**PART II**

**ANSWERS TO END-OF-CHAPTER QUESTIONS**

**CHAPTER 1: AN OVERVIEW OF LOGISTICS**

1-1. Did it surprise you that logistics has such an important economic impact? Why or why not?

The answer to this question likely depends on the student’s prior exposure to logistics. A typical student in an undergraduate, introductory logistics course likely has had limited exposure to and knowledge about logistics and thus might be unaware as to logistics’ economic impact. As such, a student might be pleasantly surprised to learn that logistics is important for a country’s economic growth and development.

1-2. Distinguish between possession, form, time, and place utility.

Possession utility refers to the value or usefulness that comes from a customer being able to take possession of a product and can be influenced by the relevant payment terms. Form utility refers to a product’s being in a form that (1) can be used by the customer and (2) is of value to the customer. Time utility refers to having products available when they are needed by customers while place utility refers to having products available where they are needed by customers.

1-3. How does logistics contribute to time and place utility?

Logistics contributes to time utility by recognizing that different products have different sensitivities to time. For example, a three-day-late delivery of bananas likely has more serious consequences than a three-day-late delivery of a box of pencils. As for place utility, logistics facilitates the movement of products from points of lesser value to points of greater value.

1-4. How can a particular logistics system be effective but not efficient?

Effectiveness can be thought of as “how well a company does what it says it’s going to do;” efficiency focuses on how well (or poorly) company resources are used to achieve what a company promises it can do. There are a multitude of examples that would illustrate an effective, but inefficient, logistics system. For example, some companies routinely use premium and expedited methods of transportation—which increase transportation costs—to meet customer delivery requirements. As such, the logistics system could be considered effective (meeting delivery deadlines) but perhaps not efficient (increased transportation costs).

1-5. Explain the significance of the fact that the purpose of logistics is to meet customer requirements.

One reason for this significance is that meeting customer requirements means that companies must know—rather than assume—customer needs and wants. This knowledge is facilitated by communication between companies and their customers. Even today, some companies are hesitant to communicate with customers. In addition, meeting customer requirements means that a one-size-fits-all approach to logistics will result in some customers being overserved and others being underserved. As a result, companies should consider a tailored logistics approach, where groups of customers who have similar logistical needs and wants are provided with the appropriate logistical services.

1-6. Explain how an understanding of logistics management could be relevant to your favorite charitable organization.

There are any number of examples that can be used. The textbook mentions the Food Bank of New York City; from a logistical perspective, the Food Bank of New York City is responsible for collecting, sorting, repacking, and distributing food from its 90,000 square-foot warehouse.

1-7. How has a reduction in economic regulation contributed to the increased importance of logistics?

Reductions in economic regulation in the United States allowed individual carriers flexibility in pricing and service, and this flexibility was important to logistics for several reasons. First, it provided companies with the capability to implement the tailored logistics approach in the sense that companies could specify different logistics service levels and prices could be adjusted accordingly. Second, the increased pricing flexibility allowed large buyers of transportation services to reduce their transportation costs by leveraging large amounts of freight with a limited number of carriers.

1-8. Discuss the logistical implications associated with the increased emphasis on the convenience associated with a family’s shopping experience.

This convenience is manifested in various ways to include extended store hours, home delivery of purchased items, and ready-to-eat/ready-to-cook foods. From a logistics perspective, extended store hours force retailers to address issues such as the optimal delivery times for replenishment trucks and when to replenish merchandise. A logistical challenge with home delivery is the coordination of delivery times with the purchaser’s ability to receive the item(s). Finally, ready-to-eat-ready-to-cook foods have different packaging requirements, and food processors continue to experiment with packaging alternatives that will extend the shelf life of ready-to-cook foods.

1-9. What are some ways in which technology has impacted logistics management?

Technological advances have influenced channel design by allowing companies to offer an alternate distribution channel (or alternate distribution channels) to already existing channels. Technological advances can also improve the productivity of the order picking process, which traditionally involved paper pick tickets. Today, by contrast, order picking can utilize radio frequency devices, voice-directed picking, and robotic picking. Shipment tracking provides another example of how technological advances have impacted logistics management. Global positioning systems can provide real-time location information about a shipment, as well as provide information about a vehicle’s temperature, humidity, and vibrations.

1-10. Explain how big-box retailers are logistical trendsetters.

The logistics practices of big-box retailers are often viewed as barometers for emerging logistics trends. Big-box retailers have also been trendsetters with respect to environmental and social issues in logistics. As an example, one of Best Buy’s sustainability goals for 2020 is to recycle one billion pounds of consumer goods.

1-11. What is the systems approach to problem solving? How is this concept applicable to logistics management?

The systems approach to problem solving suggests that a company’s objectives can be realized by recognizing the mutual interdependence of its major functional areas, such as marketing, production, finance, and logistics. As such, decisions made by one functional area can have important implications for the other functional areas. With respect to logistics, the systems approach suggests that one should recognize the mutual interdependence of the various activities that constitute the logistics function. Thus, a transportation decision may impact inventory, warehousing, and packaging, among others.

1-12. Distinguish between materials management and physical distribution.

Materials management refers to the movement and storage of materials into a firm while physical distribution refers to the storage of finished product and movement to the customer.

1-13. Explain what is meant by the total cost approach to logistics.

The total cost approach to logistics is built on the premise that all relevant activities in moving and storing products should be considered as a whole (i.e., their total cost) and not individually. Use of the total cost approach requires an understanding of cost trade-offs. In other words, changes to one logistics activity cause some costs to increase and others to decrease. The key to the total cost approach is that all relevant cost items are considered simultaneously when making a decision. The objective is to find the approach with the lowest total cost that supports the organization’s customer service requirements.

1-14. Define what is meant by a cost trade-off. Do you believe that this concept is workable? Why or why not?

A cost trade-off acknowledges that changing patterns or activities of distribution will result in some costs increasing and other costs decreasing. The net effect, however, should be an overall cost decrease for providing a given level of customer service.

The remainder of this question asks for the student’s opinion about the workability of this concept. Although nearly any answer is acceptable, those students who believe that cost trade-offs are unworkable might have difficulty with many of the concepts presented throughout the text.

1-15. What are several areas in which finance and logistics might interface?

The finance department is often in charge of capital budgeting decisions that would affect logistics, such as materials handling and packaging equipment. Another potential area of finance and logistics interface is with respect to inventory; finance tends to view inventory from a dollar perspective while logistics tends to be more concerned with the number of units of inventory. This dichotomy is highlighted by the concept of obsolescence, which reduces the monetary value of inventory by a certain amount per period of time—even though the actual quantity of inventory may be unchanged.

1-16. Discuss the postponement concept as it relates to the production and logistics interface.

Postponement refers to the delay of value-added activities such as assembly, production, and packaging until the latest possible time. Some value-added activities, such as case packing and case labeling, that were traditionally performed at a production plant are now performed in warehousing facilities. As a result, warehousing facilities are adding new types of equipment and being configured differently to allow specific value-added activities to take place.

1-17. Define what is meant by a landed cost and explain its relevance for pricing decisions.

Landed cost refers to the price of a product at its source plus transportation costs to its destination. On the one hand, a selling price that is based on a product’s landed cost allows the seller to offer “free” delivery of the product to prospective customers, because the transportation costs associated with delivery are captured in the landed cost. On the other hand, a selling price that is based on a product’s landed cost could result in a substantial increase in a product’s selling price, and a higher selling price tends to decrease buyer demand for most products.

1-18. Discuss several possible interfaces between marketing and logistics in terms of product decisions.

One interface involves the marked increase in product offerings; marketers like this increase because it allows for more customer choice, but these additional choices create logistical challenges in terms of identification, storage, and tracking. Another interface concerns the amount of a particular item (SKU) to hold. Marketers prefer to carry higher quantities for particular items because this reduces the likelihood of stockouts; however, from a logistics perspective, higher quantities of inventory necessitate additional storage space and increase inventory carrying costs.

Students can also discuss product design and sustainable products.

1-19. Briefly discuss the ownership, negotiations, financing, promotion, and logistics channels.

The ownership channel covers movement of the title to the goods; the goods themselves might not be physically present or even exist. The negotiations channel is the one in which buy and sell agreements are reached and can include telephone, email, and electronic data interchange, among others. The financing channel handles payment for goods and the company’s credit, while the promotions channel is concerned with promoting a new or an existing product. Finally, the logistics channel handles the physical flow of the product.

1-20. Discuss five activities that might be part of a company’s logistics department.

The chapter presents, and briefly describes, 12 separate activities that might be part of a company’s logistics department. Any 5 of the 12 activities are acceptable for students to discuss.

**PART III**

**CASE SOLUTIONS**

**CASE 1.1 KIDDIELAND AND THE SUPER GYM**

**Question 1:** List and discuss the advantages and disadvantages of purchasing a two-wheel trailer for each store to use for delivering the Super Gyms.

Because the stores are in a number of states, one would have to check the motor vehicle and insurance requirements of each state. An advantage is that deliveries would be under the control of each store. A disadvantage may be labor costs, especially if two workers are needed to make the delivery. Also, once at the site, the store’s employees might be asked to assist in the assembly of the gym.

**Question 2:** List and discuss the advantages and disadvantages of having local trucking companies deliver the Super Gym from the retail stores to the customers.

There are probably no disadvantages to using a local trucking company to make the delivery. However, a decision about how to handle the trucking firm’s charges would have to be made.

**Question 3:** List and discuss the advantages and disadvantages of stocking Super Gyms at the distribution centers and then having the truck that makes deliveries from the distribution center to the retail stores also make deliveries of Super Gyms to individual customers.

One problem focuses on the size of equipment—large tractor–trailer combinations are not suited to making home deliveries. The actual costs to KiddieLand of using trucks this way might be very high. There might be some savings in inventory costs by stocking the gyms at the distribution center rather than at each retail store.

**Question 4:** List and discuss the advantages and disadvantages of charging customers for home delivery if they are unable to carry home the Super Gym.

Perhaps the one advantage to charging for home delivery is that KiddieLand recoups the associated costs. However, because charged home delivery will add to the customer’s total purchase price, there could be a reduction in demand or this could generate customer dissatisfaction.

**Question 5:** Which alternative would you prefer? Why?

The student can choose any alternative. However, the text of the case seems to prefer the use of a local trucking company and charging the customer for home delivery.

**Question 6:** Draft a brief statement (catalog copy) to be inserted in the firm’s spring–summer brochure that clearly explains to potential customers the policy that is recommended in Question 5.

The brochure is intended for use in all stores, so whatever copy is prepared must be widely applicable. A sentence might read: “The Super Gym comes unassembled and is packed in three boxes: One weighs \_\_\_\_ pounds and is \_\_\_\_ inches by \_\_\_\_ inches by \_\_\_\_ inches; the second weighs \_\_\_\_ pounds and is \_\_\_\_ inches by \_\_\_\_ inches by \_\_\_\_ inches; and the third weighs \_\_\_\_ pounds and is \_\_\_\_ inches by \_\_\_\_ inches by \_\_\_\_ inches. Assembly requires the following tools: \_\_\_\_; \_\_\_\_; \_\_\_\_; and \_\_\_\_.”

**Question 7:** At the first meeting, A.J. asked about SUVs, but there was no further mention of them. How would you follow up on his query?

Anyone in the group could answer that SUVs have more carrying capacity than autos and many also have trailer hitches. SUVs are sufficiently popular—particularly in the United States—such that many buyers of the Super Gym equipment would either have a SUV or be able to borrow one.