

20.6: Reading- Supply Chain Management

Supply Chain Management

Supply chain management is the management of the network of interconnected steps involved in the provision of product and service packages. The following video provides an overview of the importance of supply chain management, logistics, and some of the careers in this field.



A YouTube element has been excluded from this version of the text. You can view it online here: pb.libretexts.org/itbb/?p=164

Supply chain management (SCM) is the management of a network of interconnected businesses involved in the provision of product and service packages required by the end customers in a supply chain. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption.

Another definition is provided by the *APICS Dictionary*, when it defines SCM as the “design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally.”

Supply chain management must address the following problems:

- Distribution network configuration: number, location and network missions of suppliers, production facilities, distribution centers, warehouses, cross-docks and customers.
- Distribution strategy: questions of operating control (centralized, decentralized or shared); delivery scheme (e.g., direct shipment, pool point shipping, or cross docking), DSD (direct store delivery), closed loop shipping; mode of transportation (e.g., motor carrier, including truckload, LTL, or parcel); railroad; intermodal transport, including TOFC (trailer on flatcar), and COFC (container on flatcar); ocean freight; airfreight; replenishment strategy (e.g., pull, push or hybrid); and transportation control (e.g., owner-operated, private carrier, common carrier, contract carrier, or 3PL).

Trade-offs in logistical activities: The above activities must be well coordinated in order to achieve the lowest total logistics cost. Trade-offs may increase the total cost if only one of the activities is optimized. For example, full truckload (FTL) rates are more economical on a cost per pallet basis than less than truckload (LTL) shipments. If, however, a full truckload of a product is ordered to reduce transportation costs, there will be an increase in inventory holding costs, which may increase total logistics costs. It is, therefore, imperative to take a systems approach when planning logistical activities. These trade offs are key to developing the most efficient and effective Logistics and SCM strategy.

- Information: Integration of processes through the supply chain to share valuable information, including demand signals, forecasts, inventory, transportation, potential collaboration, etc.
- Inventory management: Quantity and location of inventory, including raw materials, work-in-process (WIP), and finished goods.
- Cash-flow: Arranging the payment terms and methodologies for exchanging funds across entities within the supply chain.
- Supply chain execution means managing and coordinating the movement of materials, information, and funds across the supply chain. The flow is bi-directional.

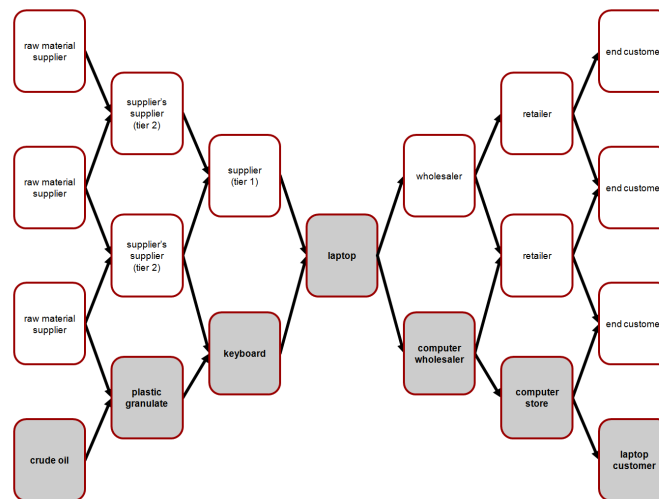


Figure 20.6.1: Supply Chain: A supply and demand network

KEY TAKEAWAYS

- Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption.
- Distribution Network Configuration: number, location, and network missions of suppliers; production facilities; distribution centers; warehouses; cross-docks; and customers.
- Supply chain management addresses the following issues: distribution network configuration, distribution strategy, logistical activities, information, and cash flow.

Check Your Understanding

Answer the question(s) below to see how well you understand the topics covered in this section. This short quiz does **not** count toward your grade in the class, and you can retake it an unlimited number of times.

Use this quiz to check your understanding and decide whether to (1) study the previous section further or (2) move on to the next section.

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