DESIGNING AND MANAGING THE SUPPLY CHAIN

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Solutions for Discussion Questions[1]

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[1] We would like to thank Shiming Deng for his valuable contribution to the preparation of this manual.

CHAPTER 1
INTRODUCTION TO SUPPLY CHAIN MANAGEMENT

Chapter Overview

This chapter introduces supply chain management (SCM) and describes how supply chain management is critical in today's global business. Supply chain management is described as a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements.

It is important to understand the basic issues underlying SCM and the challenges facing companies to achieve effective management of their supply chains. Various issues and factors are described in this chapter. Specifically, the concept of managing risk and uncertainty, global optimization, relationship of the supply chain to the development chain are discussed. The chapter also discussed how the area evolved through the years. The primary purpose of this chapter is to establish a context for SCM in the realm of globalization and to instill this sense of importance in the students. If you've accomplished that by the end of the chapter, you've established a solid foundation for the remainder of the course.

Discussion Questions

Question 1

Pick any car model manufactured by a domestic auto maker. For example, consider the 2002 Ford Thunderbird.

a. The supply chain for a car typically includes the following components::

   1. Suppliers for raw materials
   2. Suppliers for parts and subsystems
   3. Automobile manufacturer (Ford, in the example). Within a company, there are also different departments, which constitute the internal supply chain:
      i. Purchasing and material handling
      ii. Manufacturing
      iii. Marketing, etc.
   4. Transportation providers
   5. Automobile dealers

b. Many firms are involved in the supply chain.

   1. Raw material suppliers. For instance, suppliers for steel, rubber, plastics, etc.
   2. Parts suppliers. For instance, suppliers for engines, steering wheels, seats, and electronic components, etc.
   3. Automobile manufacturer. For instance, Ford.
   4. Transportation providers. For instance, shippers, trucking companies, railroads, etc.
   5. Automobile dealers. For instance, Hayward Ford.

c. All companies involved in the supply chain want to maximize their respective profits by increasing revenue and decreasing cost. However, companies may employ different strategies in order to achieve

this goal. Some of them focus on customer satisfaction and quick delivery, while others may be more concerned about minimizing inventory holding costs.

d. In general, different parts of the supply chain have objectives that are not aligned with each other.

1. Purchasing: Stable order quantities, flexible delivery lead times and little variation in mix.
2. Manufacturing: Long production runs, high quality, high productivity and low production costs.
3. Warehousing: Low inventory, reduced transportation costs and quick replenishment capability.
4. Customers: Short order lead times, a large variety of products and low prices.

Typically, the automobile dealer would like to offer a variety of car colors and configurations to accommodate different customer preferences, and meanwhile have a short delivery lead time from the manufacturer. However, in order to maximize the length of production runs, and utilize resources more efficiently, the manufacturer would like to aggregate orders from different dealers and offer less variety in car configurations. This is a clear example of conflicting marketing and manufacturing goals.

Question 2

a. The supply chain for a consumer mortgage offered by a bank may involve various components.

1. Marketing companies that handle solicitation to potential customers.
2. Credit reporting agencies that evaluate potential customers.
3. The bank that extends the mortgage loans.
4. Mortgage brokers through which the loans are distributed.

b. The marketing companies strive to increase the response rate from homebuyers in order to maximize their returns. Banks aim at a customer portfolio with a relatively low risk, healthy flow of payments and low average loan maturity date. The brokers would like to maximize their sales commissions.

c. Similar to product supply chains, the objective of a service supply chain is to provide what is needed (in this case, a particular type of service, rather than a physical product) at the right location, at the right time, and in a form that conforms to customer requirements while minimizing systemwide costs. However, there are a number of differences between the two types of supply chains. For instance:

1. In a product supply chain, there is both a flow of information and physical products. In a service supply chain, it is primarily information.
2. Contrary to a service supply chain, transportation and inventory are major cost components in a product supply chain.
3. Services typically cannot be held in inventory, so matching capacity with demand is frequently more important in a service supply chain.