



## Supply Chain Management in Agricultural Industry

Fenave Zutsara, Ernaud Numena

<sup>1</sup>Department of Agriculture, University of Antananarivo, Madagascar

\*Corresponding Author: Fenave Zutsara



### Article Info

#### Article history:

Received 2 December 2021

Received in revised form 4

January 2022

Accepted 14 January 2022

#### Keywords:

Agricultural Industry

Supply Chain Management

Businesses

### Abstract

*The study discusses Supply Chain Management in Agricultural Industry. Supply Chain Management (SCM) involves the management of supply chain members, who are divided into two categories: main members (consumers) and supporting members (businesses). More effective cost reductions may assist a corporation in achieving its profit objectives more quickly and efficiently than boosting sales efforts. Supply chain management attempts to control (manage) the growth in demand as rapidly as possible since consumers are increasingly expecting the fulfillment of requests as quickly as possible, even when the demand is unexpected and the product in question is not a typical one (customize).*

## Introduction

It was Oliver and Weber that coined the term "Supply Chain Management" (SCM) for the first time in 1982. If the supply chain is a physical network, it includes firms that are engaged in the supply of raw materials, the manufacture of items, and the distribution of those goods to end consumers. Integrated supply chain management (SCM) is a system, tool, or approach that is founded on a spirit of cooperation with the goal of pleasing the same end customer (Skjoett-Larsen et al., 2003). Companies must collaborate in order to manufacture low-cost items, deliver them on time, and ensure that they are of high quality (Imfeui, 2012). Supply chain management (SCM), according to Watanabe (2011), a professor at Waseda University Japan, refers to a concept or technique that helps organizations in the supply chain boost their entire output by optimizing the time, location, and flow of material amounts. It is motivated by two factors: first, the traditional adversarial logistics management practice in the modern era is no longer relevant because it cannot generate competitive advantage, and second, changes in the business environment are occurring at an increasingly rapid pace as a result of increasingly fierce competition.

Of course, in contemporary life, such as today, the issues surrounding the corporate sector are growing more and more complex. Anyone and everyone is rushing to develop a company world wherever and at any time (business). There are a variety of strategies that business owners may use in order to progress and manage their company as successfully and efficiently as possible. There are several approaches that may be used, but not all of them are successful in achieving the intended result. One example that we can provide is the difficulty of offering low-cost, high-quality, and quick items while not being well coordinated and having insufficient transportation and network infrastructure. Therefore, businesspeople must recognize that systematic procedures and calculations in decision-making are critical for the development of their organization.

## Supply Chain Management

In the words of the Council of Logistics Management, supply chain management is defined as the systematic, strategic coordination of traditional business functions within a private company and across business fields within the supply chain with the goal of improving the long-term performance of individual companies and the supply chain as a whole for the purpose

of improving the long-term performance of individual companies and the supply chain as a whole. In the words of Li (2007), a supply chain is a collection of interconnected actions and choices that are designed to effectively integrate suppliers with manufacturers with warehouses with transportation services with retailers and customers. Consequently, products and services may be provided in the appropriate quantity, at the appropriate time, and in the appropriate place to suit customer wants while minimizing costs.

Effective supply chain management necessitates the simultaneous growth of customer service standards as well as the internal operational efficiency of the enterprises involved in a distribution network (Hervani et al., 2005). Many factors must be examined when determining the degree of customer service, including the order fill rates, the on-time delivery rate, and the rate of items returned by customers for whatever reason they may have. Meanwhile, how can an organization in a supply chain maximize internal efficiency by investing in inventory and other assets and finding methods to decrease operating and sales expenditures, or, in other words, how does an organization manage supply chains so that they are responsive and efficient? An example of a supply chain is a collection of activities (represented by organizations or facilities) that are engaged in the transformation and distribution of commodities from the earliest raw materials from nature through completed products and finally to the end consumer. In accordance with this definition, a supply chain consists of companies that transport raw materials from the earth or nature, companies that transform raw materials into semi-finished materials or components, suppliers of product support materials, assembly companies, distributors, and retailers who sell goods. Several major participants in the supply chain are firms that have common interests, including suppliers and manufacturers as well as distributors and retailers (Håkansson & Persson, 2004). These companies are referred to as supply chain partners.

#### Chain 1: Supplier

The network begins here, at the point where the initial item is obtained, and it is from there that the new distribution chain will be established. Materials for this initial material include raw materials, auxiliary materials, goods for sale, spare components and a variety of others.

#### Chain 1-2-3:

Supplier-Manufactures Distribution It has started to be supplied to consumers the goods that have been made by producers. Despite the fact that there are several methods of delivering products to consumers, the most popular is via distributors, which is the route used by the majority of the supply chain.

#### Chain 1-2-3-4: Supplier-Manufactures Distribution-Retail Outlet

Wholesalers often own their own storage facilities, but they may also rent space from other parties. Merchandise is stored in this warehouse until it is ready to be dispatched to merchants. By altering the pattern of shipping items from both the manufacturer's warehouse and to retail outlets, there is a chance to realize savings in the form of overall inventory and warehousing expenses.

#### Chain 1-2-3-4-5: Supplier-Manufactures Distribution-Retail Outlet-Customer.

Retailers or retailers are businesses that sell items directly to consumers, purchasers, or other direct users of the commodities. Grocery shops, supermarkets, warungs, and other retail establishments are included in this category.

There are three types of things that must be managed in the supply chain: first, the flow of goods from upstream to downstream, for example, raw materials sent from suppliers to

factories, after which they are sent to distributors, retailers, and finally to end users; and second, the flow of goods from downstream to upstream. Second, the movement of money and other valuables from one end of the system to the other. The third kind of information flow is the movement of information from one point to another, either upstream or downstream.

### **Supply Chain Members (SCM)**

A division is made between main members and supporting members in order to categorize all associated enterprises or organizations. Each of the business units that actually carry out operational or managerial operations in the course of a business process is referred to as a primary member or the main member of the supply chain. This business process is meant to generate a product or service for a certain customer or market, for example, a beverage maker, and it follows the steps outlined above. Suppliers who provide starting materials, utilities, or other important assets but do not directly participate in activities that produce or convert an input into an output for consumers are known as supporting members or supporting members in the supply chain. Examples include raw material suppliers, truck rental companies, grocery stores, convenience stores, and other similar businesses.

### **Business Processes in the Supply Chain (SCM)**

A well-integrated system is required for successful supply chain management. When a supply chain is integrated, each unit operates as a single unit rather than as a separate entity, as is the case with conventional supply networks. Operations in the supply chain need a continual flow of information in order to manufacture high-quality items at the appropriate time in response to customer demand. As a result, the customer becomes the focal point of every action that is carried out. In short, it is the management of positive consumer relationships, beginning with the identification of who our customers are, what their requirements are, and what specifications are sought by consumers. As a result, it is possible to assess on a regular basis whether or not the level of client satisfaction has been fulfilled.

It serves as a consumer information center, giving customers with the information they need in real time about delivery timetables, product availability, product availability, costs, and other relevant topics. This includes after-sales services that are capable of assisting customers in the optimal usage of other items and applications following the sale. Consumption management is concerned with striking a balance between the wants of customers and the ability of a firm to offer the needed product or service. Consumption research comprises understanding what products and services customers need, as well as when they are required. A good demand management system makes use of point-of-sale and customer data to decrease uncertainty and increase the efficiency of the flow of products through the distribution channel (Chandra & Kumar, 2000). A solid alignment between marketing needs and production plans is essential for effective inventory management at the global level.

Good coordination between all members of the supply chain is required in order to meet customer requests on time, and even quicker than previously agreed upon, while keeping fulfillment costs to a bare minimum. The primary objective is to ensure that the demand fulfillment process from raw material suppliers to end customers is as seamless as possible. The manufacturing process is designed in such a manner that it can provide the needed product as rapidly as feasible while maintaining the lowest possible amount of inventory. This necessitates sufficient planning as well as the alignment of demand with available production capability. The preparation of the manufacturing process includes ensuring the availability of raw materials so that the smooth operation of the manufacturing process may be maintained,

as well. The establishment of positive working relationships with connected suppliers is also essential in this regard.

The process begins with an analysis of customer demands and existing complaints about already available items. For new product development to be successful, close collaboration with suppliers is essential in order to secure the availability of the raw materials required. Additional preparations in the area of manufacturing are required in order to facilitate the development and commercialization of this new product. The management of return items is an essential operation that may be utilized to the company's benefit as a competitive advantage in the marketplace. Return product management performance may be assessed by the metric "Return to Available," which is the time it takes to convert a returned product into one that can be used again.

### **SCM Coverage Area**

The following are the primary geographical regions covered by SCM. A facility is a location where things are assembled or produced and are kept safe. The facilities are classified into two categories: manufacturing (production site) and storage (storage facility) (storage site). The supply chain's strength is strongly influenced by factors such as location, capacity, and adaptability. If the capacity is huge and the location is very strategic, SCM will function smoothly and be a financial success for the company. All raw materials and finished commodities are included in inventory. Inventory management has a significant impact on the supply chain. The moving of products from one location to another is referred to as transportation. Each route and model has its own personality, and transportation might be a mix of routes and models. Information includes analytical data on the three items listed above, as well as information about customers. Information is very essential and has ramifications for other aspects of the supply chain as well.

### **Advantage of Supply Chain Management (SCM)**

Customer happiness, according to Jebarus (2001), improves revenue, lowers expenses, boosts asset utilization, raises profits, and the firm grows in size. Consumers or product consumers are the primary beneficiaries of the actions carried out throughout the manufacturing process of any product manufactured by the firm. Consumers or users, as they are referred to in this context, are unquestionably devoted customers over the long haul. Customers must first be happy with the services offered by the firm before they can be expected to become loyal.

The greater the number of loyal customers and business partners, the more the firm's revenue will grow, ensuring that the items produced by the company will not go to waste since they are in high demand by consumers and so will not be squandered. Integration of the product flow from the manufacturer to the ultimate consumer results in a reduction in distribution expenses. Assets, particularly human components, will be more trained and competent, both in terms of knowledge and in terms of technical skills and abilities. Worker empowerment will be possible via the application of advanced technology, which will be necessary in the implementation of SCM. The company's profitability will rise as the number of loyal customers and product users grows.

### **Development of SCM**

As the background for the development of the SCM concept, the rapid development of important factors, such as increasing consumer demands, increasingly sophisticated telecommunications, information, transportation, and banking infrastructures, as well as the development of new models in the flow of materials and products, has resulted in a rapid

acceleration of changes in the business environment. In accordance with the changes that occur in the market environment, the product life cycle is quite brief in duration. Consumer awareness of the importance of social and environmental aspects in everyday life necessitates the incorporation of environmentally friendly concepts into the manufacturing industry, beginning with the product design process, continuing through the manufacturing process, and ending with the distribution process.

As explained by Ross et al. (2003) the early development of the SCM concept was based on two facts: the fact that manufacturers were under pressure to reduce production costs in the 1960s and the development of information technology, particularly the internet, which enabled the realization of an integrated system, thereby encouraging companies to do so in the 1970s and 1980s. The supply chain is divided into three sections: upstream supply chain, downstream supply chain, and downstream supply chain (Sharma & Modgil, 2013). Upstream supply chain covers the first-tier suppliers of the organization (which can be manufacturing or assembly companies) and their suppliers with whom a relationship has been established. In this part, you will find all of the procedures that organizations employ to turn inputs given by suppliers into outputs. These operations begin with the receipt of raw materials and continue until the product is disseminated outside the organization. The downstream supply chain is comprised of all of the activities that are involved in getting the product to the end client (downstream supply chain).

Supply Chain Management activities include forecasting customer demand, creating production schedules, setting up transportation networks, ordering replacement supplies from suppliers, managing inventories: raw materials, work in process, and finished goods, running production, ensuring smooth transportation of resources to customers, tracking the flow of material, service, information, and financial resources from suppliers, within the company, and to customers.

### **Obstacles in SCM**

Consumers now seem to have been spoiled by manufacturers, as seen by the rising variety of items available on the market. We can also observe the company's overall strategy, which is always centered on the client (customer oriented). Consumers are more pampered now than they were in the past, when manufacturers utilized a method that divided segments into customers. Products are now thrown according to the wants of each person, rather than the wishes of a certain section. Because of the large number of different kinds of items and the uncertainty surrounding the amount of each product, manufacturers are becoming more overwhelmed by the task of meeting the needs of customers. The shortening of a product's life cycle makes it more difficult for businesses to manage their supply strategy, since businesses need a specific length of time to govern the supply of particular items. In the market, the product life cycle is defined as the amount of time the product has been on the market.

Supply chain management attempts to control (manage) the growth in demand as rapidly as possible since consumers are increasingly expecting the fulfillment of requests as quickly as possible, even when the demand is unexpected and the product in question is not a typical one (customize) (Cohen & Roussel, 2013; Christopher & Holweg, 2011). This demonstrates that the supply chain encompasses a large number of partners, each with their own set of interests, making supply chain management more difficult and time-consuming. Globalization makes supply chains more complicated and difficult to manage since the parties participating in the supply chain come from a variety of different nations and may be based in a variety of different places throughout the globe.

## **Solution for SCM problems**

As long as there is rising demand, outsourcing (using other sources) rather than doing it yourself is the best method for dealing with SCM challenges. Purchasing inputs directly rather than having to manufacture them is a better option. Suppliers are being invited to participate in a "strategic collaboration." Purchasing materials using a "just in time" method, in which the provider supplies a little amount / quantity of material required, is becoming more popular. Waiting times throughout the purchasing and selling process have been reduced. Make use of as few vendors as feasible. Suppliers and buyers should work together to improve their relationship. Once an order has been received, the manufacturing procedure may begin. Increase the accuracy of your demand by working more closely with suppliers.

## **Building SCM**

In order to create an efficient supply chain management system, we must pay close attention to five fundamental factors, such as When it comes to planning, it is essential to think strategically from the start about how to establish a benchmark that will decide the degree of efficiency, affordability, quality, and value to consumers. Obtaining supplies; selecting the finest suppliers; and setting goals for sustaining quality, commitment; receiving items; inspecting them; transferring them to the plant; and making payments. Making, which is the manufacturing phase, determines the procedures that must be taken throughout the production process, including inspection, packing, and shipping preparation. Establish measurable criteria for quality levels, production levels, and staff productivity to ensure consistency. Delivery is sometimes referred to as logistics in this section. Maintain control over the reception of client orders, the establishment of a warehouse network, the selection of a delivery service for customers, and the issuance of payments. Returns; this area deals with client returns for things that were either faulty or overproduced.

## **The Importance of Supply Chain Management**

From the procurement of raw materials through the delivery of delighted consumers, supply chain management is a broad term that encompasses all aspects of the supply chain management process. The following are the components of a supply chain: suppliers, manufacturing businesses, and/or service providers, as well as distributors, wholesalers, and/or retailers that bring goods and/or services to end customers. As the name implies, supply chain management's purpose is to coordinate operations across the supply chain in order to optimize the competitive advantage and advantages of that supply chain for the end user. A successful supply chain, like a championship team, is characterized by its members acting in the best interests of the team as a whole (the supply chain).

More effective cost reductions may assist a corporation in achieving its profit objectives more quickly and efficiently than boosting sales efforts. Increased attention is being put on the supply chain as businesses attempt to improve their competitiveness via product customisation, high quality, cost reduction, and rapid marketing. Suppliers become partners when they contribute to the achievement of a competitive advantage via long-term strategic collaborations When it comes to low cost or rapid response techniques, the supply chain requires different things than it does when it comes to waiting time. It is necessary for businesses to integrate their supply chain strategies, and they should anticipate that these strategies will vary for various goods and alter as the product progresses through its life cycle.

## Conclusion

The supply chain, also known as supply chain management (SCM), is a collection of interconnected actions and choices that are designed to effectively integrate suppliers, manufacturers, warehouses, transportation services, retailers, and consumers. Supply Chain Management (SCM) involves the management of supply chain members, who are divided into two categories: main members (consumers) and supporting members (businesses). SCM refers to a collection of processes that take place throughout the integrated supply chain. These processes include customer relationship management (CRM), customer services management (CSM), demand management (demand fulfillment), manufacturing flow management (MFM), product development and commercialization (PD&C), and return. Facilities, inventory, transportation, and information are just a few of the domains covered by Supply Chain Management. Customer happiness, improved revenue, lower costs, better asset utilization, and increased profitability are some of the advantages of Supply Chain Management (SCM).

## References

- Chandra, C., & Kumar, S. (2000). Supply chain management in theory and practice: a passing fad or a fundamental change?. *Industrial Management & Data Systems*.
- Christopher, M., & Holweg, M. (2011). "Supply Chain 2.0": Managing supply chains in the era of turbulence. *International journal of physical distribution & logistics management*.
- Cohen, S., & Roussel, J. (2013). *Strategic supply chain management: the five disciplines for top performance*. McGraw-Hill Education.
- Håkansson, H., & Persson, G. (2004). Supply chain management: the logic of supply chains and networks. *The international journal of logistics management*, 15(1), 11-26.
- Hervani, A. A., Helms, M. M., & Sarkis, J. (2005). Performance measurement for green supply chain management. *Benchmarking: An international journal*.
- Jebarus, F. (2001). Konsep supply chain management. *Impian menarik dengan segudang tuntutan. Usahawan*, 30(2), 18-21.
- Li, L. (2007). *Supply Chain Management: Concepts, Techniques and Practices: Enhancing the Value through Collaboration*. World scientific publishing company.
- Lmfuei, B. R. (2019). Perkembangan Ekspor Indonesia.
- Ross, W. H., Chen, J. C. V., & Huang, S. F. (2007). Adapting different media types to trust development in the supply chain. *International Journal of Management and Enterprise Development*, 4(4), 373-386.
- Sharma, S., & Modgil, S. (2013). Supply chain efforts among downstream and upstream: a developed view. *International Journal of Engineering Management and Economics*, 4(1), 54-71.
- Skjoett-Larsen, T., Thernøe, C., & Andresen, C. (2003). Supply chain collaboration: Theoretical perspectives and empirical evidence. *International journal of physical distribution & logistics management*.
- Watanabe, R. (2001). Supply Chain Management Konsep dan Teknologi. *Usahawan no. 02 th XXX*.