

Chapter 16: Supply Chain Management

Suppliers simply have to be included in the **operations process** as follows:

- Effectively **communicating** with the suppliers that:
 - Buying organization expects all its requirements to be met
 - Any problems/defects in the supplies need to be reworked
 - Attending Quality forums to review requirements
- Making suppliers as the part of the development process
- Focusing on **suppliers' cost structures** rather than their **prices**
- **Emphasizing long term relationships with fewer suppliers**
- Objectively evaluating **supplier performance** and selecting suppliers based on the results of these evaluations
- **Supplier surveys**
- **Objectivity:** When the production line stops, and the cause appears to be a non performing component from a supplier, everybody blames him. It is tough to be objective.
- For successful internal customer/supplier relationship, three basic questions to be asked to internal customers are:
 - What do you need from me?
 - What do you do with my output?
 - Are there any gaps between what you need and what you get?
- Purchasing department develop long-term relationships with a few suppliers rather than short term relationships with many suppliers.
- Although price is important, delivery schedules product quality and mutual trust and co-operation become the primary basis for the selection of suppliers.
- Suppliers are located near the buying firm's factory or clustered together at some distance. This will keep the lead times shorter and more reliable.
- Material is delivered in small standard size containers in exact quantities.
- Delivered material by the suppliers is inspected properly by the suppliers and is of good quality.

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- **Supply management professional** must identify the appropriate type of relationship. This team should be led by a leader having technical expertise and leadership qualities, communication and team skills. The task involves great challenges and great rewards such as job satisfaction and attractive compensation.

Strategic sourcing is defined as a systematic process that directs supply managers to plan, manage and develop the supply base in line with the firm's strategic objectives. Strategic sourcing is the application of current best practices to achieve the full potential of integrating suppliers into the long-term business process. It is a core process within the larger function of supply chain management. Strategic sourcing identifies new materials and technologies and the activities of competitors.

Supply chains: A supply chain consists of supplier, manufacturer, distributor, retailer and customer. It aims to match supply and demand, profitably for products and services. It achieves the right product, at the right price, at the right store, in the right quantity and quality, for the right customer, at the right time, and results into higher profits.

- Supply Chain Management deals with the management of materials, information, and financial flows in a network consisting of suppliers, manufacturers, distributors and customers.
- Supply Chain Management includes managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, and delivery to the customer.
- CUSTOMER is an integral part of any supply chain
- Concept of supply chain could be thought of as a loop. It starts with the customer and ends with the customer.
- Cycle view: processes in a supply chain are divided into a series of cycles, each performed at the interfaces between two successive supply chain stages

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- Push/pull view: processes in a supply chain are divided into two categories depending on whether they are executed in response to a customer order (pull) or in anticipation of a customer order (push)
- Cycle view of a supply chain:
 - Each cycle occurs at the interface between two successive stages
 - Customer order cycle (customer-retailer)
 - Replenishment cycle (retailer-distributor)
 - Manufacturing cycle (distributor-manufacturer)
 - Procurement cycle (manufacturer-supplier)
 - Cycle view clearly defines processes involved and the owners of each process. Specifies the roles and responsibilities
- In a push-based supply chain, production decisions are usually based on long-term forecasts
- In push-based strategies, SCM experience increased transportation costs, high inventory levels and high manufacturing costs
- In a pull-based supply chain, manufacturing is demand driven so that it is coordinated with actual external customer demand rather than a forecast
- Lead-time reduction occurs as the variabilities are better monitored in pull-based SCM
- Pull-based systems are often difficult to implement when lead times are so long that it is impractical to react to demand information.
- Hybrid of “push” and “pull” strategies to overcome disadvantages of each
 - Early stages of product assembly are done in a “push” manner
 - Partial assembly of product based on aggregate demand forecasts (which are more accurate than individual product demand forecasts)
 - Uncertainty is reduced so safety stock inventory is lower
 - Final product assembly is done based on customer demand for specific product configurations
 - Supply chain timeline determines “push-pull boundary”

• **Supply Chain Macro processes in a firm:**

Supplier	Firm	Customer
Supplier Relationship Management (SRM)	Internal Supply Chain Management (ISCM)	Customer Relationship Management (CRM)
<ul style="list-style-type: none"> ▪ Source ☐ Negotiate ☐ Buy ☐ Design collaboration ☐ Supply collaboration 	<ul style="list-style-type: none"> ▪ Strategic planning ☐ Demand planning ☐ Supply planning ☐ Fulfillment ☐ Field service 	<ul style="list-style-type: none"> ▪ Market Price ☐ Sell ☐ Call center ☐ Order management

- Supply chain processes discussed in the two views can be classified into
 - Customer Relationship Management (CRM)- interface between the firm and its customers
 - Internal Supply Chain Management (ISCM) – internal to the firm
 - Supplier Relationship Management (SRM) - interface between the firm and its suppliers

Supply chain strategy or design

- Decisions about the structure of the supply chain and what processes each stage will perform
- Strategic supply chain decisions
 - Locations and capacities of facilities
 - Products to be made or stored at various locations
 - Modes of transportation
 - Information systems

- Supply chain design must support strategic objectives
- Supply chain design decisions are long-term and expensive to reverse – must take into account market uncertainty

16.3.21 Supply chain planning

- **Planning decisions:**
 - Which markets will be supplied from which locations
 - Planned buildup of inventories
 - Subcontracting, backup locations
 - Inventory policies
 - Timing and size of market promotions
- Must consider in planning decisions demand uncertainty, exchange rates, competition over the time horizon

Supply chain operation:

- Time horizon is weekly or daily
- Decisions regarding individual customer orders
- Supply chain configuration is fixed and operating policies are determined
- Goal is to implement the operating policies as effectively as possible
- Allocate orders to inventory or production, set order due dates, generate pick lists at a warehouse, allocate an order to a particular shipment, set delivery schedules, place replenishment orders
- Much less uncertainty (short time horizon)

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