

Supply Chain Management, 6e (Chopra/Meindl)
Chapter 15 Sourcing Decisions in a Supply Chain

15.1 True/False Questions

1) Sourcing processes include the selection of suppliers, design of supplier contracts, product design collaboration, procurement of material, and evaluation of supplier performance.

Answer: TRUE

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

2) A good supplier scoring and assessment process will primarily track performance along the price dimension when evaluating a supplier.

Answer: FALSE

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

3) Design collaboration ensures that any design changes are communicated effectively to all parties involved with designing and manufacturing the product.

Answer: TRUE

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

4) The goal of procurement is to enable orders to be placed and delivered on schedule at the lowest possible price.

Answer: TRUE

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

5) Effective sourcing processes within a firm can improve profits for the firm and total supply chain surplus in a variety of ways.

Answer: TRUE

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

6) As the replenishment lead time from a supplier grows, the amount of safety inventory that needs to be held by the buyer also grows in direct proportion to the replenishment lead time.

Answer: FALSE

Diff: 3

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

7) A reliable supplier has low variability of lead time, whereas an unreliable supplier has high variability.

Answer: TRUE

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

8) As the replenishment lot size grows, the cycle inventory at the firm grows, thus increasing the cost of holding inventory.

Answer: TRUE

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

9) Quantity discounts lower the unit cost and tend to increase the required batch size.

Answer: FALSE

Diff: 1

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

10) The value of better information coordination will be linked to the amount of variability introduced into the supply chain as a result of the bullwhip effect.

Answer: TRUE

Diff: 3

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

11) Supplier viability can be especially important if the supplier is providing mission-critical products and it would be easy to find a replacement for them.

Answer: FALSE

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

12) Having multiple sources ensures a degree of competition and also the possibility of a backup, should a source fail to deliver.

Answer: TRUE

Diff: 2

Topic: 15.5 Supplier Selection-Auctions and Negotiations

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

13) Unless adding a supplier with a unique and valuable capability clearly adds to total cost, the firm's supply base may be too small.

Answer: TRUE

Diff: 2

Topic: 15.5 Supplier Selection-Auctions and Negotiations

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

14) To improve overall profits, the supplier must design a contract that requires the buyer to share in some of the supplier's demand uncertainty.

Answer: FALSE

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

15) Buyback contracts counter double marginalization by lowering the cost of overstocking for the retailer.

Answer: TRUE

Diff: 1

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

16) Revenue-sharing contracts counter double marginalization by decreasing the cost per unit charged to the retailer, thus effectively decreasing the cost of understocking.

Answer: FALSE

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

17) Quantity flexibility contracts counter double marginalization by giving the retailer the ability to modify the order based on improved forecasts closer to the point of sale.

Answer: TRUE

Diff: 1

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

18) Two-part tariffs and threshold contracts can be used to counter double marginalization and increase agent effort in a supply chain.

Answer: TRUE

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

19) The procurement process for indirect materials should focus on decreasing the transaction cost for each order.

Answer: TRUE

Diff: 2

Topic: 15.8 Designing a Sourcing Portfolio: Tailored Sourcing

AACSB: Application of knowledge

Objective: LO 15.5: Design a tailored supplier portfolio.

20) Supplier performance analysis should be used to build a portfolio of suppliers with similar strengths.

Answer: FALSE

Diff: 2

Topic: 15.8 Designing a Sourcing Portfolio: Tailored Sourcing

AACSB: Application of knowledge

Objective: LO 15.5: Design a tailored supplier portfolio.

15.2 Multiple Choice Questions

1) The process by which companies acquire raw materials, components, products, services, and other resources from suppliers to execute their operations is

A) procurement.

B) sourcing.

C) supplier scoring and assessment.

D) supplier selection.

Answer: A

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

2) The entire set of business processes required to purchase goods and services is

- A) procurement.
- B) sourcing.
- C) supplier scoring and assessment.
- D) supplier selection.

Answer: B

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

3) Using the output from supplier scoring and assessment to identify the appropriate supplier(s) is

- A) procurement.
- B) sourcing.
- C) supplier scoring and assessment.
- D) supplier selection.

Answer: D

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

4) Cost of Goods Sold (COGS) represents

- A) less than 20 percent of sales for most major manufacturers.
- B) less than 50 percent of sales for most major manufacturers.
- C) well over 50 percent of sales for most major manufacturers.
- D) well over 80 percent of sales for most major manufacturers.

Answer: C

Diff: 3

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

5) Effective sourcing processes within a firm can

- A) improve profits for the firm and total supply chain surplus.
- B) reduce profits for the firm and total supply chain surplus.
- C) reduce total supply chain surplus.
- D) reduce profits for the firm.

Answer: A

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

- 6) When designing a sourcing strategy, it is important for a firm to
- A) develop a process that will procure materials at the lowest possible cost.
 - B) maintain a record of all contracts, receipts, issues and other transactions in the event of lawsuits.
 - C) maximize the profitability of the distributors within the supply chain.
 - D) be clear on the factors that have the greatest influence on performance and target improvement on those areas.

Answer: D

Diff: 3

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

- 7) Supplier performance must be rated on many different factors because
- A) the factors impact the total supply chain cost.
 - B) the factors minimize the supply chain involvement.
 - C) the factors reduce the impact of price.
 - D) the factors maximize the supply chain price.

Answer: A

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

- 8) Which of the following is a traditional logistics driver of sourcing?
- A) Pricing
 - B) Inventory
 - C) Sourcing
 - D) Information

Answer: B

Diff: 1

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

- 9) The decision to have a third party perform a supply chain function is called
- A) insourcing.
 - B) outsourcing.
 - C) offshoring.
 - D) onshoring.

Answer: B

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

10) The decision to move a production facility outside of domestic boundaries and still maintain ownership is called

- A) insourcing.
- B) outsourcing.
- C) offshoring.
- D) onshoring.

Answer: C

Diff: 2

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

11) A third party can increase the supply chain surplus by aggregating demand across multiple firms and gaining production economies of scale that no single firm can on its own. This is called

- A) capacity aggregation.
- B) inventory aggregation.
- C) warehouse aggregation.
- D) relationship aggregation.

Answer: A

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

12) An intermediary can increase the supply chain surplus by aggregating inventories across large numbers of customers. This is called

- A) capacity aggregation.
- B) inventory aggregation.
- C) warehouse aggregation.
- D) relationship aggregation.

Answer: B

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

13) An third party may increase the supply chain surplus by aggregating warehousing needs over several firms. This is called

- A) capacity aggregation.
- B) inventory aggregation.
- C) warehouse aggregation.
- D) relationship aggregation.

Answer: C

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

14) An intermediary can increase the supply chain surplus by decreasing the number of relationships required between multiple buyers and sellers. This is called

- A) capacity aggregation.
- B) inventory aggregation.
- C) warehouse aggregation.
- D) relationship aggregation.

Answer: D

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

15) An third party can increase the supply chain surplus if it has a lower collection cost than the firm. This is called

- A) receivables aggregation.
- B) procurement aggregation.
- C) information aggregation.
- D) relationship aggregation.

Answer: A

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

16) A third party increases the supply chain surplus if it aggregates the sourcing for many small players and facilitates economies of scale in ordering, inbound transportation and production.

This is called

- A) capacity aggregation.
- B) procurement aggregation.
- C) information aggregation.
- D) relationship aggregation.

Answer: B

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

17) Craigslist and eBay are examples of

- A) receivables aggregation.
- B) inventory aggregation.
- C) information aggregation.
- D) relationship aggregation.

Answer: C

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

18) W.W. Grainger and McMaster Carr stock products from more than a thousand manufacturers each to sell to hundreds of thousands of customers and are sterling examples of

- A) transportation aggregation by transportation intermediaries.
- B) inventory aggregation.
- C) warehouse aggregation.
- D) transportation aggregation by storage intermediaries.

Answer: D

Diff: 2

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

19) Using a third party requires a firm to share demand information and in some cases intellectual property. This risk would be described as

- A) leakage of sensitive data and information.
- B) underestimation of the cost of coordination.
- C) reduced customer/supplier contact.
- D) loss of internal capability.

Answer: A

Diff: 1

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

20) Scoring the performance of suppliers in terms of replenishment lead time thus allows the firm to evaluate the impact each supplier has on

- A) the cost of holding cycle inventory.
- B) the cost of holding replacement inventory.
- C) the purchase price of material.
- D) the cost of holding safety inventory.

Answer: D

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

21) The selection of suppliers, design of supplier contracts, product design collaboration, procurement of material, and evaluation of supplier performance are a part of

- A) procurement.
- B) sourcing.
- C) supplier scoring and assessment.
- D) supplier selection.

Answer: B

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

22) Price has traditionally been the only dimension that suppliers have been compared on during the process of

- A) procurement.
- B) sourcing.
- C) supplier scoring and assessment.
- D) supplier selection.

Answer: C

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

23) The goal of procurement is

- A) to analyze spending across various suppliers and component categories to identify opportunities for decreasing the total cost.
- B) to analyze spending across various suppliers and component categories to identify opportunities for increasing the total cost.
- C) to enable orders to be placed and delivered on schedule at the lowest possible overall cost.
- D) to enable orders to be placed and delivered on schedule regardless of cost.

Answer: C

Diff: 3

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

24) The role of sourcing planning and analysis is

- A) to analyze spending across various suppliers and component categories to identify opportunities for decreasing the total cost.
- B) to analyze spending across various suppliers and component categories to identify opportunities for increasing the total cost.
- C) to enable orders to be placed and delivered on schedule at the lowest possible overall cost.
- D) to enable orders to be placed and delivered on schedule regardless of cost.

Answer: A

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

25) Consider the factors influencing total cost and supplier performance. Which of the following is the LEAST quantifiable factor?

- A) Supplier price
- B) Supplier terms
- C) Support
- D) Warehousing cost

Answer: C

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

26) Sourcing a product overseas may have

- A) higher product cost and will generally incur a higher inbound transportation cost.
- B) higher product cost but will generally incur a lower inbound transportation cost.
- C) lower product cost and will generally incur a lower inbound transportation cost.
- D) lower product cost but will generally incur a higher inbound transportation cost.

Answer: D

Diff: 1

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

27) Quantity discounts lower the unit cost

- A) but tend to increase the required batch size and as a result, reduce the cycle inventory.
- B) but tend to increase the required batch size and as a result the cycle inventory.
- C) and tend to reduce the required batch size and as a result the cycle inventory.
- D) and tend to reduce the required batch size and as a result, increase the cycle inventory.

Answer: B

Diff: 3

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

28) Good design collaboration for manufacturability and supply chain can

- A) reduce product cost.
- B) increase required inventories.
- C) increase transportation cost.
- D) decrease manufacturability.

Answer: A

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

29) The viability of suppliers is especially important for suppliers who

- A) provide mission-critical products that would be easy to replace.
- B) provide mission-critical products that would be difficult to replace.
- C) provide non-critical products that would be difficult to replace.
- D) provide non-critical products that would be easy to replace.

Answer: B

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

30) Supplier performance should be compared based on

- A) purchase price alone.
- B) its impact on total cost.
- C) the supplier's quality of material.
- D) the ability of the supplier to coordinate forecasting and planning.

Answer: B

Diff: 3

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

31) Single sourcing for a product is used to

- A) guarantee the supplier sufficient business when the supplier has to make a significant buyer-specific investment.
- B) ensure a degree of competition.
- C) ensure the possibility of a backup should a source fail to deliver.
- D) control all possible sources of supply in the market.

Answer: A

Diff: 1

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

- 32) To create a win-win negotiation, the two parties must
- A) guarantee each other an agreed upon level of business.
 - B) identify more than one issue to negotiate.
 - C) identify an impartial mediator to oversee the negotiations.
 - D) possess an equivalent level of power.

Answer: B

Diff: 2

Topic: 15.5 Supplier Selection-Auctions and Negotiations

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

- 33) The difference between the values of the buyer and seller is referred to as the
- A) value discrepancy.
 - B) spread.
 - C) bargaining surplus.
 - D) negotiation gap.

Answer: C

Diff: 2

Topic: 15.5 Supplier Selection-Auctions and Negotiations

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

- 34) A contract that allows a retailer to return unsold inventory up to a specified amount, at an agreed upon price is a
- A) buyback or returns contract.
 - B) revenue-sharing contract.
 - C) quantity flexibility contract.
 - D) quantity discount contract.

Answer: A

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

- 35) A contract where the buyer pays a minimal amount for each unit purchased from the supplier but shares a fraction of the revenue for each unit sold is a
- A) buyback or returns contract.
 - B) revenue-sharing contract.
 - C) quantity flexibility contract.
 - D) quantity discount contract.

Answer: B

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

36) A contract that allows the buyer to modify the order (within limits agreed to by the supplier) as demand visibility increases closer to the point of sale is a

- A) buyback or returns contract.
- B) revenue-sharing contract.
- C) quantity flexibility contract.
- D) quantity discount contract.

Answer: C

Diff: 3

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

37) A contract that decreases overall costs but leads to higher lot sizes and thus higher levels of inventory in the supply chain is a

- A) buyback or returns contract.
- B) revenue-sharing contract.
- C) quantity flexibility contract.
- D) quantity discount contract.

Answer: D

Diff: 3

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

38) A contract that is used to induce performance improvement from a supplier along dimensions, such as lead time, where the benefit of improvement accrues primarily to the buyer, whereas the effort for improvement comes primarily from the supplier is a

- A) buyback or returns contract.
- B) revenue-sharing contract.
- C) quantity flexibility contract.
- D) shared savings contract.

Answer: D

Diff: 3

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

39) A downside to which contract is that it leads to surplus inventory that must be salvaged or disposed?

- A) Buyback or returns contract
- B) Revenue-sharing contract
- C) Quantity flexibility contract
- D) Hybrid contract

Answer: A

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

40) Which type of contract is used when agents act on behalf of a principal and the dealer's margin is set to be the same as the supply chain margin, and the dealer exerts the right amount of effort?

- A) Buyback or returns contract
- B) Revenue-sharing contract
- C) Quantity flexibility contract
- D) Two-part tariffs

Answer: D

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

41) Which contract increases the margin for the dealer as sales cross certain levels?

- A) Buyback or returns contract
- B) Revenue-sharing contract
- C) Quantity flexibility contract
- D) Threshold contract

Answer: D

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

Scenario 15.1 - The Jerk Store

George takes an eclectic mix of spices to make his authentic jerk seasoning as a rub for chicken, pork, and fish. The ingredients and packaging cost \$1.50 and he sells the packets by the case to Jerk Stores in the Caribbean for \$2.50 per packet. Tourists to the islands gladly pay \$8.75 for these packets, eager to host their friends for an authentic Caribbean meal and bore them with vacation photos upon their return. The demand for the packets is normally distributed, with a mean of 2500 packets and a standard deviation of 600.

42) If each Jerk Store location is acting independently, how many packets of seasoning should they stock?

- A) 2840
- B) 3069
- C) 3233
- D) 3678

Answer: A

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Analytical thinking

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

43) If each Jerk Store location is acting independently, what is their expected profit if they stock an optimal quantity?

- A) \$13,521
- B) \$13,840
- C) \$16,680
- D) \$16,789

Answer: B

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Analytical thinking

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

44) If George and a single Jerk Store act as a vertically integrated supply chain, what is the optimal quantity for the Jerk Store to order?

- A) 2633
- B) 2840
- C) 3069
- D) 3267

Answer: C

Diff: 2

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Analytical thinking

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

45) If George and a single Jerk Store act as a vertically integrated supply chain, what is the total supply chain expected profit if an optimal order quantity is placed?

- A) \$16,462
- B) \$16,571
- C) \$16,680
- D) \$16,789

Answer: D

Diff: 3

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Analytical thinking

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

46) Sales efforts and orders peak near the end of any month, quarter, or other evaluation period.

This is commonly referred to as

- A) the hockey stick phenomenon.
- B) the student syndrome.
- C) Murphy's Law.
- D) the Central Limit Theorem.

Answer: A

Diff: 2

Topic: 15.7 The Impact of Incentives When Outsourcing

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

47) Understanding the impact of incentives on the actions of a supply chain partner is especially important when

- A) there are two or more members in the supply chain.
- B) the third party's actions are not fully observable.
- C) more than two firms competing for the same pool of customers.
- D) the supply chain uses outsourcing.

Answer: B

Diff: 2

Topic: 15.7 The Impact of Incentives When Outsourcing

AACSB: Application of knowledge

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

48) The procurement process for direct materials should focus on

- A) improving coordination and visibility with the supplier.
- B) decreasing the transaction cost for each order.
- C) consolidation of orders to take advantage of economies of scale and quantity discounts.
- D) minimizing communication with the supplier.

Answer: A

Diff: 2

Topic: 15.8 Designing a Sourcing Portfolio: Tailored Sourcing

AACSB: Application of knowledge

Objective: LO 15.5: Design a tailored supplier portfolio.

- 49) The procurement process for indirect materials should focus on
- A) improving coordination and visibility with the supplier.
 - B) decreasing the transaction cost for each order.
 - C) consolidation of orders to take advantage of economies of scale and quantity discounts.
 - D) minimizing communication with the supplier.

Answer: B

Diff: 2

Topic: 15.8 Designing a Sourcing Portfolio: Tailored Sourcing

AACSB: Application of knowledge

Objective: LO 15.5: Design a tailored supplier portfolio.

- 50) The procurement process for both direct and indirect materials should work on
- A) improving coordination and visibility with the supplier.
 - B) decreasing the transaction cost for each order.
 - C) consolidation of orders to take advantage of economies of scale and quantity discounts.
 - D) minimizing communication with the supplier.

Answer: C

Diff: 2

Topic: 15.8 Designing a Sourcing Portfolio: Tailored Sourcing

AACSB: Application of knowledge

Objective: LO 15.5: Design a tailored supplier portfolio.

15.3 Essay Questions

- 1) What are some of the benefits of effective sourcing decisions?

Answer: Effective sourcing processes within a firm can improve profits for the firm and total supply chain surplus in a variety of ways. It is important that the drivers of improved profits be clearly identified when making sourcing decisions. Some of the benefits from effective sourcing decisions are the following:

- Better economies of scale can be achieved if orders within a firm are aggregated.
- More efficient procurement transactions can significantly reduce the overall cost of purchasing. This is most important for items where a large number of low-value transactions occur.
- Design collaboration can result in products that are easier to manufacture and distribute, resulting in lower overall costs. This factor is most important for supplier products that contribute a significant amount to product cost and value.
- Good procurement processes can facilitate coordination with the supplier and improve forecasting and planning. Better coordination lowers inventories and improves the matching of supply and demand.
- Appropriate supplier contracts can allow for the sharing of risk, resulting in higher profits for both the supplier and the buyer.
- Firms can achieve a lower purchase price by increasing competition through the use of auctions.

Diff: 3

Topic: 15.1 The Role of Sourcing in a Supply Chain

AACSB: Application of knowledge

Objective: LO 15.1: Understand the role of sourcing in a supply chain.

2) What factors should be considered when making sourcing decisions?

Answer: When designing a sourcing strategy, it is important for a firm to be clear on the factors that have the greatest influence on performance and target improvement on those areas. For example, if most of the spending for a firm is on materials with only a few high-value transactions, improving the efficiency of procurement transactions will provide little value, whereas improving design collaboration and coordination with the supplier will provide significant value. In contrast, when sourcing items with many low-value transactions, increasing the efficiency of procurement transactions will be very valuable.

When scoring and assessing suppliers, the following factors other than quoted price must be considered:

- Replenishment lead time
- On-time performance
- Supply flexibility
- Delivery frequency/minimum lot size
- Supply quality
- Inbound transportation cost
- Pricing terms
- Information coordination capability
- Design collaboration capability
- Exchange rates, taxes, and duties
- Supplier viability

Supplier performance must be rated on each of these factors because they impact the total supply chain cost.

Diff: 3

Topic: 15.2 In-House or Outsource?

AACSB: Application of knowledge

Objective: LO 15.2: Discuss factors that affect the decision to outsource a supply chain function.

3) Why should replenishment lead time be considered in supplier selection decisions?

Answer: As the replenishment lead time from a supplier grows, the amount of safety inventory that needs to be held by the buyer also grows proportional to the square root of the replenishment lead time. Lead time performance by a supplier can directly be translated into the required safety inventory. Scoring the performance of suppliers in terms of replenishment lead time thus allows the firm to evaluate the impact each supplier has on the cost of holding safety inventory.

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

4) Why should on-time performance be considered in supplier selection decisions?

Answer: On-time performance affects the variability of the lead time. A reliable supplier has low variability of lead time, whereas an unreliable supplier has high variability. As the variability of lead time grows, the required safety inventory at the firm grows very rapidly. On-time performance can be translated into lead time variability, which is converted to required safety inventory. A firm can evaluate the impact of poor on-time performance by a supplier on the cost of holding safety inventory.

Diff: 2

Topic: 15.4 Total Cost of Ownership

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

5) What issues need to be considered when evaluating capability for design collaboration?

Answer: Key themes that must be communicated to suppliers as they take greater responsibility for design are design for logistics and design for manufacturability. Design for logistics attempts to reduce transportation, handling, and inventory costs during distribution by taking appropriate actions during design. To reduce transportation and handling costs, the manufacturer must convey expected order sizes from retailers and the end consumer to the designer. Packages can then be designed such that transportation cost is lowered and handling is minimized. To reduce transportation cost, packaging is kept as compact as possible and is also designed to ensure easy stacking. To reduce handling costs, package sizes are designed to minimize the need to break open a pack to fulfill an order.

To reduce inventory costs, the primary approach is to design the product for postponement and mass customization. Postponement strategies aim to design a product and production process such that features that differentiate end products are introduced late in the manufacturing phase. Design for manufacturability attempts to design products for ease of manufacture. Some of the key principles used include part commonality, eliminating right-hand and left-hand parts, designing symmetrical parts, combining parts, using catalog parts rather than designing a new part, and designing parts to provide access for other parts and tools.

Diff: 2

Topic: 15.5 Supplier Selection-Auctions and Negotiations

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.

Scenario 15.1 - The Jerk Store

George takes an eclectic mix of spices to make his authentic jerk seasoning as a rub for chicken, pork, and fish. The ingredients and packaging cost \$1.50 and he sells the packets by the case to Jerk Stores in the Caribbean for \$2.50 per packet. Tourists to the islands gladly pay \$8.75 for these packets, eager to host their friends for an authentic Caribbean meal and bore them with vacation photos upon their return. The demand for the packets is normally distributed, with a mean of 2500 packets and a standard deviation of 600.

6) What is the difference in order quantity and profit achieved if George and The Jerk Store act independently versus if they behaved as a vertically integrated supply chain?

Answer: For The Jerk Store, the cost of understocking is \$6.25 and the cost of overstocking is \$2.50. The order size should be 2840 with an expected overstock of 446 units and an expected understock of 107 units. The Jerk Store's expected profit is \$13,840 and George's expected profit is \$2,840.

Contrast this with a supply chain overstock cost of \$1.50 and understock cost of \$7.25. The optimal order quantity for the supply chain is 3069 and the expected overstock and understock amounts are 624 units and 55 units respectively. The total supply chain expected profit is then \$16,789, an increase of \$109, more than enough for George to have a fine shrimp dinner with his share.

Diff: 3

Topic: 15.6 Sharing Risk and Reward in the Supply Chain

AACSB: Analytical thinking

Objective: LO 15.4: Describe the benefits of sharing risk and reward.

7) Why should design collaboration capability be considered in supplier selection decisions?

Answer: Given that a large part of product cost is fixed at design, collaboration capability of a supplier is significant. Good design collaboration for manufacturability and supply chain can also decrease required inventories and transportation cost. As manufacturers are increasingly outsourcing both the design and manufacture of components, their ability to coordinate design across many suppliers is critical to the ultimate success of the product and the speed of introduction. As a result, design collaboration capability of suppliers is becoming increasingly important.

Diff: 2

Topic: 15.9 Making Sourcing Decisions in Practice

AACSB: Application of knowledge

Objective: LO 15.3: Identify dimensions of supplier performance that affect total cost.