AGEC 632: AGRIBUSINESS LOGISTICS

Chapter 15.
Sourcing Decisions in a Supply Chain

2021

Manhattan, Kansas

Kansas State University Agricultural Economics

Learning Objectives

- Discuss factors that affect the decision to outsource a supply chain function
- Identify dimensions of supplier performance that affect total cost
- Design a tailored supplier portfolio
- Describe the impact of incentives on the behavior of third-parties in a supply chain.
- Discuss the benefits of sharing risk and reward in a supply chain.

The Sourcing Decision in a Supply Chain

The Role of Sourcing in a Supply Chain

Pricing (procurement) is the process which companies acquire raw materials from suppliers to execute their operations

Sourcing is the set of business processes required to purchase goods and services –

- Outsourcing
- Offshoring

The Role of Sourcing in a Supply Chain

Outsourcing questions

1. Will the third party increase the supply chain surplus relative to performing the activity in-house?

2. To what extent do risks grow upon outsourcing?

3. Are there strategic reasons to keep the activity in-house?

How Do Third Parties Increase the Inhouse Surplus?

Increase supply chain surplus through

1. Capacity aggregation

2. Inventory aggregation

3. Transportation aggregation by transportation intermediaries

How Do Third Parties Increase the Inhouse Surplus?

- Increase supply chain surplus through

    4. Transportation aggregation by storage intermediaries

    5. Warehousing aggregation

    6. Procurement aggregation

How Do Third Parties Increase the Inhouse Surplus?

- Increase supply chain surplus through

  7. Information aggregation

  8. Receivables aggregation

  9. Relationship aggregation

  10. Lower costs and higher quality

Risks of Using a Third Party

1. The process is broken
2. Underestimation of the cost of coordination
3. Reduced customer/supplier contact
4. Loss of internal capability and growth in third party power
5. Leakage of sensitive data and information
6. Ineffective contracts
7. Loss of supply chain visibility
8. Negative reputational impact

Total Cost of Ownership

Supplier Scoring and Assessment

- Supplier performance should be compared on the basis of the supplier’s impact on *total cost of ownership (TCO)*

- There are several other factors besides purchase price that influence TCO
  - Acquisition costs, ownership costs, and post-ownership costs

Supplier Scoring and Assessment

Acquisition costs include all costs associated with the purchase of material from a supplier until it reaches the buyer and is ready for use.

Ownership costs include all costs associated with the purchased part from when it arrives from the supplier to with the finished product is sold to the customer.

Post- ownership costs include all costs incurred by The Firm after the finished product has reached the End customer.

Designing a Sourcing Portfolio: Tailored Sourcing

Designing a Sourcing Portfolio: Tailored Sourcing

Options with regard to whom and where to source from

Whom:

- Produce in-house or outsource to a third party
- Will the source be cost efficient or responsive

Where:

- Onshoring, near-shoring, and offshoring

Designing a Sourcing Portfolio: Tailored Sourcing

Regard to the where, a company can choose among

- Onshoring
- Nearshoring
- Offshoring

Tailored Sourcing

A firm uses a combo of two supply sources

- One focused on cost but unable to handle uncertainty well
- One focused on flexibility or responsiveness, but at a higher cost

➢ Volume-based tailored sourcing
➢ Product- based sourcing

Designing a Sourcing Portfolio: Tailored Sourcing

	Responsive Source	Low-Cost Source
Product life cycle	Early phase	Mature phase
Demand volatility	High	Low
Demand volume	Low	High
Product value	High	Low
Rate of product obsolescence	High	Low
Desired quality	High	Low to medium
Engineering/design support	High	Low

Table 15-8

Designing a Sourcing Portfolio: Tailored Sourcing

	Onshore	Near-shore	Offshore
Rate of innovation/product variety	High	Medium to High	Low
Demand volatility	High	Medium to High	Low
Labor content	Low	Medium to High	High
Volume or weight-to-value ratio	High	High	Low
Impact of supply chain disruption	High	Medium to High	Low
Inventory costs	High	Medium to High	Low
Engineering/management support	High	High	Low

Table 15-9

Differences Between Direct and Indirect Materials

	Direct Materials	Indirect Materials
Use	Production	Maintenance, repair, and support operations
Accounting	Cost of goods sold	Selling, general, and administrative expenses (SG&A)
Impact on production	Any delay will delay production	Less direct impact
Processing cost relative to value of transaction	Low	High
Number of transactions	Low	High

Table 15-7

The Impact of Inconveniences on Third-Party Behavior

The Impact of Inconveniences

Hockey Stick Phenomenon-

- Sales peak close to the end of an evaluation period to pass the threshold for the incentive

Offer incentives over a rolling horizon instead

Sharing Risk and Reward in the SC

Sharing Risk in the Supply Chain

Independent actions taken by two parties in the supply chain often result in profits that are lower than those that could be achieved if all parties in the supply chain were to coordinate their actions with a common objective of maximizing supply chain profits rather than individual firm profits.

Sharing Risk in the Supply Chain

1. Buybacks or returns
2. Revenue sharing
3. Quantity flexibility

Sharing Risk in the Supply Chain

1. Buybacks or returns

Holding-cost subsidies

Manufacturers pay retailers a certain amount for every unit held in inventory over a given period

Sharing Risk in the Supply Chain

2. Revenue sharing

- In revenue-sharing contracts, the manufacturer charges the retailer a lower wholesale price, but shares a fraction of the retailer's revenue

Sharing Risk in the Supply Chain

3. Quantity Flexibility

- Under quantity flexibility contracts, the manufacturer allows the retailer to change the quantity ordered (within limits) closer to the point of sale or after observing demand

Sharing Rewards in the Supply Chain

Shared-savings contract

- The supplier gets a fraction of the savings the result from improved performance

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Simulations:
The Beer Game

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