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**SCHOOL OF COMMERCE**  
**GRADUATE STUDIES DEPARTMENT OF**  
**LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

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**Effect of supply chain management practices on customer satisfaction: In case  
of Ethiopian Sugar Corporation**

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School of Commerce in Partial Fulfilment of the Requirements for the Degree of  
Master of Arts degree in Logistics & supply chain management**

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## **Acronyms**

SCM-Supply chain management

SCMP-Supply chain management practices

CS-Customer satisfaction

LD-Logistics design

ESC-Ethiopian Sugar Corporation

IT-Information technology

IS-Information sharing

SC-Supply Chain

## **Abstract**

Effective supply chain management practices has become a potentially valuable way of securing competitive advantage through customer satisfaction since competition is no longer between organizations, but among supply chains. This research used three dimensions of SCM practice (collaboration, information sharing and logistics design) tests the effect of SCM practices on customer satisfaction. The data for the study was collected from 68 employees of Ethiopian Sugar Corporation. In addition, interview with department team leaders was done and a questionnaire also has been distributed for 50 customers for supporting data .The relationships proposed in the framework were tested using Pearson correlation, and the causal relations were analysed using regression analysis. From the result of the analysis it is concluded that there is strong relationship between each SCM practices (Collaboration, Information sharing and Logistics design) and customer satisfaction. Therefore, in order to achieve advancement in marketing and financial performance in the long-run through enhancing customer satisfaction, it is better for the organization to give due emphasis to the constructs of those SCM practices.

# CHAPTER ONE

## INTRODUCTION

### 1.1. Background of the study

Today's management identified the customer satisfaction as the major item in business and indicated that the company's success depends on improving management relationships. The existing business environment is very different from the past and the competition has a unique role (Gilaninia& et al,2011).New forms of structural reforms, competitive and exchange process causes communication concept for the long-term relationships between buyers and suppliers (Seyedi, Moosavi, Heidari, 2009).

(Braunscheidel, 2005) also disclosed that the growth of supply chain aims to improve profitability, customer response and ability to deliver value to the customers and also to improve the interconnection and interdependence among firms. Therefore, adopting a more integrated approach to supply chain relationship management has been increasingly viewed as a way of meeting changing customer needs (Eyong, 2009).

Currently the Ethiopian business environment is becoming customer driven, competitive and technology based. Hence, it is unquestionable that companies should build an integrated and efficient system through which resources would flow in a seamless and instantaneous manner across the supply chain (Assefa. B, 2011). Yohannes.A (2015) also suggest that the previous practices of Ethiopian manufacturing industries with regard to supply chain management is traditional in that, partners involved across the supply chain act independently in designing, developing and executing strategies with minimum effort made to align strategies with the partners doing business with them particularly suppliers, whole sellers, distributors, and customers.

Fasika, Thiobe& Marcus (2014) get result that, the degree of integration is low when it comes to Ethiopian firms but there were some promising initiatives undergoing. And, also suggests that the current supply chain integration requires an information and communication technologies that enhance data management in great way both from automated sources such software applications.

(Addis T, 2015) adds that, in Ethiopia in most of product and service giving activities have a major gaps regards to their performances and that could be due to lack of adequate SCM practices. Lazarovic (2007) suggest that Supply Chain Management is now recognized as a critical business process for companies manufacturing or distributing products. This is because customers' demand for most products are ever more demanding in response time, in choice and in seeking more competitive prices Russell,(2006) as a coping up strategy suggest that the relationship with suppliers and other partners should be supported with an appropriate level of collaboration, information technology, information system and lean –agile principles .

This research focuses on Ethiopian sugar sector and strives to analyze barriers to satisfy customers as well as applying supply chain management practices, and addresses these by instilling supply chain management practices as a means of executing objectives and strategies for competitive performance. Therefore, the investigator is inspired to conduct a study on the supply chain management practices and their connection with customer satisfaction of Ethiopian Sugar Corporation and forward possible suggestions that would enable the company to be competitive.

## **1.2. Company Background**

Ethiopian Sugar Corporation is one of these largest agro-based processing industries in Ethiopia and plays a significant role in the socioeconomic development of the country. After taking over the lands of the Nomads in 1951, the Ethiopian Government granted a concession of 5,000 hectares in Wonji in the upper reaches of Awash Ethiopia, 100km. Southeast of Addis Ababa, to a Dutch Company known as HVA (Handlers –Vereenging Amsterdam) for the establishment of a sugar estate and white sugar production. With the change of government in 1974, under Proclamation No.31 of 1975, all the sugar factories in Ethiopia became nationalized and though administered under the centralized bureaucratic administration of the new Military Government. The Wonji Company was very productive until the 1980s (<http://www.etsugar.gov.et>, Jul 31, 2015).

In 1991, as the ensuing civil war completely devastated the authoritarian apparatus of the military administration in Ethiopia, the sugar corporation was dissolved by law and all existing factories were

reestablished as public enterprises to be run by the Ethiopian Sugar Development Agency starting in 1992. Furthermore, under the Council of Ministers Regulation No.192/2010), in 2010, the current Ethiopian Sugar Corporation was then formed replacing the former Sugar Development Agency. In addition, the government is in the process of constructing new sugar factories by 2015 as part of the five year Growth and Transformation Plan (GTP) (September 13, 2011), (<http://www.etsugar.gov.et>, Jul 31, 2015).

Furthermore, to become self-sufficient in sugar production by the end of 2013, and diversify the products of sugar cane into ethanol, electrical power, fertilizers, and build tissue culture laboratories, the corporation is visualizing creating the sugar industries to be competitive enough to maintain a sustainable growth pattern at the international level(Assefa.Y,2015).Sugar sector is important not only for the linkage that it would create between agriculture and industry and the suitable environment for the sector, but also because it is also a source of renewable energy and will play a role in the countries climate resilient green economy strategy(Assefa.Y,2015).

This company produces 340, 000tons of sugar on 25,000 ha of land annually and about 20, 000 tons a year is sold to the EU under the Everything but Arms (EBA) initiative. However, Ethiopia's domestic sugar consumption is considerably higher (1.26 times) than its production. Therefore, the country imports about 152, 000 MT of sugar per year to satisfy domestic demand. Although foreign investors have expressed growing interest in sugar production, the sugar sub-sector in Ethiopia faces several challenges, the most important of which remains that of satisfying local demand at a stable and relatively low consumer price (Assefa Y, 2015).

### **1.3. Statement of the problem**

Today's to develop and survive in economic competition, Companies and organizations should be given special importance to customer orientation and build strong relationship with the buyer of goods (Yohannes, 2015).The problem in most firms is organized functionally, not integrated as a chain so that, there is lack of common cooperation within and across organizations(Hoole,2005).Mirquez(2010) adds that functionality will lead to a loss in the reduction of the level of inventory and cost and as well it hinders critical information sharing among the chains. This will finally results in lack of trust and bullwhip effect.

It is pointed out that, SCM can be used as a strategic weapon to develop a sustainable competitive advantage by reducing investment without sacrificing customer satisfaction, Lee & Billington (1992). Ethiopian firms are not sufficiently getting the benefits of SCM due to lack of the practice of integration, collaboration and not having willingness and the practice of managing supply chains. The traditional way of managing from suppliers to customers is just a buy and sale (Transactional) relationship, Belay (2011).

Hailemickael (2011) also suggested that supply chain management practice in Ethiopia is in the beginning stages, there are small numbers of companies integrating it to their organizational system. But, many manufacturers and distributors are waking up to the potential for the major cost reduction and service improvements offered by implementing best practices in their supply chain (Haque & Islam, 2013). The sugar industry is a major contributor to the agricultural sector which is the mainstay of the economy and supports livelihoods of the Ethiopian population. The industry will have to enhance its competitiveness along the entire supply chain and reduce production costs significantly (Assefa Y, 2015).

The factors that make for an integrated approach as applicable in the food supply chains involve complex issues such as perishability, transportation of low value products, and increasing consumer demands for safety. This is also applicable in the sugar industry. The chain can achieve integration through joint strategic planning by all participants working together through open and transparent sharing of information based on mutual trust and respect (ANZIBA, 2004).

The study done by Assefa Y. (2015) on Ethiopian Sugar Corporation tried to identify problem areas on supply chain practices in the industry. According to the study, there is no mechanism to link the overall corporate strategy with the supply chain and there is no measure set to follow the entire supply chain performance; supply chain improvement project not be seen as a key part of that overall strategy; only sell-buy relationship is available as means of managing the supply chain.

Further, the corporation's marketing department has done research on sugar product supply, customer service and product packaging. And the findings pointed out problems on the following business activities. Much time taken to takeoff the product from the factory warehouse due to information gap,

poor sugar product quality, problems in the distribution system due to lack of collaboration and much time taken in the ordering process because of there is a bureaucracy to give quota quantity to customers.

So, for this findings the corporation put a solution by focusing on the distribution system structure. But, these problems need detail strategic change in the supply chain management. A more effective practices must be designed and applied. And it is also necessary to implement and manage those supply chain management practices. This will highly help the corporation to achieve its mission which is satisfying customer demand and being competitive in the global market.

Joseph, Namusonge, Biraori&Wamalwa(2014) point out that ,in order to enhance global competition, firms in the public sugar sector are struggling to optimize their profits through creation of distinctive capabilities for competitive advantage. The primary function of the supply chain function is to provide the correct item at the required time at the lowest possible cost so as to satisfy the customers.

As far as the knowledge of the researcher is concerned, there is no empirical study that is conducted in the area of SCM practices and customer satisfaction (i.e. from perspectives of collaboration, information sharing and logistics design) which incorporate upper and down streams on sugar industries in Ethiopia particularly on Ethiopian Sugar Corporation. Therefore, since the effort to achieve generalization of the causal relationship between SCM practices and customer satisfaction calls for empirical confirmation in diverse environments, especially emerging economies, this paper is to contribute to the debate by testing the relationship between SCM practices and customer satisfactions in the case company.

This study therefore, sought to assess the relationship of customer satisfaction and the supply chain management practices in the Ethiopian Sugar Corporation, with reference to collaboration, information sharing, and logistics as key independent variables. This will provide basis for development of practices after assessing the relationship in case company associated with customer satisfaction.

#### **1.4. Research Questions**

Based on the statement of the problem due considerations are also given for the following questions:

- What are the current supply chain management practices of Ethiopian Sugar Corporation?
- How collaboration practices affect customer satisfaction in the corporation?
- How the role of information sharing practices affect customer satisfaction in the corporation?
- How logistics practices affect customer satisfaction in the corporation?

## **1.5. Objective of the study**

### **General Objective**

The main objectives of this study is assess the effect of supply chain management practices on customer satisfaction in Ethiopian Sugar Corporation.

### **Specific Objectives**

The following are specific objectives of the study:-

1. To determine which supply chain management practice are performed in Ethiopian Sugar Corporation.
2. To assess the effect of collaboration on customer satisfaction in the case of Ethiopian sugar corporation.
3. To assess the effect of information sharing practices of Supply Chain Management on Customer Satisfaction in the case of Ethiopian Sugar Corporation.
4. To assess the effect of logistics practices of supply chain management on customer satisfaction in the case of Ethiopian Sugar Corporation.

## **1.6. Significance of the study**

Findings from this study will help to the corporation, to insight the effect of those supply chain management practices on customer satisfaction and also to look their supply chain management practice gaps and their strength. Academics/Researchers use the findings as a base for further study; hence it will provide little understating of the nature and influence of those supply chain management practice on customer satisfaction in Ethiopian Sugar Corporation.

## **1.7. Scope and limitation of the Study**

### **Scope of the study**

Even if sugar is the main product of Ethiopian sugar Corporation, it also provides raw materials for other industries such as bagasse for power cogeneration and molasses for a wide range of industrial products including ethanol. Molasses is also a key ingredient in the manufacturing of various industrial products such as beverages, confectionery and pharmaceuticals. These products also

distributed in three different methods for the whole country. But for time constraints and to focus on the main product of the corporation, the researcher will be limited to sugar product and the distribution centers that are only located in Addis Ababa.

A number of literatures show many different perspectives of supply chain practices (Tan et al., 2002; Chen & Paulraj 2004; and Lie, 2002 and 2005). The same with Chen and Paulraj, Min and Mentzer (2004) also examined in their study long-term relationship, information sharing, cooperation process integration and supply chain leadership underlying the supply chain management practices. Lie et al (2005, 2006); identified supply chain management practices in form of strategic supplier partnership, customer relationship, and information sharing.

These different writers perspective suggested a multi-dimensionality of SCM that covers set of activities and processes from upstream, firm's internal operations to downstream of the supply chain. Thus, the literature portrays SCM practices from a variety of different perspectives with a common goal of its objectives. However, it is difficult and unmanageable to conduct the study in all areas that will limit SCM in terms of time, finance, and research manageability. The researchers take collaboration, logistics design and information sharing practices that have been taken as a strong practices and give suggestion on their relations with the end customers in their studies.

As Stank et al, (2001) asserted that, the industry leaders increasingly build competencies to integrate with suppliers and customers and find that, these competencies lead them to supply chain excellence. In addition, several benefits of collaboration have been documented over the years for manufacturers, suppliers, and customers.

Lysons & Farrington (2006) asserts that supply chain best practices are normally most likely to be achieved by collaboration between cross functional teams within the organization, customers and suppliers external to it. Synergy among all these layers are imperative in optimizing product, process design, customers' and suppliers' satisfaction

Assefa B.(2011) suggest that the primary reason mentioned for poor level of customer service is the internal operations that have direct effect on the company's ability (potential) to embark on external

integration. In other words, its effect is clearly reflected on customers not getting what they need when they need it, long lead time, and poor complaints management, poor integration with suppliers, not having effective flexible production system that could respond to the changing market and customer's preference.

In the agro food sector in particular, efficient logistics is a crucial element for achieving enterprise and industry competitiveness. The coordination of these logistical processes into a seamless flow of closely integrated activities allows considerable cost efficiencies and is presently a prerequisite for a competitive poultry business (Jack, Carlos & Jacques, 2009). And logistics practice has different functional areas like, Network Design 2. Information Technology 3. Transportation 4. Inventory and Storage 5. Warehousing 6. Materials Handling, Loading and unloading 7. Packaging and Re-packaging (Kiran, 2014).

The positive impact of both market orientation and information sharing on increasing the levels of consumer satisfaction. Sharing information enabled supply chain stakeholders to react to market information and distribute produce that was more appropriate to the consumer demand (Cadilhon, 2004). In this regard, it is pertinent to observe the impact among the supply chain parties of information sharing that would greatly strengthen both intra and inter-organizational integration (Narasimhan and Nair, 2005).

The relevant and timely information sharing would entail aspects of various dimensions – from strategic to tactical (Huang et al. 2003) with the benefit ultimately accruing from the parties' ability in transforming that information into a supply chain strategy and superior performance (Raghunathan.S, 2001), which would be reflected through enhanced customer satisfaction. Therefore, it can be one variable that taken as supply chain management practice in this study.

Therefore, the scope of this study will delimit to relate supply chain management practices with downstream of supply chain of Ethiopian sugar corporation. In addition, this study is also limited to the company's point of reference towards collaboration, information sharing, logistic design.

### **Limitation of the study**

It is difficult to cover entire domain of supply chain just in one study. The research sample didn't incorporate all the supply chain participants namely: the suppliers and customers due to time constrained so that it couldn't be generalized/applied to the complete chain of the company under investigation. On the other hand constructs of SCM are not only limited to SCM practices selected in this study. Therefore it is not representing all constructs that could explain SCM practices.

### **Organization of the Study**

This project paper is will organize into five chapters: Chapter one contains the introduction part dealing with back ground of the study and company, the research problem, objectives of the study, scope and significance of the study. The second chapter will discusses the literature review about the subject matter. In chapter three the research methodologies will be presented. In chapter four presents data collection, analysis, results, Interpretation and discussion of the study and finally, chapter five presents the major findings, conclusions and forwarded suggestions.

## **CHAPTER TWO**

### **LITRATURE REVEIW**

#### **2.1. Concepts of Supply Chain Management**

A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service (Ullrich, C.A, 2014).

Supply chain management has raised the interest in the past years as organizations started to realize that, the action taken by one member of the chain actually have an influence on the profitability of other members in the chain(Silver,1998).This is because 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, distributers, wholesalers, retailers and end customers(Silver,1998)

Therefore, supply chain management is used to manage activities and integrate with down-streams, up-streams and internal supply chain operations (Ross, 1998).Because of the growth of this inter-network competition, individual business may no longer compete solely as independent company rather as supply chains. Because of the collaboration between members of the chain, SCM gives significant opportunities for partners involved in terms of cost reduction, revenue enhancement, flexibility, customer satisfaction, speed and economy of time (Hoole.R, 2005).Min &Mentzer (2004) identify the concept SCM as including agreed vision and goals, information sharing, risk and award sharing, cooperation, process integration, long-term relationship and agreed supply chain leadership.

Supply Chain Management is now recognized as a critical business process for companies manufacturing or distributing products. This is because customers' demand for most products are ever more demanding in response time, in choice and in seeking more competitive prices and thanks to globalization, customers can choose from an increased number of suppliers(Lazarevic , 2007).

### **2.1.2. Challenges /Barriers of Supply Chain Management**

Most supply chain management related-problems mainly occur from uncertainties and an inability to co-ordinate several activities and partners (Turban et al, 2004).Fawcett, (2001) identified top ten barriers to supply chain management these are: Inadequate information sharing, Poor/conflicting measurements, Inconsistent operating goals, Organizational culture or structure, Resistance to change- lack of trust, Poor alliance management practices, Lack of supply chain vision (understanding), Lack of managerial commitment, Constrained resources, No employee dedication/ empowerment.

## **2.2. Supply chain management practices**

(Tan et al., 2002) define supply chain management practices as a set of activities undertaken in an organization to promote effective management of its supply chains. From this definition one can conclude that components of SCM practices includes supply and material management issues, operations, information technology and sharing (ICT) and customer service (Tan et al. 2002). Other components such as technology, cost, inventory management, competitiveness and external regulations, according to McMullen (1996) needs to be managed effectively to achieve to business goals of each supply chain members which leads to value creation to end customer.

There are five basic dimensions/perspectives of supply chain management practices. These are namely; supplier and customer relationship, information sharing, internal operation, information technology and training (Perry &Sohl, 2000; Lazarevic et al., 2007).

### **2.2.1. Supplier and Customer Relationship (SCR)**

Supplier and customer relationship is defined as a set of firms' activities in managing its relationships with customers and suppliers to improve customer satisfaction and synchronize supply chain activities with suppliers, leverage suppliers' capacity to deliver superior products to customers. This is due to the ultimate objective of SCM is to deliver products to the satisfaction of end customers (Tan, 2001).

Close customer relationship allows a company to be more responsive in fulfilling customers' demand and differentiate its product from competitors, sustain customer loyalty, &dramatically extend the value

it provides to its customer through improving customer satisfaction by proactively seeking customers' needs and requirements. The ability to build a close relationship with customers will bring companies in to a long-lasting competitive edge (Bowersox et. al, 1999).

Supply chain management suggests that firms need to integrate with their suppliers and customers to achieve both financial and non- financial growth objectives .In today's competition, firms with a superior ability to provide services that customers perceive as valuable incur an important competitive advantage(Tan, 2001).

### **2.2.2. Internal Operation**

In addition to the upstream and downstream integration, SCM also emphasize on the importance of both effectiveness and efficiency of firm's internal operations on its performance. This is due to a significant element of SCM practice is an internal operations and they are the basis for developing a competitive advantage before embarking into external integrations. Poor internal operations can lead to failure in coordinating with external partners (Handfield & Nichols, 1999).

To judge the SCM practice as an effective and value adding the internal operation should be flexible in responding to changing market needs, which is expressed on the basis of agility principles. This means that, a production system must be able to perform rapid change over in both order patterns and mass customization (Lambert &Cooper, 2000).

Thus, the effectiveness of SCM can be examined by the ultimate effect it would have on customer satisfaction through responsiveness and lower price resulting from lean internal operations. Automated orders and automated productions are the key enablers to realize the quick response program (Perry and Sohal, 2000).

### **2.2.3. Information Sharing**

Information sharing is an important aspect in achieving perfect integration in a supply chain. Cross functional integration and inter organizational integration requires the visibility of information across the supply chain. Poor information sharing between partners in a supply chain will result in poor

coordination that will lead to many serious problems such as high inventory levels, inaccurate forecasts, low resource utilization, and high production costs (Whang, 2000).

Indeed, information sharing is highly considered as the way to reduce demand uncertainty (Lee, 2002). Many studies have reported that information sharing can bring many benefits to both suppliers and buyers, such as inventory reduction, and reduced manufacturing costs (Yu et al, 2001).

The way companies share information whatever the confidential level or not; determines the success of the collaboration (Raghunathan, 2003). The nature of information to be across the supply chain differs based on the degree of integration, institutional trust and availability of infrastructure that facilitate the practice (Lazarevic, et al., 2007).

#### **2.2.3.1. Level of information sharing**

Level of information sharing refers to the extent to which critical & proprietary information is communicated to one's supply chain partner (Moberg et al, 2002). Many researchers have suggested that the key to make supply chain effective and efficient is making available undistorted & up-to-date marketing data at every node within the supply chain (Balmier et. al. 1996; Childhouse&Towill, 2003).

The impact of information sharing on SCM depends on what information is shared, quality on shared information, and company's capability in using and translating the information in to a supply chain strategy and operational activities (Moberg et al, 2002). Basically, Information sharing can vary from strategic to tactical & from information about logistics activities to general market & customer information (Mentzer et al. 2004).

#### **2.2.3.2 Quality of information sharing**

Quality of information sharing includes aspects such as the accuracy, timelines, adequacy, & credibility of information exchanged. As information sharing is vital, its major impact on supply chain management depends on what information is shared, when & how it is shared, & with whom it is shared (Monczka et. al., 1998; Moberg et. al. 2002).

Having, different interests & opportunities by supply chain participants affect the quality of information. Given these predispositions ensures that, the quality of the shared information becomes a critical aspect of effective supply chain practice (Feldman & Muller 2003). Therefore, organizations need to view their information as a strategic asset & ensure that it flows with minimum delay & distortion (Feldman et al. 2003).

#### **2.2.4. Information Technology (IT)**

Nowadays, since IT is involved in every step of operation in each company, therefore it is not surprising that organizations' Supply Chain Management supported by adopting IT. Talluri, (2000) makes the comment that the advances in IT systems have given opportunities for organizations' to transform the way they manage their business.

In SCM, IT is highly regarded as a major enabler in achieving effective SCM. As a supply chain spans many organizations in developing products to customers both up-stream, downstream and many functional areas within a company, the implementation of IT allows the companies to increase communication and coordination of various value adding activities with their partners and between functions within their own operation (Simchi-levi et al, 2000).

In addition, to advance development of the internet technology offers significant opportunities for cost reduction, increasing flexibility, increasing response time, and improving customer services (Lee and Whang, 2001). Li et al, (2005) revealed that, the objectives of IT in SCM are; to provide the information availability and visibility to supply chain partners, to enable the collaboration with organizations in the supply chain and to allow the decision making based on the total supply chain information.

#### **2.2.5 Training**

Lee and whang, (2000) argue that information visibility throughout a supply chain will bring significant impact if companies do not have a capability to utilize the information in effective ways. Hence companies need to consider the skills requirements and education when integrating their value-adding activities with their partners (Gattoma& Clark, 2003).

The major concept of SCM is collaboration and seamless integration between various value adding activities within individual companies and across different organizations along a supply chain (Lazarevic, et al., 2007). Beginning this concept in to practice requires significant changes in corporate culture as well as a new level of human performance. Successes full implementation of SCM concept largely depends on human aspects of organizations (Bowersox et al, 2000; Mentzer, et. al. 2004).

### **2.3. The Concept of customer Satisfaction**

Customer satisfaction can be experienced in a variety of situations and connected to both goods and services. It is a highly personal assessment that is greatly affected by customer expectations. Satisfaction also is based on the customer's experience of both contact with the organization and personal outcomes. Some researchers define a satisfied customer within the private sector as "one who receives significant added value" to his/her bottom line—a definition that may apply just as well to public services (Hanan, Mick & Petter, 2010).

Hines (2004) also define customer supply relationship as: supply chain strategies require a total systems view of the links in the chain that work together efficiently to create customer satisfaction at the end point of delivery to the consumer. As a consequence, costs must be lowered throughout the chain by driving out unnecessary expenses, movements, and handling. The main focus is turned to efficiency and added value, or the end-user's perception of value.

In today's competitive business environment marketing managers are more influenced from customer expectation and meeting the demand for customer satisfaction is very important for them. Every organization must define customer satisfaction regarding their market. So customer satisfaction could not be defined only standard or quality of product. Customer satisfaction is about relationships between the customer and product or service and the provider of a product or service (Nicholas, 2009).

The food industries need to make commitments to learn what customers need and set strategies that implement customer friendly process relationship rather than the existing one buy-sell traditional relationship. This is because; in most cases customers base their purchasing decisions on the service they receive, not just on price. Therefore, quality and availability of the product that provides superior service to the customers is very important for the firm (Makweba & Xu, 2009).

#### **2.4. Literature on Supply chain management Practices**

Donlon (1996) describes the latest evolution of SCM practices, which include supplier partnership, outsourcing, cycle time compression, continuous process flow, and information technology sharing. Tan et.al. (2001) use purchasing, quality, and customer relations to represent supply chain management practices.

Alvarado&Kotzab (2001) include in their list of SCM practices concentration on core competencies, use of inter-organizational systems such as EDI, and elimination of excess inventory levels by postponing customization toward the end of the supply chain. Tan et al. (2002) identify six aspects of SCM practice through factor analysis: supply chain integration, information sharing, supply chain characteristics, customer service management, and geographical proximity and JIT capability.

Chen &Paulraj (2004) use supplier base reduction, long-term relationship, communication, cross-functional teams and supplier involvement to measure buyer–supplier relationships. (Perry &Sohl, 2000; Lazarevic, 2007) identify the basic dimensions/perspectives of supply chain management practices which are supplier and customer relationship, information sharing, internal operation, information technology and training.

Supply chain practices are related to supply and materials management issues, operations, information technology and sharing (ICT) and customer service (Tan, 2002). Supply chain practice also includes: technology, cost competitiveness, inventory management and external regulation (McMullan, 1996). All those have to be managed effectively to realize supply chain's strategic position which allows competitive advantage. Joseph, Namusarge & Biraori (2014) conclude from their study that technology adoption is critical in determining effectiveness of the supply chain function in the public sugar sector.

Supply chain practice depends on business strategy and collaboration in the organization, plan and execution, logistic performance and information technology and its implementation in the organization and including five distinctive dimensions: strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and postponement (Li et al., 2006).

Fazila, (2009) studied that supply chain management practices which are information sharing, customer relationship and strategic supplier partnership has strong impact on competitive advantage respectively. Alireza et al. (2011) study on Malaysia Electronic Industry to present a model for supply chain performance by employing supply chain design, supply chain information sharing, and flexibility and delivery components as independent variables influencing supply chain performance.

While managers in a SC involving external organizations have to deal with the people outside of its own company, in this situation mutual understanding have to be reached between the managers of departments inside the company itself. However, the term SCM has been used to describe the planning and control of materials and information flows as well as logistics activities not only internally within a company, but also externally between companies (Cooper et al, 1997). Due to the increasing number of players and forces, a supply chain may develop into a supply network which will require a more complex and complicated management system. The idea of improving products and services through SCM; including to reduce the production time and cost without compromising the product quality, is that the managers have to work cooperatively with other organizations in the SC (Handfield & Nichols, 1999).

Moslem (2013), conducted research on impact of supply chain management practices on competitive advantage in manufacturing companies of Khuzestan province (Iran) by using strategic partnerships with supplier, customer relationship, information sharing, Quality of information sharing and internal lean practices as independent variables affecting the competitive advantage. The result from this study was indicates as there is relationships between SCM practices and competitive advantage.

## **2.5. Literature on Customer satisfaction**

Customer satisfaction is the way the customer thinks about the company and deals with the meeting or exceeding of expectation over the lifetime of the products and services. A company's loyalty and product repurchase comes from achieving customer satisfaction (Braunscheidel, 2005).

Customer satisfaction has a positive effect on an organization's profitability. The more customers are satisfied with products or services offered, the more are chances for any successful business as customer satisfaction leads to repeat purchase, brand loyalty, and positive word of mouth marketing (Zairi, 2000).

These mechanisms are managing for customer satisfaction, clearing the barriers, building the foundation, using the tools and managing customer satisfaction. All these arms of the mechanisms will be analyzed and explained in the subsequent chapters (Scott, 2003).

Customer focus delivers customer satisfaction and builds customer loyalty. If firms are customer focused, they will understand their key competitors well and the corresponding competitive forces. Moreover, they monitor and understand their level of pricing, product quality, product availability, and service quality and customer satisfaction. Higher level of customer satisfaction leads higher level of customer loyalty, high level of revenue and market share in the end it drive to high level of profitability (Best,2009).

Customer satisfaction is the degree to which a customer perceives that an individual, firm or organization has effectively provided a product or service that meets the customer's needs in the context in which the customer is aware of and / or using the product or service. Satisfaction is not inherent in the individual or the product but is a socially constructed response to the relationship between a customer, the product and the product provider/maker. To the extent that a provider / maker can influence the various dimensions of the relationship, the provider can influence customer satisfaction (Nicholas, 2009).

## **2.6. Literature on the Relationship between Supply Chain Management Practices and Customer Satisfaction**

While managers in a SC involving external organizations have to deal with the people outside of its own company, in this situation mutual understanding have to be reached between the managers of departments inside the company itself. However, the term SCM has been used to describe the planning and control of materials and information flows as well as logistics activities not only internally within a company, but also externally between companies (Cooper et al, 1997).

According to Handfield and Nicholas (1999), to stay competitive, business enterprises are responsible to manage a network of upstream firms (suppliers) that provide inputs and a network of downstream firms (customers) suppliers, and fostering trust with the right partners have a great impact on current as well as future business performances.

The objective of supply chain management is to satisfy the requirement of the end customer. Customer is an integral part of the supply chain and the primary purpose of a supply chain is satisfying customer needs and generating profit for itself in the process. The routine supply chain activities begin with a customer order and end when a satisfied customer has paid for his purchase. (Childerhose&Towill, 2000).

Customers could be satisfied if they are mainly be a part and parcel of the system that delivers the product and services, giving direct input regarding their expectation (Fawcett et al, 2007).As the essence of supply chain management is a pull system and starts from the customer, the role and involvement level would lead in the end of the satisfaction of the customer (Best, 2009). Business enterprises today focus on their Supply Chain Management (SCM) to improve product quality and lead time due to stiff competition from global markets and increased levels of customer's expectation (Tracey, Lim, &Vonderembse, 2005).

Mustefa (2014) conclude in his study, supply chain management practice has strong significant influence on both operational and organizational performance. Christopher (1998) also stated that an effective SCM is a powerful tool to achieve competitive advantage for all parties in the supply chain. According to Tan (2001), the ultimate goal of SCM is to integrate various members of the supply chain in a seamless manner to achieve a high level of customer satisfaction, and thus a long-term competitive advantage.

Adebayo (2012) conducted study on SCM Practices in Nigeria Today: Impact on SCM Performance. The supply chain management practices considered in this paper were namely strategic supplier partnership, customer relations practices, information sharing, information quality and postponement. This paper provides empirical justification for five key dimensions of SCM practices identified and describes the relationship among SCM practices and SCM performance as well as the impact of these practices on SCM performance. The study thus showed that SCM practices definitely impacts SCM performance. Haque& Islam (2013) conducted research on Effects of Supply Chain Management Practices on Customer Satisfaction in the pharmaceutical industry of Bangladesh: Evidence from Pharmaceutical Industry of Bangladesh. The results of the study indicate that SCM practices as observed in the industry comprise three dimensions, namely, collaboration and information sharing,

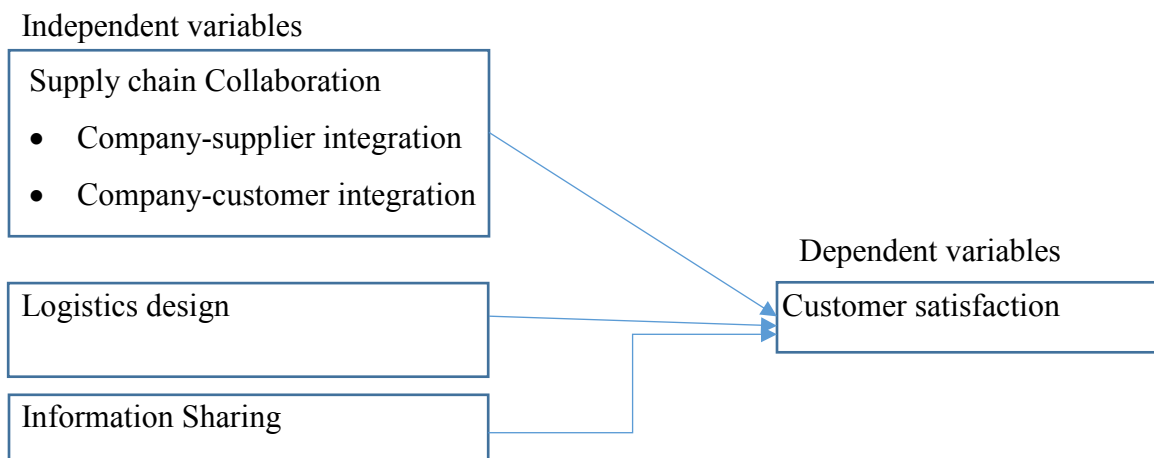
logistics design and IT infrastructure, and organizational culture (OC). However, while the first two exert their impact on customer satisfaction, OC does not have any influence on it.

Generally, from above literature reviews it can be easily understandable that the work on supply chain management measurements/ practices and its influences on different perspectives of the organization and overall supply chain partners increasing and yields good backgrounds. However, there is no much researches done on supply chain management practices in the sugar sectors especially in Ethiopia and the relationship of supply chain management practices with customer satisfaction cannot be seen studied in detail .Despite the increase of empirical research in the last few years, important differences in lack of consensus about the definition and dimensionality of the supply chain management practices.

## 2.7. Conceptual Framework of the Study

The conceptual model (figure 2.1) identifies the link between effects of supply chain management practices on customer satisfaction. The framework proposes that SCM practices will have an effect on customer satisfaction both directly and also indirectly .SCM practice is conceptualized as a three dimensional construct.

Figure2.1. Conceptual Framework



## **CHAPTER THREE**

### **RESEARCH METHDODOLOGY**

This section presents an overview of the methods to be used in the study. Areas covered include the type of research, research design, population determination, sample and sampling techniques, data collection and analysis, validity and reliability and ethical consideration.

#### **3.1. Research Design**

There are different research methodologies that are used, depending on the type of research that are undertaken. In this research descriptive survey research method was employed as the researcher wants to identify and explore the correlation among the identified supply chain management practice variables with customer satisfaction as it used by (Dereje, 2012, Haque& Islam, 2013, Belay, 2011). In this methodology, the researcher was poses questions to willing participants, summarizes and analyze them and finally inference was made for the population from the drawn samples (Leedy and Ormarod, 2010)

The research design for this study consists of a mixed methods approach, utilizing both quantitative research in the form of a questionnaire and qualitative research in the form of semi-structured interview. The questionnaire and interviews make up the primary research .(Fasika B,2015)sites recent research done by Susan et al.(2012)explains the advantage of a balanced research approach for success in the area of logistics and supply chain management.

Both primary and secondary data was used as a source and utilized for purposes of addressing the research objectives. Secondary data was gathered from annual reports, journals, brochures, books and other documents.

#### **3.2. Unit of analysis**

In this study, the corporation is a unit analysis as it was assessed the supply chain management practices related with its customers satisfaction. Customers of the corporation were the second unit as the study shows their satisfaction on the practices taken in the Ethiopian sugar corporation with in its supply chain.

### **3.3. Target Population**

The corporation has fourteen different division as a department and distributed its sugar product in three features for all over the country. Actors involved in sugar marketing include those who mainly involve in wholesale and retailers and consumers associations .The Corporation is distributing its sugar product to 120 consumer association shops in Addis Ababa which are directly sell to the end customers .The other distribution center is the cooperation itself which sell the sugar directly to 100 factories and industries located in Addis Ababa.

Therefore, the target population includes the Corporation's employees which can be related to this study and located in its head office. Regards to customers, the target population also includes 120 customer association, and 100 factories and industries located in Addis Ababa.

### **3.4. Sampling and Sampling Technique**

The exact sample units of respondents was considered from company's management and employees on the basis of judgmental/non-probability sampling technique. This is due to non-probability sampling method is where samples are chosen on the basis of their availability or accessibility (Diamantopoulos &Schlegelmilch, 2000).That is purposive sampling helps to address respondents those who have direct relationship with the issue at hand as it used by Assefa B. (2015),Bogale,A,(2015). Whereas convenient sampling was used to contact the customers who buy frequently from the companies and order customized products both as per their arrival/availability at the companies and at their own premises as it also used by Haque& Islam,(2013).

In order to this, there are 68 employees which are directly related with this study in the corporation's three departments which are Human resource management & communication division, Marketing division and Logistics and procurement division. So, the researcher took all these employees and included in the sample purposively.

To determine the sample size from total 220 customers, the researcher used the method developed by Carvalho (1984), as cited by Malhorta Naresh, k. (2007).

Table 3.1 Sample Size Determinations

Population Size	Sample Size		
	Low	Medium	High
51-90	5	13	20
91-150	8	20	32
151-280	13	32	50
281-500	20	50	80
501-1200	32	80	125
1201-3200	50	125	200
3201-10,000	80	200	315
10001-35000	125	315	500
35001-150,000	200	500	800

Therefore, from 220 customers 50 were considered as a sample respondents as per the Malhora Naresh’s sample determination method, considering the heterogeneity of sample respondents on the basis of their frequent time visit and time and its manageability.

### 3.5. Data collection and instrument

In this research both primary and secondary sources of data has been utilized through Questionnaires, interview, and literature review.

The primary data has been conducted in the form of personal interviews with logistics and procurement directors, marketing and human resource team leaders and through questionnaires which will distribute to employees of the company. As the secondary data; books, articles, journals, magazines, and brochures has been reviewed.

This research has been conducted a well-structured questionnaire as a data collection instrument that has been distributed to the whole 68 employees who included a mix of directors, section heads, team leaders and supervisors of the three corporations departments. And, personal interview with 3 general managers in the corporation and distribute questionnaire for customers within the studied sector has been conducted.

Donlon (1996), Tan et.al (2001) and Lazarevic, Sohal, Bower&Baihaqi (2007) used 5 point likert scale to measure the indicators of supply chain management practices. So, a close ended 5 point likert scale questionnaire has been administered 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 certain factors. The studies reviewed for these dimensions include Singh and Power (2009), Kannan and Tan (2005), Li et al. (2005), Ou et al. (2010). This study has been used SERVQUAL model to measure customer satisfaction .So, the researcher has been used five measurements and its 22 indicators in its questionnaire prepared for customers; the studies covered for this construct include Chen and Paulraj (2004), Han et al. (2007), Wu and Ding (2007).

The questionnaire has been structured in such a way that it includes all relevant parts of and information to clearly acquaint the respondents. And it has been included customer satisfaction as an independent variable and collaboration, information sharing and logistics as a dependent variables.

### **3.6. Data analysis techniques**

As determined in the data collection tool for this study, data was collected in both questionnaire and interview. After successful gathering of the data, the data collected has been analyzed by using both descriptive statistics (tables, mean and standard deviation) and inferential statistics with a computer program called the statistical package for social science (SPSS). Therefore, Correlation analysis has been utilized to test the hypotheses of the study. In addition, linear regressions has been employed to estimate the effects of each independent variables on a single dependent variable for purposes of prediction as it used by Yorgon, Kosgei& Lagat(2015).

### **3.7. Validity and Reliability**

#### **3.6.1 Assessing Reliability**

According to Bryman & Bell (2007), reliability analysis is concerned with the internal consistency of the research instrument. As multiple items in all constructs has been used, the internal consistency/reliabilities of supply chain management practices, customer satisfaction has been assessed with Cronbach's Alpha. Alpha values over 0.7 indicate that all scales can be considered reliable (Nunally, 1978). According to Sekaran (2003) values between 0.50 and 0.80 are acceptable while values below 0.50 are considered less reliable and therefore unacceptable.

Table3.2.Reliability of Supply chain management practices and customer satisfaction

Variables	Cronbach's Alpha
Collaboration with suppliers	.856
Collaboration with customers	.654
Information Sharing	.879
Logistics design	.820
Customer satisfaction	.895

From the above table all variables except collaboration with customers are reliable as the alpha is greater than 0.7. And the value for collaboration with customers are also acceptable since it is between 0.5 and 0.8.

### 3.6.2. Analysis of Validity

The questions were based on information gathered during the literature review to ensure that they are representative of what the customers and staffs know about the supply chain management practices and customer satisfaction indicators. The questionnaire has been distributed by the researchers so as to ensure the validity of the questions. All the subjects has been completed the questionnaires in the presence of the researcher. This has done to prevent the respondents from giving the questionnaires to other people to complete them on their behalf.

### 3.8. Ethical considerations

According to Leedy& Ormrod(2010), there are four main ethical issues that need to be addressed in the process of undertaking a research. These are: protection from harm, informed consent, right to privacy, and honesty with professional colleagues. Thus, the researcher:

- 4 Tries to not to expose participants from any physical or psychological harm
- 5 Requests their consent and could participate only on a voluntary basis
- 6 Respects the participants right to privacy
- 7 Reports the findings in a complete and honest fashion.

## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS AND DISCUSSION**

#### **4.1.Introduction**

As discussed in previous chapter, this study attempted to examine the relationship between supply chain management practices and customer satisfaction in case of Ethiopian Sugar Corporation. Therefore, the findings of Ethiopian Sugar Corporation are presented and discussed in this chapter. The questionnaire were developed in five scales ranging from five to one; where 5 represents Very high, 4 High, 3 Average, 2 Low, and 1 Very low. In order to assess the relationship between supply chain management practices and customer satisfaction, Correlation and regression analysis were conducted for scale typed questionnaire. A total of 68 questionnaires were distributed to employees and 50 questionnaires were distributed to customers as a supporting data. The collected data were presented and analyzed using SPSS (version 20) statistical software. The study used descriptive statistics and inferential statistics. Therefore, mean, standard deviation, correlation analysis, specifically Pearson correlation to measure the degree of association between different variables under consideration used. Regression analysis was also used to test the effect of independent variable on dependent variable.

#### **4.2.Descriptive statistics**

##### **4.2.1 Frequency 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.

Table 4.1 Gender Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	41	60.3	62.13	61.13
	Female	25	36.8	37.88	100.00
	Total	66	97.1	100.00	
	Missing	2	2.9		
	Total	68	100.00		

(Source: researcher's survey)

Gender frequency of the respondents shows that the numbers of male respondents were almost two times as female respondents. This is 62.13% of the respondents were male, while 37.88 % were female respondents and two respondent (2.9%) is invalid because these respondents did not clarify his /her sex.

As table 4.2 below shows that, the researcher divided the age of the respondents in to five categories, starting from 20- 25 years of age to above 40. In this study, the researcher can conclude that more than half of the respondents were above 40 ages. This group covers 44.12% of the respondents to the questionnaire.

Table 4.2 Age Frequency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	26-30years	11	16.18	16.18	16.18
	31-35years	19	27.95	27.95	44.13
	Above 40years	30	44.12	44.12	100.0
	Total	68	100	100.0	

(Source: researcher's survey)

The next age group with valid percent of 16.18 is respondents gain aging between 26-30. Surprisingly, there was no respondent below age of 26 and within age group of 36-40.

Table 4.3 Work experience Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-3years	27	24.1	24.1	63.4
	4-6years	27	24.1	24.1	87.5
	7-11years	10	8.9	8.9	96.4
	Above 11 years	4	3.6	3.6	100.0
	Total	68	100.0	100.0	

(Source: researcher's survey)

As table 4.3 below clearly shows the frequency distribution of respondents work experience, the largest of the respondents 45 % (14) have more than eleven (11) years of work experience. In the same case, 29% (9) of respondents have from 1-3 years of work experience and followed by 4-6 years of experience, which accounts 16% and 6.5 % (2) respondents represents having 7-10 years of experience.

The remaining one respondent (3.2%) did not respond. This implies that in total more than 67.5% of the respondents have more than 4 years of work experience with in the case company and it is sufficient 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.

Table 4.4 Educational level Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	College diploma	35	51.47	51.47	51.47
	First degree	23	33.83	33.83	85.30
	Second degree & above	10	14.71	14.71	100.0
	Total	68	100.00	100.00	

(Source: researcher's survey)

As shown below in table 4.4 the highest education level attained by most of the respondents was college diploma holders which represents, (35) 51.47% out of the valid respondents and followed by first degree holders which accounts (23) 33.83%. 14.71% of the respondents were second degree & above and there was no respondents that represents below college diploma.

## 4.2.2. Supply Chain Management Practices

This study focused on the case company's SCM practices from these three perspectives. For each practices different items were developed and measured based on their mean and group mean values.

### 4.2.2.1. Collaboration With suppliers

In this part, the researcher tried to see the level of integration between Ethiopian Sugar Corporation and its suppliers. Collaboration 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).

Table 4.5 Collaboration with Suppliers

S/N	Items	N	Mean	Std. dev.
1	The level of strategic partnership with suppliers	68	2.53	.954
2	The establishment of quick ordering system	68	2.63	1.196
3	Stable procurement through network	68	2.72	1.034
4	The company seeks long-term stable r/p with suppliers	68	3.22	0.975
5	Regulatory solve problems jointly with our suppliers	68	3.12	1.015
6	Helped suppliers to improve their product quality	68	3.00	0.993
7	Included key suppliers in corporation's planning ad goal setting activates	68	2.71	1.305
	Group mean		2.847	

(Source: researcher's survey)

As illustrate in Table 4.1, there are seven items used to determine the extent of integration of the case company with its suppliers. Accordingly, relatively to other items the high mean value was scored on the company seeks long-term stable relationship with suppliers which are 3.22, followed by regulatory solve problems jointly with our suppliers, 3.12. The mean value of helped suppliers to improve their product quality, 3.00. Furthermore the group mean shows that 2.847 mean value. The group mean value approximately reveals as, moderate integration between ESC and its suppliers. In

addition to this, an interview was conducted with procurement and supply manager of the case company to consolidate the information obtained through questionnaire.

According to the interview response, Ethiopian sugar corporation common supplier both in domestic and foreign cases. And, the manager also point out that the suppliers of sugar cane to the corporation has strong relation with the case company as it gives them fertilizers and supports to supply products on time. Therefore, based on information obtained from both sources (qualitative and quantitative) the level of integration between the suppliers and the case company is medium.

#### 4.2.2.2. Collaboration with customers

SCM suggests that, firms need to integrate with their suppliers and customers to achieve both financial and none financial growth objectives (Tan, 2001).

Table 4.6 Collaboration with customers

S/n	Items	N	Mean	Std. dev.
1	Follow-up customers for feedback	68	2.45	1.008
2	Monitoring and measuring customer service level	68	2.29	1.045
3	The level of market information sharing with major customers	68	2.65	1.006
4	Customer feedback is used to improve customer relations, processes, products and services	68	2.50	1.086
5	The organization has systematic processes for handling customer complaints	68	2.20	1.025
	Group mean		2.42	

(Source: researcher's survey)

As table 4.6 above depicts, five items were used to evaluate the case company's integration with its customers or downstream of the SC. Accordingly, the item that is organization has systematic processes for handling customer complaints, monitoring and measuring customer service level and follow up customer feedback scored mean value of 2.20, 2.29 and 2.45 respectively, which is approximates to bad level of integration. Customer feedback is used to improve customer relations, processes, products and

services and the level of market information sharing with major customers indicates mean value of, 2.50, 2.65 respectively which shows medium level of collaboration.

This implies that the case company is in a bad position to pay attention for measuring the extent of customers' service level and to make an improvement to satisfy the customers. On the other hand, the customer response on this related items, shows in the Table 4.7

According to their response particularly the whole sellers, the corporation solving the problem of customers scored mean value of 2.30 and its understanding on the specific needs of the customers is also scores mean value of 2.14. This shows that customer are not satisfied on the corporation's measurement and monitoring of customer service level. In addition the corporation's staff politeness and willingness to help customers shows a mean score of 2.46, 2.38 and 2.40 which is bad position of integration with customers.

As marketing manager responded that, there is improvement on the follow-up of customers for feedback, like different research done on customer satisfaction by marketing department. By the studies done, managements has be doing a lot of improvement on the distribution structure as well as gave a solutions on the problems raised by customer in the corporation's warehouses.

Table 4.7 Customer satisfaction measurements

S/N	Items	N	Mean	Std. dev.
1	Employees are polite to customers	50	2.46	0.909
2	Staff make information easily obtainable by customers	50	2.38	0.755
3	Staff are always willing to help customers	50	2.40	0.894
4	When customer has a problem, they show sincere interest in solving the problem	50	2.30	0.837
5	Employees of corporation stores understand the specific needs of their customers	50	2.14	0.810
	Group mean		2.33	

(Source: researcher's survey)

Therefore, the total implication of the ESC's integration with its customers is poor. This will lead to the dissatisfaction of its customers and in a long-run there may be a chance of losing its customers. If it is so, it may be difficult and dangerous to the company to survive and compete in this intensive competitive market environment.

#### 4.2.2.3. 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 company. Accordingly, seven items related to information sharing practice were used by the researcher.

Table 4.8 below indicates, the mean value of each item and group mean that can generalize the information sharing practice of the case company with its up and down-stream supply chain partners.

Table 4.8 Information sharing

S/ N	Items	N	Mean	Std. dev.
1	Sales forecast information sharing with customers	68	2.23	1.969
2	Sales forecast information sharing with suppliers	68	2.74	1.060
3	Adequacy and quality of information sharing throughout the supply chain	68	2.26	1.888
4	Overall efforts of Inter-organizational information coordination and sharing	68	2.26	1.888
5	Sense of trust and confidence along the supply chain	68	2.31	1.868
	Group mean		2.36	

(Source: researcher's survey)

Relatively, the high and the lowest mean values are scored by sales forecast information sharing with suppliers and sales forecast information sharing with customers that is 2.74 and 2.23 respectively. On the other hand, Sense of trust and confidence along the supply chain scored mean value of 2.31.

This implies that the case company has poor information sharing practice with its customers than with its suppliers particularly on sales forecast. Both adequacy and quality of information sharing throughout the SC and the overall effort of inter-organizational coordination and information sharing has a mean value of 2.26.

In SCM, information sharing is another important practice that should have to be given due attention in order to make the SC robust. Because, when there is distortion, inadequacy and lack of accuracy in information flows with in the SC partners, it will negatively affect the SC participants Raghunathan, S. (2001). The mean value of the respondents on adequacy and quality of information sharing throughout the SC implies that, there is information sharing among the SC partners but it is not sufficient and it lacks accuracy.

From the above presented data, the researcher can conclude that the information sharing practice between ESC and its customers is poor. This is based on the mean value obtained with respect to sales forecast information sharing which scored 2.23.

In fact, customers like whole sellers, distributors, agents and retailers are closer to the end customers. They have better opportunity for understanding the end customers' demand. Sharing forecast information with such customers would help the case company and consolidate its market demand forecasts. So that, having poor relationship with such partners is a cause for poor information sharing practices which make the forecast of the case company weak and unrealistic. According to Lee and Whang, (2000) poor information sharing between partners in SC will lead to many serious problems such as high inventory level, high demand uncertainty, inaccurate forecasts, low resource utilization, and high production costs.

Furthermore to the above theory, many studies have reported that information sharing can bring many benefits to both suppliers and buyers, such as inventory reduction, and reduced manufacturing costs (Yu et al, 2001; and Raghunathan, 2003). However, the information sharing practice of the case company with in its supply chain particularly on sales forecast is poor which is the group mean value score 2.36.

The empirical study of Lazarovic et al., (2007) states that efficiency in meeting customers ‘requirement is significantly differentiated by the level and quality of information sharing among SC partners. Therefore, based on the analysis, empirical study and the current (21<sup>th</sup>) century real practice and importance of information sharing and its impacts on any kind of organization.

#### 4.2.2.4. Logistics design

This study tried to investigate the practices of logistics design related to IT and delivery systems among the supply chain participants of the case company. Accordingly, twelve items related to logistics design practice were used by the researcher.

Table 4.9 Logistics design

S/ N	Items	N	Mean	Std. dev.
1	The level of IT-based automated ordering from major customers	68	2.20	1.024
2	The level of IT-based automated ordering to major suppliers	68	2.37	0.960
3	up-to-datedness of IT technologies throughout the supply chain	68	2.18	1.064
4	Adequate investment are made in developing technology for SCM practices	68	2.85	0.996
5	SCM software systems (like ERP, EDI) are used	68	2.14	1.042
6	The company creates compatible Information system for supply chain members	68	2.34	1.101
7	Joint product planning with suppliers	68	2.74	0.997
8	The level of cooperativeness with suppliers	68	3.09	0.842
9	Customer’s delivery adherence requirement	68	2.67	0.948
10	Compliance with customer’s delivery in- full requirements	68	2.99	0.763
11	Compliance customer’s delivery on time requirements	68	2.78	0.912
12	Joint product planning with major customers	68	2.67	0.948
	Group mean		2.62	

(Source: researcher’s survey)

From the above table, in the first section, there is items of IT development in the Corporation’s logistics design practices. The adequate investment are made in developing of IT throughout the SC represent mean value of 2.85. On the other hand, the mean value of up-to-datedness of IT throughout

the supply chain, IT-based automated ordering from major customers , IT-based automated ordering to major suppliers, SCM software are used and company creates compatible IS for SC members revealed that 2.18, 2.2 , 2.37,2.14 and 2.34 mean value respectively.

Generally, even if there is adequate investment are made through the SC, the mean values of SCM practice from IT perspective interpreted as there is poor IT application practice across the ESC'S supply chain. Turban, McLean & Wetherbe, (2004), illustrates as, good experience in information technology have a positive effect on the firm's ability to enhance customer satisfaction and supply chain responsiveness.

In addition to the data collected through questionnaire, interview was held with the communication and IT team leader of the case company. According to the interview there are enhanced information technology facilities within the company. But, there is no practices done on the technology through supply chain integration. Nowadays, the company is implementing intra-network connection facilities to connect marketing, purchasing, production and administration departments.

According to Levi et al.,(2003) the objectives of IT in SCM are; to provide the information availability and visibility to supply chain partners, to enable the collaboration with organizations in the supply chain and to allow the decision making based on the total supply chain information.

Currently, many manufacturing companies are using integrated information systems to manage their business activities. To share information there should be an up-to dated IT and integrated information system which is capable of connecting all functional units of the company and its external participants.

Based on the data collected both in questionnaire and interview and the analysis made on the IT practices, the existing IT System of ESC's supply chain cannot support effective SCM Implementation. Therefore, based on the mean value of each items and interviews, the SCM practice of IT in the case company is poor and conveys that a lot has to be done to bring about change in the IT system.

In the second section, logistics design practices regards to cooperativeness and delivery system items were analyzed. Joint product planning with customers, level of cooperativeness with suppliers and compliance with customer’s delivery in full-requirement scores the mean value with 3.09, 3.00 and 2.99. So, from this values, the corporation’s practices are good regards to cooperativeness with supplies and joint product planning and full requirement with customer’s delivery . Joint product planning with suppliers, customer’s delivery adherence requirement and compliance with customer’s delivery on time also reveals a mean value 2.74, 2.67 and 2.78. Those values also reveals that corporations interaction with suppliers in product planning and customer delivery requirement on time were moderate.

But these findings were completely different from the respondents of ESC’s customer regards to delivery requirements and compliance with customer’s delivery on time. As the following table 4.10 shows that the delivery system of the corporation has mean scores 2.32 and the service given by the corporation’s stores to the customer when they pick the sugar product has mean score of 2.37. This shows the delivery system of the corporation didn’t satisfy customers.

Table 4.10 Customer satisfaction measurements

S/N	Items	N	Mean	Std. dev.
1	Physical facilities are virtually appealing	50	2.41	0.945
5	Adequate product service delivery system	50	2.20	0.814
9	The corporation warehouses perform the service right the first time	50	2.37	0.845
	Group mean		2.32	

(Source: researcher’s survey)

#### 4.2.2.5. Customer satisfaction

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. (Christopher1998; Kenneth 2006; Russell 2006; and Eyong 2009).

Table 4.11. Customer satisfaction

S/N	Items	N	Mean	Std. dev.
1	Company's order process ability	68	2.47	1.198
2	Company's production time	68	2.72	0.964
3	Total lead time taken	68	2.20	1.148
4	Overall customer care service	68	2.79	0.910
5	Ability to get attendant quickly	68	2.78	0.928
6	Ability to get feedback and follow up	68	2.45	1.780
7	Level of market information sharing	68	2.33	1.126
8	Interact with customers to set reliability ,responsiveness and other standards	68	2.59	1.063
9	Measure and evaluate customer satisfaction	68	2.77	0.961
10	Facilitate customers' ability to seek assistance from the corporation	68	2.49	1.051
	Group mean		2.56	

(Source: researcher's survey)

Table 4.11 above depicts that ten customers satisfaction attributes were used to investigate the extent of the case company's orientation towards customer's service performance. In view of this, company's production time, overall customer care service, ability to get attendant quickly ,Interact with customers and measures & evaluate have a mean values greater than 2.5.So ,these the corporation practices with those attributes was moderate.

On the other hand, order process ability, total lead time, ability to get feedback & follow up ,level of market information sharing and facilitate customers' ability to seek assistance from the corporation show 2.47,2.20,2.45,2.33 and 2.47.So,the corporation has poor practice regards to ordering process

,get feedback and follow up ability. In addition the case company's market information sharing and less facilitate customers to seek assistance also poor.

Accordingly, the groups mean value of customer satisfaction reveals that the case company's orientation towards customer's service is moderate. The researcher held an interview with marketing , and distributed questionnaire for major customers of the case company to triangulate, and state the extent of services given to the customers' and which finally results in customer satisfaction.

As per the interview held with marketing manager of the case company reveals that in lead time reduction, there are problems resulted from both external and internal factors. As their response the external factor is related with suppliers i.e., some inputs are bought from abroad and it takes up to four months to reach to the company which may increase lead time.

### **4.3. Inferential Statistics for SCM Practices and Customer satisfaction**

#### **4.3.1. Correlation Analysis**

Correlations are the measure of the linear relationship between two variables. A correlation coefficient has a value ranging from -1 to 1. Values that are closer to the absolute value of 1 indicate that there is a strong relationship between the variables being correlated whereas values closer to 0 indicates that there is little or no linear relationship. As described by Andy (2006), the correlation is a commonly used measure of the size of an effect: values of  $\pm 0.1$  represent a small effect,  $\pm 0.3$  is a medium effect and  $\pm 0.5$  is a large effect. In this section, correlation analysis conducted in the light of each research objectives and hypotheses developed. The relationship between supply chain management practices and firm performance was investigated using correlation analysis. This provided correlation Coefficients which indicated the strength and direction of relationship. The p-value also indicated the probability of this relationship's significance.

### 4.3.1.1. Correlation Analysis between Construct of SCM practices and Customer satisfaction

Table 4.12: Correlation matrix between constructs of SCMP and CS

		Collaboration	Information Sharing	Logistics design	Customer Satisfaction
Collaboration	Pearson Correlation	1	.716**	.562**	.778**
	Sig. (2-tailed)		.000	.000	.000
	N	68	68	68	68
Information Sharing	Pearson Correlation	.716**	1	.807**	.840**
	Sig. (2-tailed)	.000		.000	.000
	N	68	68	68	68
Logistics design	Pearson Correlation	.562**	.807**	1	.609**
	Sig. (2-tailed)	.000	.000		.001
	N	68	68	68	68
Customer Satisfaction	Pearson Correlation	.778**	.840**	.609**	1
	Sig. (2-tailed)	.000	.000	.001	
	N	68	68	68	68

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

(Source: researcher's survey)

The correlation between constructs of SCM practices with Customer satisfaction was run as seen in the above table. The result of correlation matrix between each constructs and customer satisfaction are analyzed as follow: As it is indicated in the table, there is significant positive correlation between collaboration and customer satisfaction with correlation coefficient of 0.778 ( $r=0.778$ ) and significance less than 0.001. Therefore, collaboration and customer satisfaction are genuinely correlated.

Table 4.13 also depict that as there is strong positive relationship between Information sharing and customer satisfaction with a Pearson correlation coefficient of 0.840. ( $r=0.840$ ) and significance value is less than 0.001. This significance tells that there is genuine relationship between information sharing and customer relationship.

As the conducted Pearson correlation test indicated in the table 4.1, also there is significant positive correlation between level of logistics design and customer satisfaction. In other words, logistics

design and customer satisfaction are Correlated in high relationship ( $r=0.516$ ) with level of significance less than 0.001.

#### 4.3.1.2. Correlation between SCM practices and Customer satisfaction

Pearson correlation test was conducted between SCM practices (collective representative of three constructs of SCM practices) and the results are shown in Table 4.14. As it is shown in the table, there is significantly strong correlation between SCM practices and customer satisfaction. In other words SCM practices and customer satisfaction have strong positive relationship with correlation coefficient of 0.745 ( $r=0.745$ ) and significance value less than 0.01.

Table 4.13: Correlation between SCMP and CS

		SCM Practices	Customer satisfaction
SCM Practices	Pearson Correlation	1	.745**
	Sig. (2-tailed)		.000
	N	68	68
Customer Satisfaction	Pearson Correlation	.745**	1
	Sig. (2-tailed)	.000	
	N	68	68
**. Correlation is significant at the 0.01 level (2-tailed).			

(Source: researcher's survey)

#### 4.3.2. Regression Analysis

This regression analysis is conducted to know by how much the independent variable explains the dependent variable. The regression was conducted between collaboration (independent variable) and customer satisfaction (dependent variable) in the first regression. The second regression was made between information sharing (independent variable) and customer satisfaction (dependent variable). Finally, the third regression was made between logistics design (independent variable) and customer satisfaction (dependent variable). The results of the regression analysis are presented as follows.

### 4.3.2.1 Multi Collinearity

Table 4.14 Multi collinearity test of independent variable

Model	Collinearity Statistics	
	Tolerance	VIF
Collaboration	.487	2.053
Information Sharing	.248	4.028
Mean of Logistics design	.348	2.871

Dependent Variable: Customer Satisfaction

(Source: researcher's survey)

The result in table 4.15 show that the collinearity between independent variables has no series problem Since the value of tolerance for all independent variable is greater than 0.1 and all VIF is less than ten ( $VIF < 10$ ).

### 4.3.2.2. Regression Analysis between collaboration and customer satisfaction

Table 4.15: Regression Analysis between Collaboration and Customer satisfaction

Model	B	t-stat	Std. Error	P-value	R	Adjusted R Square
1	.863	8.88	0.625	.000	.874 <sup>a</sup>	.848

Predictor: Collaboration

Dependent variable: Customer satisfaction

(Source: researcher's survey)

The Model Summary provides the correlation coefficient and coefficient of determination ( $r^2$ ) for the regression model. As we have already seen a coefficient of  $.874 = r$  suggests there is a strong positive relationship between collaboration and customer satisfaction while  $r^2 = .848$  suggests that 84.8% of the variance in collaboration can be explained by customer satisfaction.

Although there might be many factors that can explain the variable on customer satisfaction, nearly 84.8% of it is explained by collaboration practice. This means that the remaining 15.20% of the variation is cannot be explained by those dimensions of collaboration. The P value and positive  $\beta$  coefficient also implies that collaboration have a positive and significant influence on customer satisfaction.

### 4.3.2.3. Regression Analysis between information sharing and customer satisfaction

Table4.16.Regression Analysis between IS and CS

Model	B	t-stat	Std. Error	P-value	R	Adjusted R Square
1	.740	7.18	0.565	.000	.742 <sup>a</sup>	.736

(Source: researcher's survey)

The correlation between constructs of information sharing and customer satisfaction was run as seen in the above table. As it is indicated in the table, there is significant positive correlation between information sharing and customer satisfaction with correlation coefficient of 0.742 ( $r=0.742$ ) and significance less than 0.001. Therefore, information sharing and customer satisfaction are genuinely correlated.

In addition, the summary provides the correlation coefficient and coefficient of determination ( $r^2$ ) for the regression model. As we have already seen a coefficient of .742  $=r$  suggests there is a strong positive relationship between information sharing and customer satisfaction while  $r^2 = .736$  suggests that 73.6% of the variance in information sharing can be explained by customer satisfaction.

### 4.3.2.4.Regression analysis between logistics design and customer satisfaction

Table4.17.Regression Analysis between LD and CS

Model	B	t-stat	Std. Error	P-value	R	Adjusted R Square
1	.846	6.81	0.90	.000	.692 <sup>a</sup>	.681

(Source: researcher's survey)

The correlation between constructs of logistics design and customer satisfaction was run as seen in the above table. As it is indicated in the table, there is significant positive correlation between logistics design and customer satisfaction with correlation coefficient of 0.692 ( $r=0.692$ ) and significance less than 0.001. Therefore, logistics design and customer satisfaction are genuinely correlated.

In addition, the summary provides the correlation coefficient and coefficient of determination ( $r^2$ ) for the regression model. As we have already seen a coefficient of .681  $=r$  suggests there is a strong

positive relationship between logistics design and customer satisfaction while  $r^2 = .681$  suggests that 68.10% of the variance in logistics design can be explained by customer satisfaction.

## CHAPTER FIVE

### SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATION

#### 5.1. Summary of Findings

The purpose of this study was to assess the case company's orientation towards managing its supply chain and how this affects the customers' service. The ESC's orientation of SC was evaluated through three SCM practices and five types of measurements that determine customer satisfaction. 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 ESC was shown in two integrations which is characterized by less integration with customer than suppliers as it also revealed in which less joint product planning with customer than supplier. So, an independent decision making across the downstream side of the SC. The descriptive analysis and interview with management bodies has verified the prevalence of these characters of relationship. Regarding to integration among the SC partners the mean of ESC integration with its supplier's conveys group mean value of 2.84 and this shows the integration is in moderate level. But, the quantitative analysis of customers' integration conveys group mean value of 2.42 and it is really poor.

With regard to information sharing, the descriptive data and interview analysis conveys that, there is poor information sharing with customer, moderate related to suppliers. Again the overall efforts in coordinating and sharing information across the supply chain partners are weak. Even the shared information lacks adequacy and quality. Concerning information technology as one of logistics design, the quantitative and qualitative analysis indicated that, poor and absence of IT & IS tools with in the case company. But the logistic design regards to delivery system and cooperativeness with in the corporations 'supply chain is moderated.

This study is also intended to test if there is a relationship between SCM practices, and customer satisfaction. Based on the results of the study the summary of major findings are as follows. The test result indicates that collaboration practice has positive and strong correlation ( $r=0.874$ ) with customer satisfaction at significance level less than 0.001. In other way, collaboration have also contributed 84.4% for the variability of customer satisfaction.

On the other hand, the test result of information sharing and customer satisfaction indicates that information sharing has significant positive correlation ( $r=0.742$ ) at significance level less than 0.001 with customer satisfaction. In addition, 73.6% of variability of customer satisfaction explained by information sharing. Finally, the test result of logistics design and customer satisfaction indicates that logistics design is positively correlated to customer satisfaction with correlation coefficient of 0.692 ( $r=0.692$ ) and the significance value is less than 0.001. On the other side, the regression result of logistics design and customer satisfaction indicates that customer satisfaction can explain approximately 68.10% of logistics design.

## **5.2. Conclusions**

Based on the results of the study obtained and summary of findings the following conclusions are given. 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 satisfaction group mean is moderate that is 2.56. Therefore, this can't ensure customer satisfaction with respect to indicators taken. Based on qualitative and quantitative analysis the investigator comes up with conclusion that the case company's orientation towards customer satisfaction is poor and SCM practices have direct impact on customers' satisfaction. The primary reason mentioned for poor level of customer service is corporation integration with customer that have direct effect on the company's ability (potential) to embark on external integration. In other words, its effect is clearly reflected on customers not getting what they need when they need it, long lead time, and poor complaints management, not having effective flexible production system that could respond to the changing market and customer's preference.

From SCM practices the case company has a great problem on information sharing and IT practices in supply chain. 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.

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 ESC with its customers is not strong, in sharing sales forecast, cooperativeness, joint product planning, is moderate. Even if the marketing team leader responds that there is a lot of improvement done on the monitoring and measuring customer level with different internal, the customer responses on this issues also shows mean score of 2.33 which is poor level of corporation's collaboration with customers.

Therefore these relationship shows as the relationship between ESC's SC participants are traditional, that is buy-sale relationship. The researcher concludes that the great challenges that prohibits effective SCM of ESC'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.

#### **4.4 Suggestions**

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. It is noticeably explained that collaboration is vital in increasing the potential of the company to satisfied customers. ESC is suggested to integrate suppliers and customers, 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, ESC 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 which then result in customer satisfaction. This can be done through creating relation- ship 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 through the supply chain 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.

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## **APPENDIX I**

### **QUESTIONNAIRE**

The purpose of this questionnaire is to gather data on the effect of Supply Chain Management practice on customer satisfaction in Ethiopian Sugar Corporation. 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.

#### **Part I. Respondents Profile**

1. Sex:   Male  Female

2. Age:   20-25 years

26-30 years

31-35 years

36- 40 years

Above 40 years

3. Year of work experience in the organization:

1-3 years

4- 6 years

7-11 years

Above 11 years

4. Educational Qualification:

Grade 10 completed

Grade 12 completed

Certificate

College diploma

First Degree

Second Degree and above

5. Field of your Specialization \_\_\_\_\_

6. Your current position \_\_\_\_\_

## Part II. Profile for Supply Chain Management Practices

Using the following Rating Scales under the columns, “circle only on one number from the given numbers in the box after reading the variable on the left hand.”

The numbers represent: 1- Very Low, 2-Low, 3-Average, 4-High and 5 –Very high

S/N	Variables	Rating Numbers				
		Very low	Low	Average	High	Very high
A	<b>Supply chain collaboration</b>					
A1	<b>Company’s integration with suppliers</b>					
1	The level of strategic partnership with suppliers	1	2	3	4	5
2	The establishment of quick ordering system	1	2	3	4	5
3	Stable procurement through network	1	2	3	4	5
4	The company seeks long-term stable relationships with suppliers	1	2	3	4	5
5	Regularly solve problems jointly with our suppliers	1	2	3	4	5
6	Helped suppliers to improve their product quality	1	2	3	4	5
7	Included our key suppliers in corporation’s planning ad goal setting activities	1	2	3	4	5
A2	<b>Company’s Integration with Customers</b>					
8	Follow-up customers for feedback	1	2	3	4	5

9	Monitoring and measuring customer service level	1	2	3	4	5
10	The level of market information sharing with major customers	1	2	3	4	5
11	Customer feedback is used to improve customer relations, processes, products and services	1	2	3	4	5
12	The organization has systematic processes for handling customer complaints	1	2	3	4	5
<b>B</b>	<b>Information Sharing Practices</b>					
13	Sales forecast information sharing with customers	1	2	3	4	5
14	Sales forecast information sharing with suppliers	1	2	3	4	5
15	Adequacy and quality of information sharing throughout the supply chain	1	2	3	4	5
16	Overall efforts of Inter-organizational information coordination and sharing	1	2	3	4	5
17	Sense of trust and confidence along the supply chain	1	2	3	4	5
<b>C</b>	<b>Logistics design practices</b>					
18	The level of IT-based automated ordering from major customers	1	2	3	4	5
19	The level of IT-based automated ordering to major suppliers	1	2	3	4	5
20	up-to-datedness of IT technologies throughout the supply chain	1	2	3	4	5
21	Adequate investment are made in developing technology for SCM practices	1	2	3	4	5

22	SCM software systems (like ERP, EDI) are used	1	2	3	4	5
23	The company creates compatible Information system for supply chain members	1	2	3	4	5
24	Joint product planning with suppliers	1	2	3	4	5
25	The level of cooperativeness with suppliers	1	2	3	4	5
26	Customer's delivery adherence requirement	1	2	3	4	5
27	Compliance with customer's delivery in-full requirements	1	2	3	4	5
28	Compliance customer's delivery on time requirements	1	2	3	4	5
29	Joint product planning with major customers	1	2	3	4	5
<b>D</b>	<b>Customer satisfaction</b>					
30	Company's order process ability	1	2	3	4	5
31	Company's production time	1	2	3	4	5
32	Total lead time taken	1	2	3	4	5
33	Overall customer care service	1	2	3	4	5
34	Ability to get attendant quickly	1	2	3	4	5
35	Ability to get feedback and follow up	1	2	3	4	5
36	Level of market information sharing	1	2	3	4	5
37	Interact with customers to set reliability ,responsiveness and other standards for us	1	2	3	4	5
38	Measure and evaluate customer satisfaction	1	2	3	4	5
39	Facilitate customers' ability to seek assistance from the corporation	1	2	3	4	5

## **APPENDIX II**

### **QUESTIONNAIRE**

The purpose of this questionnaire is to gather data on the effect of Supply Chain Management practice on customer satisfaction in Ethiopian Sugar Corporation. 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.

#### **Part I. Respondents Profile**

1. Sex:   Male  Female

2. Age:   20-25 years

26-30 years

31-35 years

36- 40 years

Above 40 years

3. Educational Qualification:

Grade 10 completed    Grade 12 completed    Certificate

College diploma        First Degree

4. How long have you been purchasing our product and services?

less than 6 months                    6 months to less than a year

1 year to less than 3 years    3 years to less than 5 years    5 years or more

5. How often do you buy sugar product?

Daily    Weekly    Monthly    Quarterly

**Part II. Customer satisfaction indicators**

Using the following Rating Scales under the columns, “circle only on one number from the given numbers in the box after reading the variable on the left hand.”

The numbers represent: 1- Very Low, 2-Low, 3-Average, 4-High and 5 –Very high

S/ N	Variables	Rating Numbers				
		Very low	Low	Average	High	Very High
A	<b>Customer satisfaction items</b>					
	<b>Tangibility</b>					
1	The corporations warehouse have up-to-date products	1	2	3	4	5
2	Physical facilities are virtually appealing	1	2	3	4	5
3	Employees are well dressed and appear neat	1	2	3	4	5
4	Physical Environment of the corporation store is clean	1	2	3	4	5
	<b>Responsiveness</b>					
5	Staff make information easily obtainable by customers	1	2	3	4	5
6	Adequate product service delivery system	1	2	3	4	5
7	Staff are always willing to help customers	1	2	3	4	5
8	Staff are never too busy to respond to customer requests.	1	2	3	4	5
	<b>Reliability</b>					
9	When the corporation promise to do something by a certain time, they do it.	1	2	3	4	5
10	When customer has a problem, they show sincere interest in solving the problem	1	2	3	4	5
11	The corporation warehouses perform the service right the first time	1	2	3	4	5
12	They provide their product at the time they promised to do so	1	2	3	4	5
13	Corporation’s warehouses keep their records accurately	1	2	3	4	5

	<b>Assurance</b>					
14	The behaviour of employees instil confidence in customers	1	2	3	4	5
15	Customers feel safe in their transactions with the employees	1	2	3	4	5
16	Employees are polite to customers	1	2	3	4	5
17	Employees of the Corporation warehouses have knowledge to answer customers' questions.	1	2	3	4	5
	<b>Empathy</b>					
18	Corporation warehouses give customers individual attention	1	2	3	4	5
19	Operating hours of Corporations stores are convenient to customers	1	2	3	4	5
20	Employees of warehouse give customers personal service	1	2	3	4	5
21	Corporation stores have their customers' interest at heart	1	2	3	4	5
22	Employees of corporation sores understand the specific needs of their customers	1	2	3	4	5

## **APPENDIX III**

### **Interview**

#### **Human resource management and communication team leader**

1. Does your company have training program & criterion in order to make employees & managers competent?
2. How do you see provision of multi skill training for your employees?
3. How does your company manage employees' complaints?
4. Does your company have flexible /agile man power?
5. How do you see the employees' commitment and initiation for work and learning?

#### **Marketing team leader**

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 Logistics and procurement team leader**

1. How do you see the extent of supply uncertainty?
2. How do you see the internal logistics system?
3. How do you see the corporation as it assess the logistic activities systematically and frequently?

4. How do you see Corporations movement on extrapolate key trends to understand what future logistic activities needs.
5. How do you see the level of IT based automated ordering system from suppliers and to customers?
6. How do you see the customer satisfaction on time delivery of the Corporation's main product?
7. How do you see the Corporations' information systems through the supply chain members?