TIM 125/225, LECTURE #3 (1/14/14)

Agenda

- Creating SC strategy (see above)

- Supply Chain Structure (DRIVERS)

- HW #1
SC Strategy

Summary

Each company & each supply chain needs to determine where it lies in the zone of strategic fit.

- Expand the scope of strategic fit to include:
  1. All the organizational functions in the company (product development, marketing, ...)
  2. All the stages in the entire supply chain

(See next page)
Stages in the SC

Suppliers, Manuf., Distr., Retailer, Customer

Organizational Functions

- Comp. strategy
- Prod. Dev. strategy
- Marketing strategy
- SC strategy

1. Intra-company, Intra-operations scope

Goal: Minimize the cost (or responsiveness) associated with a specific operation

E.g.: Manufacturer might want to reduce transportation cost by shipping individually for $5/item or in lots of 100 for $0.25/item.
2) Intra-company, Intra-functional scope

Goal: Minimize the cost associated with a function, in this case, SC function

Example: Balance transportation costs versus inventory management costs

- Smaller lot size → higher transportation costs but lower inventory costs (because of less storage)
- Larger lot size → lower transportation costs but higher inventory costs

3) Intra-company, Inter-functional scope

Goal: Maximize company profit (as in TIM 105/205)
e.g. Balance inventory levels vs. product availability to the customer

- SC group, in general, wants low level of inventory

- Sales & Marketing wants high product availability \(\Rightarrow\) high levels of inventory

④ Intercompany, interfunctional scope

Goal: Maximize SC profitability
(See lecture #1)

Information (tracking, collaborating, etc.) is important to achieving SC profitability
SC structure: designing SC drivers

Competitive strategy → "Position" of the company in the industry/market landscape: cost leader, differentiated focus

Supply Chain strategy → "Position" of the company in the zone of strategic fit

Efficiency (Low Cost)

Inventory, Facilities, Transportation, Information

Responsiveness
1. **Facilities**

Design of facilities include:

1. Number (how many?)
2. Location (where?)
3. Function (manufacturing, warehouse, …)
4. Capacity (how big?)

Trade-off is between cost of the facilities vs. responsiveness (e.g., more facilities located closer to customer.

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Efficiency</th>
<th>Responsiveness</th>
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<tbody>
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⇒ minimize the # of facilities

⇒ maximize the # of facilities

2. **Transportation**

   - What modes of transportation to use (air, water, land, …)
   - Routes
   - …

<table>
<thead>
<tr>
<th>Transportation</th>
<th>Efficiency</th>
<th>Responsiveness</th>
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⇒ slower modes of transportation

⇒ faster modes of transportation
3. Inventory
   Determine
   - Cycle inventory (nominal inventory to meet the average customer demand)
   - Safety inventory (to meet uncertainties in customer demand)

   \[ \text{Inventory} \]
   \[ \text{Efficiency} \quad ? \quad \text{Responsiveness} \]
   \[ \text{Low inventory levels} \quad \Rightarrow \quad \text{high inventory levels} \]

4. Information
   Information, Information Systems, and Info Tech can be used to make a SC both very responsive and very reliable.

   Read the chapters on
   - IT in a Supply Chain
   - Coordination in a SC
HW #1

Problem 1:

Enterprise Application Software

ERM → CRM → PLM → SCM

[Midterm, Prob #2]

- SAP
- ORACLE
- IBM
- MS

Problem 2

Digital Cameras
- Canon
- Nikon
- Sony
- Kodak
SC network for a Digital Camera (DC)

- Dissect the DC
- Stage representation (Lecture #1)
- SC Network (Lecture #2)