn structured and semi-structured questions of 3 interviewees from ELFORA officials and 1 interviews from Queens Super market which is main outlet of company's product to get detailed and clarified information as they are decision makers in their respective organizations.

3.4. Data Collection Tools

Basically there are two sources of data namely, primary and secondary source. In this research both primary and secondary sources of data has applied through Questionnaires, interview, personal observation.

The primary data were conducted in the form of personal interviews with customers, procurement and supply manager, product manager, and marketing managers and through questionnaires which were distributed to supply chain related employees. As the secondary data; books, articles, journals, magazines, and broachers has viewed.

On the other hand, the collection of relevant data to validate the investigation demands appropriate and convenient techniques of data collection. Accordingly, in this study both questionnaire and interview has used simultaneously

3.5. Data Analysis

The specific methods apply in the study is survey methods and in-depth interview together with documentary analysis. Therefore in this study, Quantitative data from the questionnaires were analyzed using descriptive statistics.

The rational to use this descriptive statistics is to describe the basic features of the data by using mean and percentage of the analyzed data in a study and to provide summaries about the sample and statistical package for social science (SPSS) tool used.

3.6. Procedures of Data Collection

Structured questioner was designed to collect primary data from professionals who took part in supply chain management functions & company's managers.

Questionnaires were prepared in English language. The types of questions are open ended & closed items, five points liker's scale and interval for.

Questionnaire: Close ended questionnaire in a 5 point likert scales was used to collect data from the sample respondents. The questionnaire has 5 rating scales ranging from **1-Very Low** to **5-Very High**. Data gathered through questionnaires is simple and clear to analyses and it allows for tabulation of responses and quantitatively analyzes factors.

Furthermore to this it is time efficient for both the respondents and researcher. The questionnaire was structured in such a way that it includes all relevant parts of and information to clearly acquaint the respondents.

Interview: In order to obtain sufficient information the researcher has used personal interview by management bodies of the Selected Company and client. Research issues like awareness, of

SCM practice & Challenge, strategic view and logical Justifications of the case Company were addressed through interviews which are difficult to obtain though questionnaire in as much detailed as required.

3.7. Validity & Reliability of Questionnaire

After designing the questionnaires the researcher gave it to supply chain professionals and consultants to test the questionnaires are valid and questionable. The supply chain management questionnaire per-tested by discussing with supply chain professionals and consultants. After the necessary modification made, the tools are administer to the respondents. Hence, the researcher believe that the instrument is valid.

3.8. Methods of Data Analysis

In general there are two types of data analysis techniques namely: qualitative and quantitative, where by the choice of these methods greatly depends on the type of information the researcher has at hand. If most of information collected contains numerical, the analysis calls for quantitative tools and descriptive statistics can be used to characterize the data. On the other extreme, if most of the data collected are in words which mean data gathered using individual's interviews open-ended questions and focus group discussion, it is logical enough to apply qualitative data analysis tools Nunnery et al., (1994).

Therefore, as determined in the data collection tool for this Study, data were collected in both questionnaire and interview. Accordingly, the collected data were analyzed quantitatively and qualitatively. Particularly, statistical tools like: mean and standard deviation were employed.

3.9. Ethical Considerations

All the research participants included in the study were duly informed about the purpose of the study and their willingness and agreement was secured before the beginning of filling the questionnaire and conducting interview. Regarding the right to privacy of the respondents, the study maintained the confidentiality of the identity of each participant. In all cases, names are kept confidential and collective names such as 'the respondents,' the participants; the interviewees etc. were used in the study.

CHAPTER FOUR

4. Results, Discussion and interpretation

This chapter summarized the result of analyzed data collected and interviewed conducted about current supply chain management practice and challenges at the case company. The discussion particularly focuses on respondents profile, SCM practice, and supply chain integration, challenges of SCM and customer services.

Out of 45 questionnaires distributed to respondent forty were returned. These accounts for 88.87% of response rate Thus, based on the responses obtained from the respondent's data presentation and analysis were made as follows.

4.1. Analysis of the Respondents' Profile

The demographic profile of the sample respondents is presented and analyzed below. The purpose of assessing respondents' age, sex, is that, to determine whether the researcher considered heterogeneity of sample units. On the other hand assessing the work experience and education level of the respondents' is that, when the respondents are more experienced and educated they have better opportunity to understand the case and give better response than else.

Gender frequency of the respondents shows that the numbers of male respondents were almost equal with female respondent. This is 52.5% of the respondents were male, while 47.5% were female respond. This reveals that in the company's supply chain activity are carried out by men and male equally.

This study divided the age of the respondents in to four categories, starting from above 25 years of age to above 45.

In this study, the researcher can conclude that almost all respondents were below 46 ages. This group covers 95% of the respondents to the questionnaire which are 7.5% below 25 years, 50% of respondents are covers age group 26-35 Years, and 37.5% covers from 36 to 45 years. That means the supply chain system carried out by good working age group and the area has good future, they are good to cop up new technologies and adopt new changes.

Education is one of the factors that impact positively on improvement of the practice of the companies, and also better opportunity to understand the case and give reasonable response than else.

Based on the study highest education level attained by most of the respondents was first degree holders which represents, (25) 62.5% out of the valid respondents and followed by college diploma holders which accounts (9) 22.5%. The least percentage was second degree and above education level, which is 6 (15.0%). Therefore, out of valid respondents about 100% are diploma and above diploma holders.

On the other hand this study divided title of the respondents as per the company structure in to four CEO/President/Vice presidents, Director, Manager and below Manager or other. Out of valid respondents Managers and Directors are Equal they cover 30% and the remaining 70% of respondents are have below manager job Title.

As table 4.1 below clearly shows the frequency distribution of respondents work experience, the largest of the respondents 47.5% (19) have between 6-10 next 25%(10) over 10 years of work experience.

Table 4.1 Respondents Profile

Items	Choice	Frequency	Percent	Valid percent	Cumulative percent
Sex of the Respondent	Male	21	52.5	52.5	52.5
	Female	19	47.5	47.5	100.0
	Total	40	100.0	100.0	
Age of the Respondent	<26	3	7.5	7.5	7.5
	26-35	20	50.0	50.0	57.5
	36-45	15	37.5	37.5	95.0
	>45	2	5.0	5.0	100.0
	Total	40	100.0	100.0	
Educational Qualification	College Diploma	9	22.5	22.5	22.5
	First Degree	25	62.5	62.5	85.0
	Second Degree and Above	6	15.0	15.0	100.0
	Total	40	100.0	100.0	

Title of Respondents	Director	6	15.0	15.0	15.0
	Manager	6	15.0	15.0	30.0
	Other	28	70.0	70.0	100.0
	Total	40	100.0	100.0	
Respondents Work Experience	<2 Years	6	15.0	15.0	15.0
	2--5 Years	5	12.5	12.5	27.5
	6-10 Years	19	47.5	47.5	75.0
	Above 10 Years	10	25.0	25.0	100.0
	Total	40	100.0	100.0	Total

(Source; Own survey, 2017)

This implies that in total more than 70% of the respondents have more than 6 years of work experience with in the case company and it is very good to judge and give views. This is because when the respondents are more and more experienced within the organization they have better opportunity to know more and more about the organization.

4.2. Descriptive Statistical Analysis

As it were revealed in the methodology part, the designed method is descriptive statistical analysis to analyze the five components of the conceptual framework developed for this study. In addition to the quantitative analysis, the qualitative information obtained through interviews from both managers and supervisors of companies is used to analyze the following issues. The analyses were on: Supply chain management practices, Challenges of SCM, Collaboration/integrated supply chain management, and project & client services.

The above listed items are the most critical parts of the conceptual framework and basic research variables of this paper. Therefore, the discussion of the above conceptual framework components will answer the basic research questions and meets the stated objectives of this study. For 'the analysis of all these variables, mean and standard deviation is used. Particularly mean value of the respondents has considered as an important indicator to the extent of the company's practices on each items. To conclude, the overall performance of the case company's practices on each variable, group mean was calculated and used.

The mean and group mean statistical values approaching to 2.00 and less indicates the poor performance, 3.00, average/moderate while 4.00 and 5.00 indicates higher and very high/excellent performance of the company on that particular item and variable respectively.

4.2.1. Supply Chain Management Practices

As it was briefly mentioned in the literature part of this study, the most common supply chain management practices are supplier and customer relationship, internal operation, information sharing, information technology and training (Perry and Sohal 2000; Lazarovic et al., 2007).

This study focused on the selected companies SCM practices from these five perspectives. For each practices different items were developed and measured based on their mean and group mean values.

4.2.1.1. Suppliers and Customers Relationship (SCR)

As it was briefly mentioned in the literature part of this study the collaboration with other firms or organizations also include suppliers, has positive significant impact on process innovation and incremental product innovation. Such strategic supplier partnerships should enable successful SCM. Radas S, Bozˇic´ L (2009).

To measure ELFORA orientation concerning the SCR eleven items were developed by the researcher.

Table 4.2 below indicates the extent of relationship that exists between suppliers, Customers and the selected companies. Accordingly, the group means of suppliers and customers' relationship is 3.007 which is average/moderate performance with respect to the overall measures taken into consideration. Specifically, consideration of quality for selecting suppliers and problem solving jointly with suppliers' shows the mean value of 3.82 and 3.85 respectively. These mean value imply that, the case company has good criterion of quality for selection of suppliers and regularly solve problem with suppliers. On the other hand the company helps their supplier to improve their product quality, participation of key suppliers in continuous improvement, planning and goal setting activity, and new product development process shows mean value of 2.97, 2.85, 2.90 and 2.60. The above mean values imply that the case company's suppliers poorly participate in quality improvement, continuous improvement program planning and goal setting activity and new product development process and.

Table 4.2 Suppliers and Customers Relationship Practice of SCM			
Items	N	Mean	Std. Deviation
We consider quality as our number one criterion selecting suppliers	40	3.82	.903
We regularly solve problem jointly with our suppliers	40	3.85	.802
We have helped our suppliers to improve their product quality	40	2.97	1.050
We have continuous improvement programs that include our key suppliers	40	2.85	.975
We include our key suppliers in our planning and goal-setting activities	40	2.90	1.128
We actively involve our key suppliers in new product development process	40	2.60	1.033
We frequently interact with customers to set reliability, responsiveness, and other standards for us	40	2.83	.931
We frequently measure and evaluate customer satisfaction	40	2.68	.971
We frequently determine future customer expectations	40	2.93	.859
We facilitate customers' ability to seek assistance from us	40	2.72	.816
Evaluate the importance of our relationship with our customers	40	2.93	.917
Valid N (list wise)	40		
Group Mean		3.007	

(Source; Own survey 2017)

Whereas interaction of customers to set reliability responsiveness, and other standards, measure and evaluate customer satisfaction, and determination of future customer expectation represent mean values 2.83, 2.68, and 2.93. This implies that interactions, measuring of satisfaction, future expectation of customers are below average or poor. The case company facilitates customers to give assistance, and evaluation of customer relationship importance valued 2.72 and 2.93. In general the case company highly consider quality as selection criterion of suppliers and

relationship for joint problem solving is good. But, customer relationship, and participating suppliers in other issues are needs improvement.

Interview with Material management Manager verified that because of low level of interaction with suppliers, lead time of critical items like live chicken and fodder are long and lack of willingness to cooperate at though time.

On the other hand literature review of in this study stated that "Organizations depend on their customers and therefore should understand current and future customer needs, meet customer requirements, and strive to exceed customer expectations. Customer relationship management (CRM) is an important component of SCM" Gharakhani,Davood Reza Kiani Mavi and Nasser Hamidi. (2012).

But, on the date collected from interview from Queens Supermarket which is the main outlet of ELFORA's products, the customer relationship and level of satisfaction with the service or product of ELFORA-Agro industry is very high. It indicates that the case company relationship is very good with its sister company but not well for customers that are out of the corporate group companies.

4.2.1.2. Internal Operation

Internal operation is the starting point to make the environment favorable for integration with the external partners. Handfield and Nichols (1999), states that Poor internal operations can lead to failure in coordinating with external partners. As table 4.7 below illustrates that ten items were used in order to see the extent of the internal operation of the case company.

The mean value of respondents' reveals that up-to datedness 3.45 it is moderate or neutral. As stated by Lambert and Cooper (2000) a service giving system must keep pace with rapidly change in both order patterns and mass customization. In view of this theory, from the mean values presented below in table 4.3, flexibility production system to handle order pattern, the extent of continuous and instantaneous product and service improvement, flexible production system to market change, efficient utilization of resource, and extent of automated quality control valued 3.00, 2.70, 2.90, 2.75, 2.85, and 2.70 respectively. It implies that seven items are scored neutral or moderate. But the internal operation is the most critical factor to measure organizations' potential to go for supply chain partners and The intention of efficiency is to minimize overall cost of materials, wastage of materials, time and effort, which ultimately ensures profitability.

Table 4.3 Internal Operation Practice of SCM

Items	N	Mean	Std. Deviation
Up To Datedness of Production	40	3.45	.815
Flexibility of Production System to Handle Order Pattern	40	3.00	.877
The Extent of Production Process Automation	40	2.63	.897
The Extent of Innovation in Product	40	2.67	.859
The Extent of Continuous and Instantaneous Product and Service Improvement	40	2.70	.823
Management Know-How Regarding Supply Chain Effectiveness	40	2.90	.841
Flexible Production System to Market Change	40	2.75	.927
Efficient Utilization of Resources	40	2.85	1.145
Extent of Automated Quality Control	40	2.70	.723
Internal Logistics Flow	40	2.52	.960
Valid N (List wise)	40		
Group Mean		2.8175	

(Source own survey 2017)

Furthermore, the extent of production process automation and the extent of innovation in product have score mean value 2.63 and 2.67 respectively.

Based on the overall analysis of the case companies' internal operation practice the researcher concludes that it is moderate. However, this does not mean sufficient, because of the internal operations criticality for creating integration or relationship with external participants or supply chain partners. According to lazarevic et al., (2007) internal operation is the most critical factor to measure organization's potential to go for external integration. These writers state that companies should be internally efficient and effective before embarking on external integration.

Therefore, it implies that, the case companies have an assignment to improve its internal operation to create effective relation with external partners.

On the other hand the lowest score from internal operation practices is internal logistics flow; it has scored mean value 2.52 which is poor. According to the interview with production manager there are problems with internal logistics flow. Because of delay of flow of material to farm land, herbicides are applies after the seeds are germinated, it leads total loss of production and the crops are harvesting while perishing.

4.2.1.3. Information Sharing

The theoretical evidence confirms that supply chain management rides on the back of information in order to meet the required resources at the right time, and at the right place, seamless and instantaneous information flow should exist across the value chain (Russell, 2006).

With respect to the above theoretical justification, this study tried to investigate the practices of information sharing among the supply chain participants of the case companies. Accordingly, eight items related to information sharing practice were used by the researcher.

Table 4.4 below indicates, the mean value of each items and group mean that can generalize the information sharing practice of the case companies with its up and down-stream supply chain partners.

Table 4.4 Information Sharing Practice of SCM

Items	N	Mean	Std. Deviation
We inform trading partners in advance of changing needs	40	2.75	.899
Our trading partners share proprietary information with us	40	2.93	1.071
Keep us fully informed about issues that our business	40	3.63	1.055
Share business knowledge of core business process with us	40	2.85	1.075
Exchange information that helps establishment of business planning	40	2.95	1.061
Informed about events or changes that may affect the other partner	40	2.78	.832

Overall efforts of inter-organizational information coordination and sharing	40	2.95	1.131
Sense of trust and confidence along the supply chain	40	3.10	.982
Valid N (list wise)	40		
Group Mean		2.99	

(Source; own survey 2017)

Based on the above data informing trading partners in advance of changing needs and sharing of proprietary information with partners has scored mean value of 2.75 and 2.93 respectively, and information sharing keeps fully informed about issue that affect company business 3.63, share business knowledge of core business process 2.85, need of exchange of information for establishment of business planning 2.95, and informed about events or changes that may affect the other partner has scored mean value of 2.78. That means since information sharing practice is the core item of SCM practice the case company information sharing with its trading partner is moderate or needs improvement. In the meantime overall effort of inter organizational information coordination and sharing, and sense of trust and confidence along the supply chain scored mean value of 2.95 and 3.10 respectively.

As we know Information sharing is the ability of the firm in sharing knowledge with supply chain partners in an effective and efficient approach Effective information sharing is considered as one of the most important abilities of supply chain process Information sharing is one of the most important tools for achieving an integrated and coordinated supply chain. Because of the group mean value of 3.10 (moderate) integrated and coordinated supply chain practices are needs improvement.

4.2.1.4. Integration and Collaboration

As companies migrate toward more extended supply chains, collaboration is becoming their most strategic activity. Collaboration may be with customers, suppliers and even with in organization's functional units. Some of the features which many participants anticipate when entering in to collaboration are: joint planning, management and measurement, sharing goals, objectives, resources, information, risks and benefits with partners (Sunil, 2004).

When the level of collaboration is becoming more and more strong it leads to integrated and efficient SCM. Based on this, the researcher has tried to see the extent of integration of the case company with suppliers, customers and cross functional units within the company. Integration is

the process of combining or coordinating separate functions, processes, or producers and enabling them to interact in a seamless and continuous manner (Kenneth and Brian 2006).

As table 4.5 below illustrates that ten items were used in order to see the level integration and collaboration of the case company.

Table 4.5 Integration and Collaboration

Descriptive Statistics			
Items	N	Mean	Std. Deviation
Searching for New Way to Integrate Supply Chain Activities	40	2.92	1.071
Improving the Integration Activities Across Your Supply Chain	40	2.90	1.057
Involving Supply Chain on Your Product Service Market Plan	40	3.00	1.038
Establishing More Frequent Contact with Supply Chain Member	40	2.82	1.035
The Level of Strategic Partnership with Suppliers	40	2.80	.966
The Establishment of Quick Ordering System	40	2.90	1.057
Data Integration Among Internal Functions Through Network	40	2.88	.992
Information System Integration Among Internal Functional Unit	40	2.83	.984
Teamwork And Intra-Organizational Coordination	40	3.32	1.023
Extent Of Interaction Between Different Production Unit(Poultry, Farming, Abattoir And Food Processing)	40	2.50	.784
Valid N (List wise)	40		
Group Mean		2.887	

(Source; Own survey 2017)

Based on the above data the group means value of integration and collaboration of information is 2.887 its moderate needs improvement. Searching for new way to integrate supply chain activities, improving the integration activities across your supply chain, and involving supply chain on your product service marketing plan has scored mean value of 2.92, 2.90 and 3.00 respectively. Collaboration enabled by information technology (IT) has been identified as an essential factor for facilitating the flow of information. Cassivi *et al*. (2008) indicated that in a supply chain context, e-collaboration facilitates coordination of various decisions and activities beyond transactions among supply chain partners, both for suppliers and for customers, over the Internet and over other inter-organizational information systems. Having said this establishing

more frequent contact with supply chain members, data integration among internal function through network, and information system integration among internal functional unit has scored the mean value of 2.82, 2.88, and 2.83 respectively. This implies the integration and ordination of if information among inter and intra organization is moderate. On the other hand even if the group mean and specific mean of integration and collaboration have scored Moderate, the mean value of interaction between poultry, Farming, Abattoir and food processing is poor (2.50) it implies utilization of resource in the above working units are poor and there are idle resources in different departments. On the other hand, the overall group means of internal integration is, 2.887 which reflects the internal integration of the case company is moderate.

The case companies have poor periodic intra departmental meeting and information system integration. Therefore, with such environment cross functional integration could be poor. On the other hand, data integration among the functional units of the case companies is also highly related with IT application so that, even if its mean value approaches to moderate, it is not as such sufficient. This implies that poor IT application practice also affects other factors like the extent of integration.

4.2.1.5. Speed of responsiveness on operation system and suppliers network

Supplier network responsiveness is defined as the ability of a firm's major suppliers to address changes in the firm's demand. A key to responsiveness is the presence of responsive and flexible partners upstream and downstream of the focal firm (Christopher and Peck, 2004). The ability of firms to react quickly to customer demand is dependent on the reaction time of suppliers to make volume changes. Table 4.6 shows that the group means of speed of responsiveness on operation system and supplier's network has scored 2.74 moderate.

Table 4.6 Speed of responsiveness on operation system and suppliers network

Descriptive Statistics			
Items	N	Mean	Std. Deviation
Responds rapidly to change in product volume demanded by customers	40	3.00	.877
Responds rapidly to change in product mix demanded by customers	40	2.77	.832
Effectively expedite emergency customer order	40	2.72	.960
Rapidly reconfigures equipment to address demand change	40	2.62	.897
Rapidly changes manufacturing process to address demand change	40	2.67	.797
Rapidly adjust capacity to address demand change	40	2.78	.920
Responds rapidly to unexpecting demand change	40	2.70	.939
Major suppliers change product volume in relatively short time	40	2.70	.758
Major suppliers change product mix in a relatively short time	40	2.78	.974
Major suppliers consistently accommodate our request	40	2.80	.883
Major suppliers have outstanding on-time delivery record with us	40	2.75	1.032
Major suppliers effectively expedite our emergency orders	40	2.72	1.012
Major suppliers provide quick inbound logistics with us	40	2.57	.958
Valid N (list wise)	40		
Group Mean		2.74	

(Source; Own survey 2017)

Based on the above data respond rapidly to change in product volume demanded by customers, and product mix demand by customers are 3.00 and 2.77 respectively. It implies speed of responsiveness on product volume and mix demanded by customers are moderate. On the other hand effectively expedite emergency customer orders, rapid reconfigures equipment to address demand changes, rapidly changes manufacturing process to address demand change, rapidly adjust capacity to address demand change, and respond rapidly to un expected demand change has scored mean value of 2.72, 2.62, 2.67, 2.78 and 2.70 respectively. This implies the Keeping customers happy is the key to ensuring that firm's current clients do not become former clients.

Failing to meet deadlines or ignoring customer inquiries can increase client dissatisfaction with the company and spur them to investigate competitors' services.

When we see supplier's network responsiveness, Major suppliers change product volume and mix relatively short time scored 2.70 and 2.78. And accommodation of request consistently and, Major suppliers have outstanding on-time delivery record with the company scored mean value of 2.80 and 2.75 respectively. Finally effective expedite of emergency order and provide of quick inbound logistics to the company scored mean value of 2.72 and 2.57.

This means supplier network responsiveness scored moderate. Supplier network responsiveness is defined as the ability of a firm's major suppliers to address changes in the firm's demand. A key to responsiveness is the presence of responsive and flexible partners upstream and downstream of the focal firm (Christopher and Peck, 2004). The ability of firms to react quickly to customer demand is dependent on the reaction time of suppliers to make volume changes. That means the case company fail to respond customer need because of supplier network responsiveness is poor.

4.2.1.6. Customer Service Analysis

The ultimate goal of an integrated, efficient and effective SC system is superior customer service: short lead-time, quick response to requirements, accurate delivery, product accessibility, risk sharing, complains handling etc (ChristopherI998; Kenneth 2006; Russell 2006; and Eyong 2009).

Table: 4.7 Customers service Satisfaction

Descriptive Statistics			
Items	N	Mean	Std. Deviation
Reduction of Lead Time/Speed of Order Handling	40	2.83	.958
The Accuracy f Order Processing for Customers	40	3.13	1.067
Effectiveness and Flexibility in Meeting Customer Requirements	40	2.87	.939
Product Accessibility	40	3.30	.966
Low Stock Out Frequency	40	2.80	1.018
Timely Invoice Completion	40	3.38	1.079
Extent Of Customers' Complaint Management	40	2.90	1.105
The Extent Of After Sales Service	40	2.60	1.033
Valid N (Listwise)	40		
Group mean		2.97	

(Source; Own survey 2017)

Table 4.7 above depicts that seven essential customers service attributes were used to investigate the extent of the case companies orientation towards customers service Performance. In view of this, except reduction of lead time/speed of ordering handling and effectiveness in client complaints management scored a mean value of greater than 2.5. Reduction of lead time/speed of order handling, the accuracy of order processing for customers, and effectiveness and flexibility in meeting customer's requirement represents 2.83, 3.13 and 2.87 respectively.

On the other hand product accessibility 3.30, but low stock out frequency represents 2.80 it implies there is stock out frequencies are low and there is poor inventory management in the case company.

Timely invoice completion, extent of customer's complaints management, and extent of after sales service represents 3.38, 2.90, and 2.60 respectively.

Lazarevic et al., (2007) empirically found that, SCM practices significantly affect company's performance particularly lead time, inventory turnover, cost reduction and avoidance of product reject/return, product accessibility, and meeting customers' requirement.

Accordingly, the groups mean value of customer service reveals that the case company's orientation towards customer's service is moderate. This implies that, customer service is resulted from practices of supply chain management, level and nature of SC challenges, collaboration, and integration of the company with its suppliers, customers and internal functional units. All of these variables of SCM show a moderate performance.

This is in line with the theory of successful development of SCM performance has to focus on customers' needs and wants. Consequently the performance of the supply chain can affect customer satisfaction (Chandra and Kumar, 2000; Svensson, 2003).

The researcher held an interview with procurement and supply managers, and operation managers of the selected companies to triangulate, and state the extent of services given to the customers' and which finally results in customer satisfaction and loyalty.

As per the interview held with procurement and supply managers of the case company reveals that in lead time reduction, there are problems resulted from both external internal factors. As their response the external factor is related with client and suppliers i.e., in the case of client, payment not paid in the specify period of time and in the case of supplier, some inputs are bought from abroad and it takes up to three months to reach to the company which may increase lead time, due to some cases large number live chickens are died while shipment from the origin to the destination because of low level of customer service management.

For the issues related with effectiveness and flexibility in meeting customers' requirement and required material accessibility, as supply manager's response shows the companies create agreement for critical materials with transportation company.

In the case of meeting customers' requirement, at the time of shortage in input materials the companies gives priority to some major project site.

In the case of effectiveness in managing customers' complaints, at the very beginning the customers are part of companies. Most of the time the reason of complaints is the required material not delivered on time. If any complaints come from customers the companies could manage it as its rationality.

With respect to compliant management, major customers replied as, the case company is not responding their complaints immediately, to solve this complain at least it took two weeks.

Therefore, based on the above analysis of both quantitative and qualitative with different management bodies, and customers conveys that the company's orientation towards customers service is moderate. This is not sufficient because effective and efficient customer service on case company is critical for the successfulness of the company.

Availability of materials is essential for the timely completion of activities and for the productivity of the resources. If materials are not available when they are needed, a variety of problem might arise.

4.3. Challenges of Supply Chain Management

The other part of the conceptual framework developed for this study is challenges of SCM that consists of uncertainties, bullwhip effect.

As illustrated in table 4.8, out of ten items used to determine the extent of major challenges in supply chain management: level of establishing relationship based on shared risk & rewards, shows the lowest mean value, which are 2.65. This implies that the participants in the SC of case company not willing to establish relationship based on share risk and reward with its SC stockholders. The implication is that the supply chain practice is traditional. It means, partners/members with in the chain do their own decision and take the responsibility for any risk in a disintegrated manner.

Table 4.12; Challenges/ Barriers for effective SCM implementation Descriptive Statistics			
Items	N	Mean	Std. Deviation
Supply uncertainty (suppliers inability to carry out the promise)	40	3.12	1.090
Willingness to share risk and benefit	40	2.73	1.037
Inventory fluctuation due to inaccurate information sharing	40	3.38	1.055
Manufacturing uncertainty like, breakdown of machineries interruption of power, poor process design etc	40	3.50	.906
Irregular orders from inconsistent customers (demand uncertainty)	40	2.97	.974
Degree of willingness to share needed information	40	2.85	1.075
Level of establishing relationship based on shared risk and rewards	40	2.65	.893
Level of trust among supply chain members	40	2.82	.931
Degree of adequacy of information system	40	2.83	.984
Level of clear guidelines for managing supply chain alliance	40	2.80	.966
Level of employee loyalty/motivation/empowerment	40	2.77	.920
Level of training for new mindset and skill	40	2.75	1.006
Valid N (listwise)	40		
Group mean		2.93	

(Source; Own Survey 2017)

The remaining items scored moderate mean values. Accordingly inventory fluctuation due to bullwhip effect, and manufacturing uncertainty like breakdown of tools, represented mean value

of 3.38 and 3.50 respectively. The result of manufacturing uncertainty like breakdown of tools shows moderate it is good for those of SC partners.

Whereas the mean value of inventory fluctuation due to bullwhip effect conveys that there is distorted and inaccurate information flow within the SC of the case companies. This implies that there is a relationship between bullwhip-effect, information sharing and IT practices of SCM.

Therefore poor information sharing practice is resulted from poor IT which ultimately resulted in distorted information flows.

On the other hand, supply uncertainty, Irregular order from customers is the greatest challenge for the case companies, followed by inventory fluctuation, due to in accurate information and trust to share confidential data, which represents 3.12, 2.97 and 2.82 mean values respectively. The groups mean value for challenges of supply chain management of the case company is moderate which is, 2.93

For further, consolidating quantitative analysis and qualitative information were collected through interview from procurement, and supply managers and major customers/clients. These management bodies also confirmed that impact on finance, ineffectiveness of employee, irregular orders and inventory fluctuation are their major problems. According to the supply manager's response, there are greater possibilities of stoppage of supply materials due to financial implication. Particularly, for spare parts and construction materials, there is shortage of supply. Sometimes, there is also environmental change influence, which enforces to stoppage of operation.

4.4. Internal Lean Practice

Lean practices are therefore represented by low inventory, small lot sizes and Just-in-time delivery (Taylor, 1999; Zhu and Sarkis, 2004; Li *et al*., 2005). The practices are characterized by reduced set-up times, small lot sizes, pull production, short lead times from suppliers, streamlining ordering, receiving and other paperwork and continuous quality improvement (Womack and Jones, 1996; Li *et al*., 2005).

Table 4.9; Internal Lean Practice

Descriptive Statistics			
	N	Mean	Std. Deviation
Our Firm Reduces Process Set-Up Time	40	2.80	.823
Our Firm Produces Only What Is Demanded By Customers When Needed	40	2.97	1.097
Valid N (Listwise)	40		

Source Own survey 2017

As shown table 4.9 above firms reduction of process set-up time and JIT production is moderate 2.80 and 2.97 respectively. The implementation of "Lean Principles" has enabled manufacturing firms across the globe to be more customer-focused, flexible and profitable. The internal lean practice of the case company need to improvement because it affect company flexibility and profitability.

CHAPTER FIVE

5. Summary, Conclusion and Recommendation

5.1. Summary of Finding

The purpose of this study was to assess the case company's orientation towards managing its SC and how this impacts the customers' service. There are different literatures regarding the concept of supply chain management. As indicated in the literature part, SCM have different benefits like: to increase productivity, and competitive advantage, reduce inventory, cycle time and to increase customer satisfaction, market share and profit of firms.

The ELFORA's orientation of SC was evaluated through four SCM practices, integrations that determine effectiveness, and Challenges of supply chain. In addition, the impact of SCM orientation was examined through customer service level which is the ultimate goal of an effectively managed supply chain.

Based on the quantitative and qualitative data analysis, discussion of results with respect to the basic questions, the following are the summary of major findings of this study. The degree of relationship across the supply chain of ELFORA is leveled to be moderate, which is characterized by less joint product planning with suppliers and customers' and independent decision making across the SC. The descriptive analysis and interview with management bodies has verified the prevalence of these characters of traditional relationship.

With look upon to internal operation, the descriptive data and interview analysis conveys that, there is moderate automated quality control system, moderate flexible production system for handling order patterns and market change, and low level of internal logistic flow. Relatively the cases company is weak in innovation of new products, efficient resource utilization, and up -to datedness of production.

Information sharing practices of SCM in the case company is generally moderate. Again the overall efforts in coordinating and sharing information across the supply chain partners are moderate. Even the shared information lacks adequacy and quality.

Concerning with integration and collaboration among supply chain partners and inter organizational functional unite is moderate. But, the interactions between operational unit (Poultry, Farming, and food processing) are low.

With respect to orientation towards integrated superior customer service, both qualitative and quantitative analysis revealed that, the company's effectiveness and efficiency in meeting customers' requirement is average and effectiveness in handling customers' compliant is moderate, but the extent of after sales service were dissatisfied with the company's compliant management. But, low stock out frequency is moderate with is good.

In general the case company's orientation towards customers' service is moderate.

On the other hand speed of responsiveness on operation system and suppliers network has scored group mean value of 2.74 which is the lowest of all group mean values.

Among the possible challenges of SCM, manufacturing, supply and demand uncertainties appeared as the major headache of the case company with mean values of 3.50, 3.12 and 2.97 respectively. Inventory fluctuation due to in accurate information (bullwhip) effect is also another challenge of the case companies SC. There is also poor level of establishing relationship based on shared risk and rewards. Inventory fluctuation due to in accurate information (bullwhip) effect is also another challenge of the case company's SC.

5.2. Conclusions

Based on the results of the study obtained and summary of findings the following

Conclusions are given.

The case company

- Concerning with integration and collaboration among supply chain partners and inter organizational functional unite is moderate. But, the interactions between operational unit (Poultry, Farming, and food processing) are low.
- The eventual conclusion of this study is that generally, the case company's orientation towards SCM is traditional that lacks substantial indicators of an integrated, efficient and effective SCM. In addition, the quantitative analysis of the company's customer service group mean is moderate that is 2.97. Therefore, this can't ensure customer satisfaction with respect to customer service. Based on qualitative and quantitative analysis the investigator comes up with conclusion that the case company's orientation towards customer service is poor and SCM practices have direct impact on customers' service.
- The main cause of poor customer service is internal processes that directly affect the company's external integration. In other words, its impact is clearly reflected on customers who do not have what they need when they need complaints, poor integration

with suppliers, Flexible production is efficient and can keep pace with market change and customer preference.

- From SCM practices the case company has a great problem on training and IT practices. These two practices play a decisive role for creating effective and efficient SCM. Poor IT facilities lead to poor information sharing and poor information sharing practices makes a supply chain management ineffective. On the other hand, supply chain management need effective internal operation for creating integration with external partners. For making internal operation effective, the human resource is a critical factor and in order to have skilled, committed, and capable employees and managers, to utilize resources effectively and efficiently training plays a significant role. But the case company's training practice to make both employees and managers competent is the poorest out of the five SCM practices. Therefore, the case company's poorness in training and IT leads to poor/ week integration both in internal and external partners.
- The survey result indicates that, degree of willingness to share needed information, level of establishing relationships based on shared risks and rewards, level of trust among supply chain members, degree of adequacy of information system, level of clear guidelines for managing supply chain alliances, level of employee loyalty/motivation/empowerment ,the extent of willingness to Share risks and rewards, level of flexibility of organizational system process, degree of employee resistance to change, level of training for new mindsets and skills, and the level of product quality and design are challenges for case company. The researcher concludes that the great challenges that prohibit effective SCM of ELFORA like, financial, supply and demand uncertainties and fluctuation of inventories due to distorted information (bullwhip effect) are because of poor relationships between SC partners.
- The SCM main concept is creating a relationship with other partners through the SC to provide products and services in order to satisfy the customers. The relationship of the ELFORA with its customers and suppliers is not strong, in sharing sales forecast, cooperativeness, joint product planning, is moderate. Therefore, these relationship shows as the relationship between ELFORA's SC participants are traditional, that is buy-sale relationship. The researcher concludes that the great challenges that prohibits effective SCM of ELFORA's like, manufacturing, supply and demand uncertainties and

fluctuation of inventories due to distorted information (bullwhip effect) are because of poor relationships between SC partners.

5.3. Recommendation

On the basis of the findings and conclusions reached, the following suggestions were forwarded in order to improve the Supply Chain Management of the case company.

- The case company should improve its suppliers and customer relationship for sustainability of good suppliers and to answer rapidly customer's unexpected demands.
- Good Suppliers relationship is vital, to reduce mortality rate of chickens while in transit and rapid response of supplier's at though time and shortening of lead time of commodity specially vaccine and Premix.
- Integration and collaboration with different functional unite if very essential to resource utilization and cost reduction especially in agriculture, diary, and poultry farming. The case company should be use the output of agriculture to the input (fodder) of poultry and diary work unit and vice a versa.
- Internal operation is very critical in ELFORA Agro industry specially delivery of needed material and resources to farm land and poultry houses , since farming practice depends on time frame like applying of pesticides, harvesting, and threshing.
- It is noticeably explained that internal integration is vital in increasing the potential of the company to get external integration. ELFORA is suggested to integrate the internal operational units, so as to bring about flexible, responsive and efficient production. This can be done first, by networking the functional units of the organization with appropriate IT and integrated information system. Secondly, breaking functional silos to encourage coordination and interdependent work design accompanied with agile work force and multipurpose machineries to improve flexibility and responsiveness to market and customers' requirements.
- The human resource is the essential factor that performs all activities to make Supply Chain Management effective and efficient. At the current situation marketing competition, customer preferences, and everything is changing rapidly. Therefore, this change enforces companies to change their strategies, and operations. Out of these changes having skilled, agile, and lean man power is the one. So that, ELFORA is highly suggested that to prepare training program for its employees and managers in order to

enable them to be competent, committed, responsive, finally which improves internal operation and customers service. This can be done through creating relationship with training institutions, strengthen the internal human resource department, internal sourcing. Using appropriately the opportunities given by the government through sending the right person to the training program.

- The current information technology practice of the case company is poor and affects effective communication and integration of data within the company. The case Company should improve and invest on IT facilities to enhance information sharing both internally and externally. This can be done through hiring IT specialists or out sourcing.
- More importantly, the case company is suggested to improve its relationship with suppliers from simply buy-sale relationship to a modern supply chain relationship through establishing strategic or long term relationship, contract, and continuous information sharing in order to minimize supply uncertainty which resulted in demand and supply unmatched and dissatisfaction of customers of the case company. Because, this could help the case company to obtain the inputs at the right time and quantity from these suppliers and provide the required quantity by the customers when they need it. So that, this will minimizes the dissatisfaction of customers due to shortage of materials.
- Another important issue that is suggested to the case company's marketing department is improving the relationship with customers through a continuous information sharing, follow-up them and get feedback, monitoring customers' perceptions towards service of the company, improving its compliant management through conducting market research for better responsiveness.

5.4. Suggestions for future research

The concept of SCM practices is complex and involves a network of various parties in its effort in producing and delivering a product (goods and services) to the final consumer. These include suppliers, producers, customers and several other parties around. This includes banks, insurance companies and governmental organizations (like customs, revenue authority, and other regulatory bodies) in which most supply chain management researchers are not considering in their studies. In fact these parties may have significant impact on the performance of supply chain.

In addition to the multitude parties involved in a supply chain management there are many different additional supply chain functions like logistics integration, outsourcing, geographical proximity, risk and award sharing, cross functional coordination, agreed supply chain leadership that needs to be addressed in supply chain management researches. These domains were not included in this research as all domains cannot be covered in just one study.

Therefore, future researches can expand the domain of SCM practices by considering these additional supply chain dimensions and supply chain parties. Moreover, future researches shall be done with multiple organizations and with large number of respondents to enhance the research findings.

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List of ANNEX

- Questionnaire
- Interview

Questionnaire

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
MASTERS OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT
QUESTIONNAIRE

Dear respondents, the purpose of this questionnaire is to gather data on the supply chain management practices in the case company. The study is purely for academic purpose and thus not affects you in any case. So, your genuine, frank and timely response is vital for successfulness of the study. Therefore, I kindly request you to respond to each items of the question very carefully.

General Instructions

- There is no need of writing your name
- Where answer options are available please tick (√) in the appropriate box for part I and circle for your response to each statements of part II.

Contact Address

If you have any query, please do not hesitate to contact me and I am available as per your convenience at (Mobile: 09-35189881or e-mail: *ermiastarekegn@yahoo.com*)
Thank you for scarifying your precious time in advance!

PART I:

Demographic Information

1. Sex Male ☐ Female ☐
2. Age below 25 ☐ 26-35 ☐ 36-45 ☐ Above 45 ☐
3. Educational Qualification:

Grade 10 completed ☐ Grade 12 completed ☐ certificate ☐
College diploma ☐ First Degree ☐ Second Degree and above ☐

4. Job title
CEO/President /Vice President ☐ Director ☐ Manager ☐
Other_____

5. Years stayed at the organization:
Under 2 years ☐ 2–5 years ☐ 6–10 years ☐ over 10 years ☐

6. Your department/work unit _____

Part II: Instruments for supply chain management practices.

With regard to SCM practices of your firm, please circle the appropriate number to indicate the extent to which you agree or disagree with each statement. The item scales are five-point Likert type scales with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

S.N	variables	Rating numbers				
A	**Suppliers and customers relationship**	1=Very low	2= Low	3=Average	4=high	5=Very high
1	We consider quality as our number one criterion in selecting suppliers					
2	We regularly solve problems jointly with our suppliers					
3	We have helped our suppliers to improve their product quality					
4	We have continuous improvement programs that include our key suppliers					
5	We include our key suppliers in our planning and goal- setting activities					
6	We actively involve our key suppliers in new product development processes					
7	We frequently interact with customers to set reliability					

	responsiveness, and other standards for us					
8	We frequently measure and evaluate customer satisfaction					
9	We frequently determine future customer expectations					
10	We facilitate customers' ability to seek assistance from us					
11	Evaluate the importance of our relationship with our customers					
B	**Internal Operation Practices**					
1	Up- to- datedness of production					
2	Flexibility of production system to handle order pattern					
3	The extent of production process automation					
4	The extent of innovation in product					
5	The extent of continuous and instantaneous product and service improvement					
6	Management know-how regarding supply chain effectiveness					
7	Flexible production system to market change					
8	Efficient utilization of resources					
9	Extent of automated quality control					
10	Internal logistics flow					
C	**Information Sharing Practices**					
1	We inform trading partners in advance of changing needs					
2	Our trading partners share proprietary information with us					
3	Keep us fully informed about issues that affect our business					
4	Share business knowledge of core business processes with us					
5	Exchange information that helps establishment of business planning					
6	Informed about events or changes that may affect the other partner					
7	Overall efforts of Inter-organizational information coordination and sharing					
8	Sense of trust and confidence along the supply chain					
D	**Integration and collaboration**					
1	Searching for new way to integrate supply chain activities					

2	Improving the integration activities across your supply chain					
3	Involving supply chain on your product service marketing plan					
4	Establishing more frequent contact with supply chain members					
5	The level of strategic partnership with suppliers					
6	The establishment of quick ordering system					
7	Data integration among internal functions through network					
8	Information system integration among internal functional un					
9	Teamwork and intra-organizational coordination					
10	Extent of interaction between different production unit (poultry, Farming, Abattoir and food processing)					
E	**Speed of Responsiveness on operation system and supplier network**					
1	Responds rapidly to changes in product volume demanded by customers					
2	Responds rapidly to changes in product mix demanded by customers					
3	Effectively expedites emergency customer orders					
4	Rapidly reconfigures equipment to address demand changes					
5	Rapidly changes manufacturing processes to address demand changes					
6	Rapidly adjusts capacity to address demand changes					
7	Responds rapidly to unexpected demand change					
8	Major suppliers change product volume in a relatively short time					
9	Major suppliers change product mix in a relatively short time					
10	Major suppliers consistently accommodate our requests					
11	Major suppliers have outstanding on-time delivery record with us					
12	Major suppliers effectively expedite our emergency orders					
13	Major suppliers provide quick inbound logistics to us					
F	**Customer service satisfaction**					

1	Reduction of lead time/ speed of order handling					
2	The accuracy of order processing for customers					
3	Effectiveness and flexibility in meeting customers' requirement					
4	Product accessibility					
5	Low Stock out frequencies					
6	Timely invoice completion					
7	Extent of customers' complaints management					
8	The extent of after sales service					
G	**Challenges/ Barriers for effective SCM implementation**					
1	supply uncertainty (supplier inability to carry out the promise)					
2	Willingness to share risks and benefits.					
3	Inventory fluctuation due to inaccurate information sharing (bullwhip effect)					
4	Manufacturing uncertainty like, breakdown of machineries, interruption of power, poor process design etc					
5	Irregular orders from inconsistent customers (Demand uncertainty)					
6	Degree of willingness to share needed information					
7	Level of establishing relationships based on shared risks & rewards					
8	Level of trust among supply chain members					
9	Degree of adequacy of information systems					
10	Level of clear guidelines for managing supply chain alliances					
11	Level of employee loyalty/motivation/empowerment					
12	Level of training for new mindsets and skills					
H	**Internal Lean Practices**					
1	Our firm reduces process set-up time (time required to prepare or refit equipment/workstation for production)					
2	Our firm produces only what is demanded by customers when needed (e.g. JIT)					

List of interview questions:

For material and foreign purchase manager

1. How do you see the suppliers' capability? Are they permanent?
2. How do you evaluate the extent of information sharing practice between your company and your suppliers?
3. What about the extent of integration between your company and your suppliers?
4. is there uncertainty of suppliers, sense of trust?
5. Do you think that it is important to establish strategic or long term relationship with suppliers?

For Marketing Manager

1. What look like your supply chain system?
2. How do you see, your company's effort to maintain and develop existing and new customers?
3. How your company manages customers' complaints?
4. How do you see making your products accessible for your customers both in quantity and quality?
5. How do you see the extent of information sharing practice between your company and customers?
6. Is there demand uncertainty?
7. How do you see team work, flexibility, integration with in the company for meeting change in market condition?
8. How do you see the general integration between your company and customers?

For production manager

1. How do you see the extent of supply uncertainty?
2. Do you have flexible production system to meet change in market and orders?
3. What about innovation of new products and improvement of existing products?
4. How do you see the extent of manufacturing uncertainty?

For Customers

1. How would you see your relationship with ELFORA Agro-Industry?
2. Does ELFORA Agro-Industry provide the quantity you need at the promised date?

3. How do you see information sharing practice between you/your company with ELFORA Agro-Industry? What about the level of integration with you/your company and ELFORA Agro-industry?

4. How would you see the company's compliant management and its effectiveness?

5. How do you see the accessibility of ELFORA Agro-Industry?

6. What about the willingness to share risks and benefits with ELFORA Agro-Industry?

7. How do you express the level of your/your company satisfaction with the service or product of ELFORA Agro-Industry?