

**Solution Manual For
Operations Management's
Dr. M. Khurrum S. Bhutta**

Operations Management
Fourteenth Edition

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Chapter

1 Using Operations to Create Value

DISCUSSION QUESTIONS

1. Answering this question demonstrates that processes underlie all of our jobs. What might be surprising is how many students would put their job in the category of “other,” suggesting that many jobs do not fall neatly into any one functional area. Perhaps many in the “other” category might best be called “operations” on further reflection. Customers, both internal and external, are part of each process, and the goal is to manage the processes to add the most value for them.
2. The hospital’s commitment to *provide attention to patients arriving to the emergency unit in less than 15 minutes and never to turn away patients who need to be hospitalized* implies that the facility must be designed to have extra capacity in both beds and emergency room facilities. It must plan on having extra personnel in the emergency room and also plan on having additional emergency personnel on call to take care of unprecedented heavy loads. In line with the mission statement, maximum utilization of the facilities (i.e., beds and emergency room personnel) would not be one of the performance objectives for the hospital.
3. Core processes should link to a firm’s core competencies. Core processes are those processes that provide the firm the best competitive advantage. Essential to the definition a firm’s core processes is the concept of “interaction costs.” These costs include the time and money that are expended whenever people and companies exchange services, products, or ideas. If the transaction costs are higher to retain a process within the firm’s organization than to outsource the process, the process should be outsourced.

PROBLEMS

Trends and Challenges in Operations Management

1. Boehring University
 - a. Value of output:

$$75 \frac{\text{students}}{\text{class}} \times 3 \frac{\text{credit-hours}}{\text{student}} \times \left(\frac{\$200 \text{ tuition} + \$100 \text{ state support}}{\text{credit-hours}} \right) = \$67,500 / \text{class}$$

Value of input: labor + material + overhead

$$\frac{\$6500 + \left(\frac{\$25}{\text{student}} \times 75 \text{ students} \right) + \$30,000}{\text{class}} = \$38,375/\text{class}$$

Multifactor Productivity ratio:

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}} = \frac{\$67,500}{\$38,375} = 1.76$$

Compared to Solved problem 1, multifactor productivity has increased from 1.25 to 1.76.

- b. Value of output is the same as in part a: \$67,500/class

Labor-hours of input:

$$20 \frac{\text{hours}}{\text{week}} \times 16 \frac{\text{weeks}}{\text{class}} = 320 \frac{\text{hours}}{\text{class}}$$

Productivity ratio:

$$\text{Labor Productivity} = \frac{\text{Output}}{\text{Input}} = \frac{\$67,500}{320 \text{ hours}} = \$210.94 \text{ hour}$$