Chapter 2: Operations Strategy and Competitiveness

Multiple Choice

1. What are the two key components of the operations strategy of Federal Express?
a) they own their own fleet of tractor trailers, and they use a sophisticated bar code technology
b) they own their own fleet of tractor trailers, and they have a large warehouse in every state
c) they own their own fleet of airplanes, and they have a large warehouse in every state
d) they use a sophisticated bar code technology, and they have a large warehouse in every state
e) they own their own fleet of airplanes, and they use a sophisticated bar code technology

Ans: e
Response: See page 28
Level: moderate

2. During the 1970s and 1980s, firms from which country provided the most serious competitive threat to U.S. companies?
a) Germany
b) Canada
c) Mexico
d) Japan
e) United Kingdom

Ans: d
Response: See pages 28-29
Level: moderate

3. The process of monitoring the external environment is called what?
a) environmental examination
b) environmental inspection
c) environmental scrutiny
d) environmental perusal
e) environmental scanning

Ans: e
Response: See page 30
Level: easy

4. Which of the following would not be considered a core competency that a company might have?
a) a highly trained workforce
b) an inefficient distribution system
c) skills in attracting and raising capital
d) use of information technology
e) quality control techniques

Ans: b
Response: See page 32
Level: easy

5. Which of the following is *not* typically considered to be a *core competency*?
a) workforce
b) mission
c) market understanding
d) technology
e) facilities

Ans: b
Response: See page 32
Level: moderate

6. What term describes the process of obtaining goods or services from an outside provider?
a) outproviding
b) transferization
c) outsourcing
d) subsourcing
e) supersourcing

Ans: c
Response: See page 33
Level: easy

7. Which of the following is *not* considered one of the four broad categories of *competitive priorities*?

a) technology
b) cost
c) quality

d) flexibility
e) time

Ans: a
Response: See pages 35-37
Level: easy

8. Which of the following *competitive priorities* typically requires the use of more general-purpose equipment?
a) technology
b) cost
c) quality
d) flexibility
e) time

Ans: d
Response: See pages 37-38
Level: moderate

9. Highly-skilled hourly workers would be *most* needed by companies employing which of the following *competitive priorities*?
a) location
b) cost
c) flexibility
d) development speed
e) time

Ans: c
Response: See pages 37-38
Level: hard

10. How does Federal Express maintain its ability to compete on time during peak demand periods?
a) it subcontracts overload to other firms
b) it purchases more planes
c) overtime
d) it uses a very flexible part-time workforce
e) it purchases more vans

Ans: d
Response: See pages 37-38
Level: hard

11. Empire West specializes in making a wide variety of products out of what?

a) steel
b) paper
c) aluminum
d) plastic
e) copper

Ans: d
Response: See pages 37-38
Level: hard

12. Decisions regarding which of the following are *not* part of the production process *infrastructure*?
a) organization of workers
b) facilities
c) worker pay
d) quality control measures
e) management policies

Ans: b
Response: See page 39
Level: moderate

13. Decisions regarding which of the following are *not* part of the production process *structure*?
a) management policies
b) facilities
c) robots
d) flow of goods and services through the facility
e) flexible manufacturing system (FMS) machines

Ans: a
Response: See page 39
Level: moderate

14. What are the three primary types of technology?
a) product technology, process technology, and information technology
b) product technology, process technology, and environmental technology
c) product technology, process technology, and safety technology

d) information technology, environmental technology, and safety technology
e) environmental technology, information technology, and process technology

Ans: a
Response: See page 40
Level: easy

15. Teflon is an example of what?
a) process technology
b) information technology
c) environmental technology
d) safety technology
e) product technology

Ans: e
Response: See page 40
Level: moderate

16. Computer-aided manufacturing is an example of what?
a) process technology
b) information technology
c) environmental technology
d) safety technology
e) product technology

Ans: a
Response: See page 41
Level: moderate

17. Which type of technology has had the greatest impact on business?
a) process technology
b) information technology
c) environmental technology
d) safety technology
e) product technology

Ans: b
Response: See page 41
Level: moderate

18. When does productivity increase?
a) inputs increase while outputs remain the same
b) inputs decrease while outputs remain the same
c) outputs decrease while inputs remain the same
d) inputs and outputs increase proportionally
e) none of the above

Ans: b
Response: See page 42
Level: moderate

19. Which of the following is a valid type of "productivity measure?"
a) multi-output productivity measure
b) partial productivity measure
c) multi-part productivity measure
d) multi-component productivity measure
e) imperfect productivity measure

Ans: b
Response: See pages 42-43
Level: moderate

20. Consider a pizza parlor. Which of the following would *not* be a valid productivity measure?
a) pizzas produced / number of workers used
b) pizzas produced / number of ovens
c) pizzas produced / cost of workers and ingredients
d) pizzas produced / cost of all inputs used
e) labor hours / pizzas produced

Ans: e
Response: See pages 42-43
Level: moderate

21. If inputs increase by 30% and outputs decrease by 15%, what is the percentage change in productivity?
a) 100% decrease
b) 11.54% increase
c) 34.62% decrease
d) 15% increase
e) 15% decrease

Ans: c
Response: See pages 42-43
Level: hard

22. If inputs increase by 6% and outputs increase by 24%, what is the percentage productivity increase?
a) 400.00%
b) 16.98%
c) 0.25%
d) 4.00%
e) 18.00%

Ans: b
Response: See pages 42-43
Level: hard

23. If inputs increase by 10% and outputs increase by 4%, what is the percentage productivity increase?
a) 5.45%
b) 250.00%
c) - 5.45%
d) 5.77%
e) - 5.77%

Ans: c
Response: See pages 42-43
Level: hard

24. If inputs increase by 10% and outputs increase by 5%, what is the percentage change in productivity?
a) 4.545% decrease
b) 4.545% increase
c) 4.762% increase
d) 4.762% decrease
e) 50.000% increase

Ans: a
Response: See pages 42-43
Level: hard

25. If inputs increase by 30% and outputs increase by 15%, what is the percentage change in productivity?

a) 50.00% decrease
b) 88.46% increase
c) 88.46% decrease
d) 11.54% increase
e) 11.54% decrease

Ans: e
Response: See pages 42-43
Level: hard

26. Suppose that on Monday the cost of inputs sums to $1000, and the value of outputs sums to $4000. For which of the following values on Tuesday would productivity *increase*?
a) inputs = $1100, outputs = $4000
b) inputs = $1100, outputs = $4200
c) inputs = $850, outputs = $3600
d) inputs = $1000, outputs = $3900
e) inputs = $2000, outputs = $8000

Ans: c
Response: See pages 42-43
Level: moderate

27. Suppose that a plant has a daily productivity of 200 parts per employee? What can we conclude?
a) the daily productivity is excellent
b) the plant can hire more workers and still earn profits
c) the plant is not earning profits
d) the plant must be highly automated
e) nothing

Ans: e
Response: See pages 42-43
Level: moderate

28. Suppose that a plant has a daily productivity of 0.85 parts per employee? What can we conclude?

a) the plant must be very labor-intensive
b) the plant is not earning profits
c) the plant must be highly automated
d) the plant should lay off workers
e) nothing

Ans: e
Response: See pages 42-43
Level: moderate

29. Suppose that a plant has a *total productivity measure* of 0.85. What can we conclude?
a) the plant is not earning profits
b) nothing
c) the plant should lay off workers
d) the plant is highly automated
e) the daily productivity is excellent

Ans: a
Response: See pages 42-43
Level: moderate

30. Suppose that last month the cost of inputs summed to $100,000, and the value of outputs summed to $800,000. For which of the following values this month would productivity *increase*?
a) inputs = $110,000, outputs = $800,000
b) inputs = $50,000, outputs = $400,000
c) inputs = $200,000, outputs = $1,600,000
d) inputs = $100,000, outputs = $820,000
e) inputs = $300,000, outputs = $1,600,000

Ans: d
Response: See pages 42-43
Level: moderate

31. Suppose that in week 1 a company produced 1000 units using 60 labor hours. For which of the following values in week 2 would labor productivity *decrease*?
a) units = 2000, hours = 120
b) units = 1500, hours = 95
c) units = 1000, hours = 58
d) units = 500, hours = 30
e) units = 2000, hours = 100

Ans: b
Response: See pages 42-43
Level: moderate

32. Suppose that on Wednesday the cost of inputs summed to $4000, and the value of outputs summed to $10,000. For which of the following values on Thursday will productivity *stay the same*?
a) inputs = $2000, outputs = $5000
b) inputs = $5000, outputs = $10,000
c) inputs = $4000, outputs = $8000
d) inputs = $10,000, outputs = $4000
e) inputs = $12,000, outputs = $40,000

Ans: a
Response: See pages 42-43
Level: moderate

33. Vericol, Inc. manufactures drugs using workers and automated machines. The firm has decided to replace two workers with a new machine, while the output per day is not expected to change. Which of the following *cannot* be true?
a) labor productivity will increase
b) machine productivity will decrease
c) labor productivity will decrease
d) multifactor productivity will increase
e) multifactor productivity will decrease

Ans: c
Response: See pages 42-43
Level: moderate

34. A manager has just replaced three workers with a machine that is cheaper to operate than the cost of the three replaced workers. Output is expected to remain the same. Which of the following is true?
a) labor productivity will decrease
b) machine productivity will increase
c) multifactor productivity will decrease
d) multifactor productivity will increase
e) the value of output will decrease

Ans: d
Response: See pages 42-43

Level: moderate

35. Suppose that in January a company produced 5000 units using 1000 labor hours. For which of the following values in February would labor productivity *decrease*?
a) units = 5000, hours = 900
b) units = 10,000, hours = 1500
c) units = 10,000, hours = 2000
d) units = 2500, hours = 500
e) units = 5000, hours = 1100

Ans: e
Response: See pages 42-43
Level: moderate

36. Suppose that in year 1 a company produced $100 Million worth of outputs while inputs totaled $50 Million. For which of the following values in year 2 would productivity *decrease*?
a) outputs = $90 Million, inputs = $50 Million
b) outputs = $400 Million, inputs = $200 Million
c) outputs = $250 Million, inputs = $100 Million
d) outputs = $50 Million, inputs = $25 Million
e) outputs = $60 Million, inputs = $25 Million

Ans: a
Response: See pages 42-43
Level: moderate

37. Suppose that on Thursday a company produced 80 units using 160 labor hours. For which of the following values on Friday would daily labor productivity *increase*?
a) units = 70, hours = 160
b) units = 80, hours = 180
c) units = 240, hours = 500
d) units = 160, hours = 300
e) units = 40, hours = 100

Ans: d
Response: See pages 42-43
Level: moderate

38. A firm produces 100 units using 800 labor hours. What is its labor productivity?

a) 0.125 units/hour
b) 8 units/hour
c) 100 units/hour
d) 800 units/hour
e) -0.125 units/hour

Ans: a
Response: See pages 42-43
Level: easy

39. A firm produces 2000 products using 10 workers on an eight-hour shift. What is the labor productivity per worker?
a) 200 units/hour
b) 25 units/hour
c) 250 units/hour
d) 20 units/hour
e) 0.04 units/hour

Ans: b
Response: See pages 42-43
Level: moderate

40. A machine shop produces metal frames on two different machines. The average daily production on machine 1 is 300 frames, and the average daily production on machine 2 is 180 frames. What is the daily machine productivity?
a) 480 frames/machine
b) 330 frames/machine
c) 240 frames/machine
d) 160 frames/machine
e) 300 frames/machine

Ans: c
Response: See pages 42-43
Level: easy

41. A machine shop produces metal brackets on two different machines. Machine 1 can produce a bracket every 10 minutes. Machine 2 can produce a bracket every 4 minutes. What is the average productivity *per machine*?
a) 4.3 brackets/hour
b) 8.6 brackets/hour
c) 10.5 brackets/hour

d) 21.0 brackets/hour
e) 7.0 brackets/hour

Ans: c
Response: See pages 42-43
Level: hard

42. A firm produces handbags using three workers. On Tuesday, Jane completed 60 bags in 6 hours, Ron completed 50 bags in 7 hours, and Mary completed 80 bags in 5 hours. What was the overall productivity of the firm?
a) 7.92 bags/hour
b) 11.05 bags/hour
c) 10.00 bags/hour
d) 10.56 bags/hour
e) 61.67 bags/hour

Ans: d
Response: See pages 42-43
Level: moderate

43. Suppose that output is worth $400, and labor and materials costs are $200 and $100, respectively. What is the materials productivity?
a) 2.00
b) 1.33
c) 0.25
d) 0.75
e) 4.00

Ans: e
Response: See pages 42-43
Level: easy

44. A firm produces 500 units per day using five workers on a five-hour shift. On average, 15% of the units produced are defective and must be scrapped. What is the labor productivity for non-defective units?
a) 17 units/hour
b) 3 units/hour
c) 20 units/hour
d) 85 units/hour
e) 15 units/hour

Ans: a
Response: See pages 42-43
Level: moderate

45. Suppose that weekly output is worth $1000, and labor and materials costs are $300 and $200, respectively. What is the multifactor productivity ratio?
a) 1000
b) 8
c) 2
d) 3
e) 0.5

Ans: c
Response: See pages 42-43
Level: moderate

46. Each day a firm produces 50 products worth $40 each. Raw materials cost per unit are $12. The firm uses 4 workers on an eight-hour shift earning $10 per hour each. What is the multifactor productivity ratio?
a) 1.82
b) 0.77
c) 3.16
d) 0.12
e) 2.17

Ans: e
Response: See pages 42-43
Level: moderate

47. A bakery bakes bread in two different ovens. Oven 1 can bake a loaf every 30 minutes. Oven 2 can bake a loaf every 15 minutes. What is the average productivity *per oven*?
a) 6.00 loaves/hour
b) 3.00 loaves/hour
c) 2.67 loaves/hour
d) 1.33 loaves/hour
e) 0.38 loaves/hour

Ans: b
Response: See pages 42-43
Level: hard

48. Johnny employs five painters. He collected the following data from last week.

Painter	Hours	Walls Completed
Julius	40	60
Margaret	32	68
Dave	50	78
Suzy	36	70
Fawn	44	74

Which painter was least productive last week?
a) Julius
b) Margaret
c) Dave
d) Suzy
e) Fawn

Ans: a
Response: See pages 42-43
Level: moderate

49. A bakery uses five ovens to bake muffins. Yesterday's data are provided below.

Oven	Hours	Muffins Baked
Oven 1	5	600
Oven 2	10	1500
Oven 3	8	1280
Oven 4	8	800
Oven 5	6	780

Which oven was the most productive?
a) Oven 1
b) Oven 2
c) Oven 3
d) Oven 4
e) Oven 5

Ans: c
Response: See pages 42-43
Level: moderate

50. The state government utilizes five workers to stamp license plates. Last month's data are provided below.

Worker	Days Worked	Units Stamped
Pete	30	1440
Tommy	20	1600
Laura	24	2000
Julie	28	2100
Susan	29	1200

Which worker was the least productive?
a) Pete
b) Tommy
c) Laura
d) Julie
e) Susan

Ans: e
Response: See pages 42-43
Level: moderate

51. A firm uses five plants to produce its products. Each final product has a value of $100. The following table provides last week's output, labor hours used (at $15 per hour), and materials cost per unit.

Plant	Output	Labor Hours	Materials Cost per Unit
Plant 1	2000	400	$20
Plant 2	5000	900	$18
Plant 3	9000	2000	$20
Plant 4	1000	150	$30
Plant 5	2000	440	$18

Which plant was most productive last week?
a) plant 1
b) plant 2
c) plant 3
d) plant 4
e) plant 5

Ans: b
Response: See pages 42-43
Level: hard

52. A firm uses five plants to produce its products. Output value and total input cost for last week are provided below.

Plant 1	Output Value	Total Cost
Plant 1	$20,000	$25,000
Plant 2	$50,000	$60,000
Plant 3	$40,000	$42,000
Plant 4	$80,000	$99,000
Plant 5	$25,000	$29,000

Which plant was least productive last week?
a) plant 1
b) plant 2
c) plant 3

d) plant 4
e) plant 5

Ans: a
Response: See pages 42-43
Level: moderate

53. Last week Jason painted 11 houses in 4 days. This week he painted 14 houses in 5 days. What was his percent productivity increase?
a) 1.82%
b) 1.79%
c) 27.27%
d) 25.00%
e) 5.00%

Ans: a
Response: See pages 42-43
Level: moderate

54. Last month a plant produced 10,000 units using 2000 labor hours. This month it produced 12,000 units using 3000 labor hours. What is the percent productivity decrease?
a) 200%
b) 100%
c) 50%
d) 25%
e) 20%

Ans: e
Response: See pages 42-43
Level: moderate

55. On Tuesday George produced 100 units in 8 hours. On Wednesday he produced 120 units in 10 hours. What was his percent productivity change?
a) –0.50%
b) –4.17%
c) 4.17%
d) –4.00%
e) 4.00%

Ans: d
Response: See pages 42-43

Level: moderate

56. Last month Stacy sold 10 houses while working 20 days. This month she sold the same number of houses in 22 days. What is her percent productivity change?
a) 10.00%
b) – 9.09%
c) 9.09%
d) –10.00%
e) – 4.55%

Ans: b
Response: See pages 42-43
Level: moderate

57. Yesterday, John produced 100 units in 8 hours. Today he produced the same amount in 6 hours. What is his percent productivity change?
a) 33.33%
b) 0.00%
c) 25.55%
d) –25.00%
e) 4.67%

Ans: a
Response: See pages 42-43
Level: moderate

58. A company used to produce 500 units every 2 days, but 10% of the units were defective. After installing a new process, defects have been eliminated while output has remained the same. What is the percent increase in productivity due to installing the new process?
a) 10.00%
b) 25.00%
c) 11.11%
d) 0.00%
e) 5.56%

Ans: c
Response: See pages 42-43
Level: hard

59. A company used to produce 300 units every day, but 20% of the units were defective. After installing a new process, the defect rate has been reduced to 5%, while output has remained the same. What is the percent increase in productivity due to installing the new process?
a) 15.79%

b) 0.00%
c) 15.00%
d) 18.75%
e) –75.00%

Ans: d
Response: See pages 42-43
Level: hard

60. Last month a plant produced 1200 units using 150 labor hours. This month it produced 1500 units using 300 labor hours. What is the percent productivity decrease?
a) 37.50%
b) 60.00%
c) 100.00%
d) 300.00%
e) 200.00%

Ans: a
Response: See pages 42-43
Level: moderate

61. Which of the following has used the Internet to conduct a fashion show in order to boost sales?
a) The Gap
b) Eddie Bauer
c) Fruit of the Loom
d) Victoria's Secret
e) Sears

Ans: d
Response: See page 31
Level: hard

62. Which of the following is not described in the chapter as one of the major environmental *trends* that firms should monitor?
a) marketplace trends
b) global climate trends
c) economic trends
d) political trends
e) social trends

Ans: b
Response: See page 30-32
Level: hard

63. Misaligned operational strategy and efficiency leads to:

A. using fewer resources.
B. lower production costs.
C. foolish resource use.
D. saving money.
E. wise resource use.

Ans: A
The Role of Operations Strategy; Difficulty: easy

64. An organization's mission specifies its:

A. strategy.
B. business.
C. methods.
D. customers.
E. approach.

Ans: B
The Role of Operations Strategy; Difficulty: easy

65. The few things an organization does best are its:

A. specialties.
B. product line.
C. most profitable products.
D. largest sellers.
E. core competencies

Ans: E
Developing a Business Strategy; Difficulty: hard

66. Firms choose their competitive priorities from:

A. cost, quality, time, and flexibility.

B. vision, mission, and strategic planning.

C. focus groups and customer surveys.

D. manufacturing or service focus.

E. environmental scanning, mission, and core competencies

Ans: A
Developing a Business Strategy; Difficulty: easy

67. Focusing on the quality of goods and services includes:

A. high performance design and product consistency.

B. zero defects and generous return policies.

C. the quality of inputs, processes, and execution.

D. using the latest Operations Management tools.

E. meeting design specifications.

Ans: A
Developing an Operations Strategy; Difficulty: moderate

68. Product flexibility:

A. and Time go together.

B. avoids rigid products.

C. accepts wide changes in quantity.

D. adds and drops products routinely.

E. reduces production costs.

Ans: C
Developing an Operations Strategy; Difficulty: moderate

69. Setting competitive priorities means:

A. making hard choices.

B. accepting trade-offs.

C. insisting on one answer.

D. trying to do many things.

E. abandoning financial analysis.

Ans: B
Developing an Operations Strategyl Difficulty: easy

70. An order qualifier is:

A. having a high credit rating.

B. a sales person.

C. a required market priority.

D. being able to pay for a product.

E. low production cost.

Ans: C
Developing an Operations Strategy; Difficulty: moderate

71. Operations Management groups questions about facilities, technology, and flow through a facility as:

A. process design or structure.

B. technology choice and design.

C. physical constraints on design.

D. planning and control or infrastructure.

E. preliminary rather than continuing.

Ans: A
Developing an Operations Strategy; Difficulty: easy

72. Operations Mangers use three kinds of technology:

A. communication, packaging, and transportation

B. mechanical, electrical, and hydraulic.

C. product, process, and information.

D. gravitational, muscular, and mechanical.

E. agricultural, mass production, and customized.

Developing an Operations Strategy; Difficulty: moderate

73. A firm that sold $14.000 worth of output while using $12,000 worth of input had _____ total productivity:

A. 0.857

B. 1.333

C. 0.167

D. 6.000

E. 1.167

Ans: E
Productivity; Difficulty: moderate

74. A firm employees two groups of workers. Group A has partial productivity of 0.73 while group B has partial productivity of 1.27.

A. Group A is inefficient because its productivity is less than one.

B. Group B is less costly than group A.

C. There is not enough information to rank the groups.

D. Group A should be retrained or replace.

E. Group B is more productive than group A.

Ans: E
Productivity; Difficulty: hard

True/False

1. An *operations strategy* covers a relatively short time horizon, whereas a *business strategy* covers a relatively long time horizon.

Ans: False
Response: See page 28
Level: easy

2. To provide speed of delivery, Federal Express invested in a sophisticated bar code technology.

Ans: False
Response: See page 28
Level: hard

3. To provide dependability of delivery, Federal Express acquired its own fleet of airplanes.

Ans: False
Response: See page 28
Level: hard

4. Victoria's Secret has used the Internet to conduct a fashion show in order to boost sales.

Ans: True
Response: See page 31
Level: hard

5. Market research represents a type of environmental scanning.

Ans: True
Response: See pages 30-31
Level: moderate

6. Companies that compete based on *cost* generally also allow a lot of product customization.

Ans: False
Response: See page 35
Level: moderate

7. Firms that focus on *quality* as their primary competitive priority usually implement either *product design quality* or *process quality*, but not both.

Ans: False
Response: See page 36
Level: moderate

8. Federal Express subcontracts its work overload to other firms during peak demand periods.

Ans: False
Response: See page 37
Level: hard

9. Companies that compete based on *flexibility* often cannot compete based on *cost*.

Ans: True
Response: See page 37
Level: moderate

10. Facilities decisions are part of the production process *infrastructure*.

Ans: False
Response: See page 39
Level: moderate

11. Decisions regarding flow of goods and services through the facility are part of the production process *structure*.

Ans: True
Response: See page 39
Level: moderate

12. Worker pay decisions are part of the production process *structure*.

Ans: False
Response: See page 39
Level: moderate

13. Quality control approaches are part of the production process *infrastructure*.

Ans: True
Response: See page 39
Level: moderate

14. Studies have shown that companies that invest in new technologies tend to improve their financial position over those that do not.

Ans: True
Response: See page 40
Level: moderate

15. Process technology is the technology that has grown the most rapidly and has had the greatest impact on business.

Ans: False
Response: See page 41
Level: moderate

16. A measure of how efficiently inputs are being converted into outputs is called *utilization*.

Ans: False
Response: See page 42
Level: moderate

17. Productivity = input/output.

Ans: False
Response: See page 42
Level: easy

18. Output/(all inputs used) is called *total productivity*.

Ans: True
Response: See page 42
Level moderate

19. Output/(labor + capital) is an example of a *partial productivity measure*.

Ans: False

Response: See page 42
Level: moderate

20. Productivity gains in the service sector have been much lower than that of manufacturing.

Ans: True
Response: See pages 45-46
Level: moderate

Essay

1. Describe the difference between operational effectiveness and strategy.

Ans: Operational effectiveness is the ability to perform operations more efficiently than competitors. Strategy, on the other hand, is a plan for competing in the marketplace.
Response: See pages 28-29
Level: moderate

2. Define "environmental scanning."

Ans: Monitoring the external environment for changes and trends in the market, in the economic and political environment, and in society in order to determine business opportunities and threats.
Response: See pages 29-30
Level: moderate

3. A mission statement answers what three overriding questions?

Ans: (1) What business is the organization in?, (2) Who are the customers?, (3) How will the company's core
beliefs shape its business?
Response: See pages 29-30
Level: moderate

4. What are some general technological trends in the marketplace?

Ans: point-of-sale scanners, automation, computer-assisted processing, electronic purchasing, electronic order tracking, and e-commerce
Response: See pages 30-31
Level: moderate

5. How have U.S. tobacco companies responded to public awareness of the dangers of smoking?

Ans: Many have changed their strategy to focus on customers overseas where smoking is still socially acceptable, or have diversified into other product lines.
Response: See page 32
Level: moderate

6. Suggest some core competencies that companies may have.

Ans: highly trained workforce, responsive in meeting customer needs, flexible in performing a variety of tasks, strong technical capability, creative in product design, flexible in producing a variety of products, technologically advanced, an efficient distribution system, skilled in understanding customer wants and predicting market trends, skilled in attracting and raising capital, use of latest production technology, use of information technology, and quality control techniques
Response: See page 32
Level: moderate

7. What is management guru Tom Peters' famous quote regarding outsourcing? What is his main point?

Ans: "Do what you do best and outsource the rest." The point is to outsource non-core activities so that the firm can focus on its core competencies.
Response: See page 33
Level: hard

8. What outsourcing activities does Total Logistics Control perform for Meijer?

Ans: all deliveries, route scheduling, and all activities involved in maintaining a fleet of trucks
Response: See page 33
Level: hard

9. Describe how Southwest Airlines competes on cost.

Ans: Facilities are streamlined: only one type of aircraft is used, and flight routes are generally short. This serves to minimize costs of scheduling crew changes, maintenance, inventories of parts, and many administrative costs. Unnecessary costs are completely eliminated: there are no meals, printed boarding passes, or seat assignments.
Response: See page 35
Level: moderate

10. For what entities can productivity be measured?

Ans: individuals, departments, organizations, industries, or even countries
Response: See page 45
Level: moderate

Problems

1. Suppose that a plant manager is only evaluated based on the partial productivity measure: output/(number of employees). If she replaces 10% of the workforce with robots (one robot per replaced worker), and output remains the same, what will be the percent change in this measure of productivity?

Ans: 11.1% increase
Response: See pages 42-43
Level: hard

2. If a company's inputs for producing a certain product increase by 10% and the output increases by 25%, what is the percentage productivity increase for that product?

Ans: 13.6%
Response: See pages 42-43
Level: hard

3. If a company's inputs for producing a certain product increase by 50% and the output increases by 90%, what is the percentage productivity increase for that product?

Ans: 26.7%
Response: See pages 42-43
Level: hard

4. A new milling machine can process 2000 jobs in 8 hours. What is the productivity of the machine?

Ans: 250 jobs/hour
Response: See pages 42-43
Level: easy

5. A firm produces 6000 products using 12 workers on a nine-hour shift. What is the labor productivity per worker?

Ans: 55.6 units/hour
Response: See pages 42-43
Level: moderate

6. A machine shop produces hangers on two different machines. Machine 1 can produce a hanger every 15 minutes. Machine 2 can produce a hanger every 10 minutes. What is the average productivity *per machine*?

Ans: 5 units/hour
Response: See pages 42-43
Level: hard

7. A firm produces shirts using three workers. On Wednesday, Madeline completed 110 shirts in 6 hours, Federico completed 90 shirts in 7 hours, and Susan completed 130 shirts in 9 hours. What was the overall productivity of the firm?

Ans: 15 units/hour
Response: See pages 42-43
Level: moderate

8. A firm produces 1500 units per day using four workers on a five-hour shift. On average, 12% of the units produced are defective and must be scrapped. What is the labor productivity for non-defective units?

Ans: 66 units/hour
Response: See pages 42-43
Level: moderate

9. Last week George mowed 6 lawns in two days. This week he mowed 8 lawns in three days. In which week was George more productive?

Ans: last week
Response: See pages 42-43
Level: moderate

10. A company uses two plants to produce motorcycles. Plant A produces 200 per week using 20 workers and 4 machines. Plant B produces 250 per week using 10 workers and 10 machines. Which plant is more productive?

Ans: unknown—Plant A has a higher machine productivity but a lower labor productivity. The cost of labor
and machines is needed.
Response: See pages 42-43

Level: moderate