

CHAPTER 1

BUSINESS LOGISTICS/SUPPLY CHAIN—A VITAL SUBJECT

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- (a) This problem introduces the student to the evaluation of alternate channels of production and distribution. To know whether domestic or foreign production is least expensive, the total of production and distribution costs must be computed from the source point to the marketplace. Two alternatives are suggested and they can be compared as follows.

Production at Houston:

$$\begin{aligned}\text{Total cost} &= \text{Production cost at Houston} + \text{Transportation and storage costs} \\ &= \$8/\text{shirt} \times 100,000 \text{ shirts} + \$5/\text{cwt.} \times 1,000 \text{ cwt.} \\ &= \$805,000/\text{year}\end{aligned}$$

Production at Taiwan:

$$\begin{aligned}\text{Total cost} &= \text{Production cost in Taiwan} \\ &\quad + \text{Transportation and storage costs from Taiwan to Chicago} \\ &\quad + \text{Import duty} + \text{Raw material transportation cost from Houston} \\ &\quad \quad \text{to Taiwan} \\ &= \$4/\text{shirt} \times 100,000 \text{ shirts} + \$6/\text{cwt.} \times 1,000 \text{ cwt.} + \$0.5/\text{shirt} \times 100,000 \text{ shirts} \\ &\quad + \$2/\text{cwt.} \times 1,000 \text{ cwt.} \\ &= \$458,000/\text{year}\end{aligned}$$

Producing in Taiwan would appear to be the least expensive.

- (b) Other factors to consider before a final decision is made might be:
- (i) How reliable would international transportation be compared with domestic transportation?
 - (ii) What is the business climate in Taiwan such that costs might change in favor of Houston as a production point?
 - (iii) How likely is it that the needed transportation and storage will be available?
 - (iv) If the market were to expand, would there be adequate production capacity available to support the increased demand?