



PRINCIPLES, PERSPECTIVES, OPERATIONAL STRATEGIES AND FACTORS OF SUPPLY CHAIN MANAGEMENT

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ABSTRACT:

The supply chain can be a competitive tool to assist businesses meet rising customer demands and cut costs, as has been realized. Successful merchants use their supply chains to save costs while achieving flawless order execution and providing top-notch customer service. The solutions include streamlining procurement procedures and policies, storing and issuing processes, point-of-use procedures, eliminating duplicate and non-value-adding supply chain operations, and increasing inventory turnover while reducing shortages. Online retail may have distinct storing and inventory methods, and closer attention must be paid to coordinating with suppliers and transportation companies to ensure efficient and prompt delivery. In this article; principles, perspectives, factors and operational strategies of supply chain management has been discussed.

Keywords: Supply, Chain, Management

INTRODUCTION:

In order to facilitate the movement of goods from the source of the raw materials to the consumer, supply chain management (SCM) deals with the management of materials, information, technology, and funds. It is commonly known that organized retail cannot succeed without a successful supply chain since it increases productivity, reduces resource waste, and increases consumer happiness. By coordinating and working together with a variety of channel partners, including suppliers, middlemen, outside service providers, and customers, SCM integrates supply and demand management. Information about client preferences and requests, order specifics, sales returns, etc. travels in the opposite direction to that of the movement of goods. When a customer places an online order, supply chain operations begin in online retail. A crucial feature of the structure of the online supply chain, in addition to the transportation of items, is the communication of information between different supply chain nodes. [1]

The supply chain is significantly impacted by the returns of items due to order cancellations or defective products. Improved confidence and cooperation among supply chain partners will increase inventory visibility and make it possible for a "leaner and cleaner" inventory management system. SCM works to combine the functional goals of buying, manufacturing, marketing, and distribution activities while resolving any conflicts that may arise. Supply chain management is compared to a well-rounded and well-trained relay team by Cooper and Ellram (1993). When each player understands how to position themselves for the hand-off, a team will be more competitive. The bonds between players who immediately pass the baton are the strongest, but the entire team must work together to win the race. [2]

PRINCIPLES:

The seven principles are:

- Principle 1: **Segment** customers based on the service needs of distinct groups and adapt the supply chain to serve these segments profitably.
- Principle 2: **Customize** the logistics network to meet the service requirements and profitability of customer segments.
- Principle 3: **Listen to** market signals and streamline the demand planning across the supply chain, to enable consistent forecasts and optimal resource allocation.
- Principle 4: **Differentiate** products closer to the customer and speed up conversion across the supply chain.
- Principle 5: **Manage** sources of supply strategically to reduce the total cost of owning materials and services.
- Principle 6: **Develop** a supply chain-wide technology strategy that supports multiple levels of decision making and gives a clear view of the flow of products, services, and information.
- Principle 7: **Adopt** channel-spanning performance measures to gauge collective success in reaching the end-user effectively and efficiently.
- Develop and implement practices in tune with the above principles and reap the rewards
- Of course, when applying these rules, one must keep in mind how the market is changing. When we use these concepts, the distinction between offline and internet retail needs to be taken into account. It should be noted that different SCM techniques may be required for the

various retail categories. Most products in categories like clothing, food, general commodities, and home goods are sold in very tiny quantities, sometimes even as single items. Moving a product from the manufacturer or seller to the store requires at least six physical transactions in brick-and-mortar retail. [3]

- When various vendors are involved and there are different product categories with different logistics and supply chain setup requirements, the situation becomes even more complicated. For instance, freshness and perishable product concerns are a problem in the food retail industry. In comparison, the fashion cycle for clothing is relatively short.

The majority of household objects are either heavy or delicate, etc. The supply chain structure varies between inventory-based and marketplace systems for online retail. Inventory-based setups resemble traditional outlet-based retail more, with the exception that the customer's address serves as the final destination rather than the store. Generally speaking, a complex hub-and-spoke system is not required, but the shop may opt for a simpler hub system. It is fair to assume that the supply chain in the market-place model runs from the provider to the client while utilizing logistical services. [4]

Compared to bulk transportation in the brick-and-mortar system, the volume moved in either scenario is incredibly little. The retail supply chains should have an effective, agile, and adaptable network if they are to experience profitable growth over the long run. While traditional retail is geared for higher quantities, supplier-to-customer volume for online retail is often minimal and dependent on order size. Any sort of organized retail requires a supply chain that is adaptable, scalable, and has an expanding reach. It also needs to balance costs and take demographic differences into account.

SUPPLY CHAIN MANAGEMENT PERSPECTIVES:

While the importance of supply chain management is a common talking point, not many companies have actually made advances in their supply chain capabilities. [5] Based on a review of the literature and case studies, one could look at the scenario from three perspectives:

Collaborative supply chain: As a result of their capacity to work together with carefully chosen trading partners, leading corporations are pulling away from their slower-moving competitors and securing dominant positions. At this advanced level, the linked partners have achieved online visibility, inter-enterprise collaboration, and leading-edge application of technology to derive the greatest benefit from their supply chain activities. Examples of businesses in this category include Boeing, Colgate-Palmolive, Wal-Mart, Intel, Kraft Foods, and Procter & Gamble.

Inward focus on supply chain: Some organizations have focused on internally developed process innovations aimed at decreasing costs in specific functional areas. Even though these efforts have been successful, they still fall well short of the significant bottom-line gains achieved by the sector's top performers. The construction and forest products sectors frequently serve as examples of this second category.

Hybrid type of supply chain: The bulk of businesses are found in the middle. They may have taken the first steps to extend this integration to a handful of their external partners. They have made significant headway integrating their internal process activities. However, they are still having difficulty moving up to the more sophisticated level of supply chain management when external partners are involved and cooperation, digital commerce, and other cyber-based communication tools are used.

Integrated Supply-Chain Planning and Scheduling

The supply chain management planning procedure is simple and has been around for a while. For the past thirty years, project management and process management have been conducted using systems like Material Requirements Planning (MRP), Manufacturing Resource Planning II (MRP II), Distribution Requirements Planning (DRP), Theory of Constraints (TOC), Just-in-Time (JIT), Critical Path Method (CPM), and Program Evaluation and Review Technique (PERT). However, because supply chain capacity is frequently neglected in these settings, scheduling has struggled to execute as planned. Finite Capacity Scheduling (FCS), one of the capacity management tools introduced into the current planning environments, has made it possible to create schedules that could be time and cost optimized. The majority of planning systems still do not take these components into account, instead emphasizing the use of an overriding expedite process to improve delivery performance. The creation of effective value-chain management (VCM) environments depends in large part on FCS improvements.

Value-Chain Management (VCM):

Value-chain management, which starts with the vendor's vendor, is the integration of all resources. It combines data, resources, labor, facilities, logistics, etc. into a capacity-managed, time-responsive solution that makes the most of available funds and cuts down on waste. Effective and efficient VCM, then, maximizes value for the customers' customers. The creation of VCM, integrated supply chain planning and scheduling, full resource management, cycle-time responsiveness, chain-wide resource optimization, and information integration are covered in the sections that follow. It is beneficial to review how VCM was created using the prior definition as a starting point. Vertical integration was a traditional industry focus. For instance, if you were manufacturing a product, you would want to have complete control over the materials used, the transportation and storage of the product, its creation, and perhaps even its retail sale. The hypothesis claimed that the greater the number of vertical elements directly under control, the greater the performance capability. Organizations started concentrating on what they did best after realizing they were simply not competent at everything due to challenges from the global competitive environment. In other words, they concentrated on their strengths. [6] Organizations were

prompted to go outside of themselves for services as a result of this move away from vertical integration. For instance, a manufacturer might outsource all of their packaging and shipment to a shipping business. This increased the number of steps between the seller and the client, complicating the administration of the process. The trend toward operational diversification centered on businesses creating a supply chain, whereby they would build relationships with shippers, vendors, and customers to enable successful integration of all the supply chain elements. The management of these interrelationships becomes incredibly difficult. Initially, performance-based management dominated these ties and partnerships. The supply chain would frequently become insensitive to client requests if there were too many nodes. Time-to-market has become a catchphrase for competitive positions that are successful; in terms of customer responsiveness and order fulfilment, the firm that managed its supply chain the best tends to have the competitive advantage. Additionally, globalized businesses—even small ones—will become more profitable by putting in place a carefully considered value chain and using it to transport goods and services at a spot price (a price quoted for an item one to two days before delivery). Managers soon came to the conclusion that promptness was not the main factor in client happiness. The links in the supply chain, which connect the manufacturers, distributors, and upstream suppliers, also have a cost element and a resource-efficiency part. Value-chain management, which is the most effective management of all the interconnected components of the supply chain, was made necessary as a result of this realization. Sometimes this entails getting rid of certain supply chain components; for instance, web merchandising has replaced physical stores. A well-known example of how brick-and-mortar stores are no longer necessary is Amazon.com. Another example is the wireless Amazon Kindle, a product sold by Amazon.com that enables users to wirelessly download any of hundreds of thousands of texts onto an electronic paper device that resembles a portable mobile device. The Kindle is the smallest single source for data that doesn't require a personal computer thanks to this cutting-edge wireless technology, which also makes it possible to download college textbooks and other reference materials.

OPERATIONAL STRATEGIES:

A new business model was introduced when Walmart entered the retail grocery sales market. The prevailing philosophy in corporate management fifty years ago was that every department of a company should operate as efficiently as possible. Cost-cutting was required from both the business unit in charge of completed product inventory and the inventory unit handling raw materials (or semi-finished items, such as vehicle components). Both the marketing unit and the unit in charge of the final product's production or assembly were supposed to be economical. But none of these units took into account how the actions of one unit would affect those of the others; instead, they all ran as independent businesses.

The production unit will be pleased to have a large raw material storage facility, but this will be detrimental to the stores, which want to preserve raw material inventories at a low level. Businesses eventually understood that if the operations of the various units were coordinated, input stocks would be sufficient to meet production needs without incurring onerous storage expenses, and the firm would operate more efficiently.

When sales were at their peak and stocks of completed goods were at their lowest, production was timed to ensure that there would be an adequate supply of finished goods available. Businesses started to understand that more efficiency could be attained by becoming more closely coordinated with their suppliers and customers as they became more adept at using the internal system. Vertical integration refers to a company buying another company just before or after it in the supply chain. The larger chains' development of their own distribution hubs, effectively taking over the wholesale role, is the best example of vertical integration in the food industry. These larger companies gradually came to the conclusion that it was unnecessary to possess the entire supply chain when they thought about expanding their level of control over it. [7]

Others could carry out supply chain operations more effectively and offer goods and services of a higher caliber. By purchasing those companies, the stores could maintain control and profit from their "core strength." The nonfood industry has been developing this approach for the past 50–60 years. The phrase "controlling the supply chain, not the constituent enterprises" sums it up perfectly. This can be described as the total coordination of the supply chain so that it operates as efficiently as possible from the source of the raw materials to the ultimate consumer. Giving the final consumer what they want at a competitive price, when they want it, in the quantities they want, and with the quality they want is the goal of this attitude.

From a business standpoint, the objective is to monopolize the market for that product by carrying out all of the aforementioned actions (what, where, when, etc.) at a rate that no one else can match. With this mentality, Wal-Mart excelled at managing the supply chain. They recognized a chance to use this management strategy in the food industry to grow into a significant food retailer and the biggest supermarket chain in the world.

Supply chain management requires that firms have very detailed information on costs and be willing to share that information. Tying the chain together in efficient fashion requires an understanding of the costs of doing things at each level. Considering Storage as an example, it makes economic sense to have fruit stored at shipping point rather than at retail because

- the cost of storage at shipping point is, invariably, less expensive since the labor and land are cheaper in rural areas.
- it doesn't make sense to ship all of the fruit to receiving point, at harvest time itself while the sale has to be done throughout the year.

Information exchange goes beyond financial considerations. All participants in the system can better plan as a result of sales data collected over time, both in terms of the overall volume required and the timeliness of the requirement to schedule storage, shipment, and distribution. The growers would be able to determine the price that generates a respectable return on investment by estimating the whole market need for each year with monthly changes. Producing more than that may only result in rising expenses since there will be no market for the surplus. Growers and shippers will be increasingly closely connected to supply chain management as the produce industry transitions from the spot market to contracting.

A new operational environment in production agriculture is affected by that adjustment. The use of technology in the supply chain spans a wide range of areas, from factory automation to improved communication tools, data recognition equipment, and other automated hardware and services. Numerous supply chain procedures are being facilitated and improved by the use of technologies such as improved speech recognition, digital imaging, RFID, real-time location systems (RTLS), bar coding, GPS communication, enterprise resource planning (ERP), electronic data interchange (EDI) etc.

[8]

These IT-enabled infrastructure capabilities aid businesses in increasing productivity, cutting cycle times, guaranteeing timely delivery of goods and services, and enhancing overall supply chain agility

The brick-and-mortar supply chains have to address the following strategies:

- Supplier Management and procurement strategies; ensuring compliance to safety quality norms.
- Distribution Network Configuration: Number and location of suppliers, production facilities, centralized and intermediate warehouses, distribution centers and retail outlets, customers (at point-of-sales).
- Distribution Strategy: Centralized, decentralized or admixture, direct shipment, Cross docking, pull or push strategies, third party logistics.
- Product design: integrating the supply chain and load management operations with the infusion of new and existing products.
- Information: Collect, collate, and disseminate information by integrating the systems and processes throughout the supply chain; the data will include product specifications, inventory, customer feedback and demands, transportation and delivery etc
- Sourcing contracts and purchasing related decisions, and inventory management.
- Logistics management – dedicated partner and as-per-need bookings, own fleet, transportation strategy, including delivery and, if needed, return options.
- Daily order processing and distribution planning, including all nodes in the supply chain, outbound operations for transporting goods to customers.
- Cash-Flow: Arranging the payment terms and the methodologies for exchanging funds across entities, including customer payment mechanism

FACTORS RELATED TO SUPPLY CHAIN MANAGEMENT:

In general, the decision points in Supply Chain Management are location, production, inventory and transportation. At a strategic level, a unified decision making mechanism can guide and control the other supply chain nodes to coordinate and integrate various aspects of the supply chains activities, indicating possible solutions. At the operational level, one has to address the day-to-day issues and endeavor to provide good if not optimal solutions. [9]

In the brick-and-mortar retail, the supply chain networks should strive to work with a critical mass to ensure maximum efficiency at minimum cost of resource. The retail operations, and thus the supply chain operations too, are increasingly becoming customer-driven. As the supply chain is crossing national borders, the control is passing more and more into the hands of the global players. Thus the smaller chains are being swallowed up by mega chains, as one could see from the example of Amazon.com spreading its wings across the continents. [10]

CONCLUSION:

The utilization of important ideas from traditional supply chains, such as demand management, strategic sourcing, inventory management, supply synchronization, project management. The environment of services is also applicable to technology and other factors. In order to improve its strategies, SCM might, in turn, benefit from lessons learned in the service industry. In the services industry, the supply chain is made up of external parties in addition to internal resources, such as product vendors, specialized knowledge partners, subcontractors, etc.

The goal of the service supply chain is to utilize all of the capabilities along the chain to provide the customer with the best possible solution. Online supply chains essentially necessitate this. It's important to manage the complexity issues well. Regarding what will be outsourced and what will be done internally, it is crucial to have clear roles defined and long-term goals in place.

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