Test Bank for Operations Management Processes and Supply Chains 11th Krajewski

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Operations Management, 11e **(Krajewski et al.)**
Chapter 1: Using Operations to Create Value

1.1 Role of Operations in an Organization

1) Operations management refers to the direction and control of inputs that transform processes into products and services.
Answer: TRUE
Reference: Role of Operations in an Organization
Difficulty: Easy
Keywords: operations management, inputs, process, transformation
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

2) As a functional area of a business, Operations translates materials and services into outputs.
Answer: TRUE
Reference: Role of Operations in an Organization
Difficulty: Easy
Keywords: operations management, inputs, process, transformation
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

3) The three main line functions of any business include Operations, Finance and Marketing.
Answer: TRUE
Reference: Role of Operations in an Organization
Difficulty: Easy
Keywords: operations, finance, marketing
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

4) Support functions in an organization include Accounting, Human Resources and Engineering.
Answer: TRUE
Reference: Role of Operations in an Organization
Difficulty: Easy
Keywords: accounting, human resources, engineering
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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5) Regardless of how departments like Accounting, Engineering, Finance, and Marketing function in an organization, they are all linked together through:
A) management.
B) processes.
C) customers.
D) stakeholders.
Answer: B
Reference: Role of Operations in an Organization
Difficulty: Moderate
Keywords: departments, functions, processes
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

6) The foundations of modern manufacturing and technological breakthroughs were inspired by the creation of the mechanical computer by:
A) Charles Babbage.
B) James Watt.
C) Eli Whitney.
D) Frederick Taylor.
Answer: A
Reference: Role of Operations in an Organization
Difficulty: Moderate
Keywords: Charles Babbage
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

7) Which of these Great Moments in Operations and Supply Chain Management did not occur in the 20th century?
A) invention of the assembly line
B) publication of the Toyota Production Systems book
C) establishment of railroads
D) strategic planning for achieving product variety
Answer: C
Reference: Role of Operations in an Organization
Difficulty: Moderate
Keywords: history, railroad
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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8) Operations management refers to the systematic design, direction, and control of _____ that transform _____ into products and services.
Answer: processes, inputs
Reference: Role of Operations in an Organization
Difficulty: Moderate
Keywords: process, input, transform, product, service
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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9) The three mainline functions of any business are _____, _____, and _____.
Answer: operations, finance, marketing
Reference: Role of Operations in an Organization
Difficulty: Moderate
Keywords: operations, finance, marketing, functions of a firm
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

10) What are the three key functions of a firm and what is each responsible for?
Answer: The three main functions of a firm are operations, finance, and marketing. The operations function transforms material and service inputs into product and service outputs. The finance function generates resources, capital and funds from investors and sales of the firm's goods and services in the marketplace. The marketing function is responsible for producing sales revenue of the outputs.
Reference: Role of Operations in an Organization
Difficulty: Moderate
Keywords: manufacturing process, service process
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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1.2 A Process View

1) A process involves transforming inputs into outputs.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: process, inputs, outputs
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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2) Every process has a customer.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: process, customer relationship
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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3) A nested process refers to a process within a process.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: nested process
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
AACSB: Application of Knowledge

4) At the level of the firm, service providers offer just services and manufacturers offer just products.
Answer: FALSE
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing, service, similarity, goods, services
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
AACSB: Application of Knowledge

5) At the process level, it is much easier to distinguish whether the process is providing a service or manufacturing a product.
Answer: TRUE
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing process, service process, goods, services
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
AACSB: Application of Knowledge

6) Manufacturing processes tend to be capital intensive, while service processes tend to be more labor intensive.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: manufacturing process, service process, capital intensive, labor intensive
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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7) Quality is more easily measured in a service process than in a manufacturing process.
Answer: FALSE
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing process, service process, quality
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
AACSB: Application of Knowledge

8) Contact with the customer is usually higher in a manufacturing process than in a service process.
Answer: FALSE
Reference: A Process View
Difficulty: Easy
Keywords: manufacturing process, service process, customer contact
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
AACSB: Application of Knowledge

9) At the level of the firm, service providers do no just offer services and manufacturers do not just offer products.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: manufacturing process, service process
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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10) Which of these statements about processes is NOT true?
A) A process can have its own set of objectives.
B) A process can involve work flow that cuts across departmental boundaries.
C) A process can require resources from several departments.
D) A process can exist without customers.
Answer: D
Reference: A Process View
Difficulty: Moderate
Keywords: process, customer relationship
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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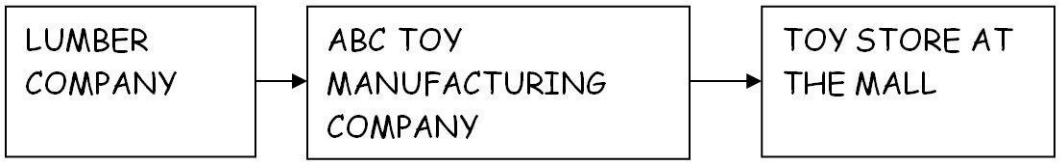
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11) Operations management is part of a production system that can be described in the following manner:

Organization: inputs→processes→outputs.

Which one of the following correctly describes a production system?
A) airline: pilots→planes→transportation
B) bank: tellers→computer equipment→deposits
C) furniture manufacturer: wood→sanding→chair
D) telephone company: satellites→cables→communication
Answer: C
Reference: A Process View
Difficulty: Moderate
Keywords: production system, input, process, output
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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Table 1.1
You are the Production Manager for the toy manufacturing process at the ABC Company.



12) Use the information provided in Table 1.1. An example of an internal customer is:
A) the lumber company.
B) the Receiving Department at ABC.
C) the Shipping Department at ABC.
D) the toy store at the mall.
Answer: C
Reference: A Process View
Difficulty: Moderate
Keywords: internal customer
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13) Use the information provided in Table 1.1. An example of an internal supplier is:
A) the lumber company.
B) the Receiving Department at ABC.
C) the Shipping Department at ABC.
D) the toy store at the mall.
Answer: B
Reference: A Process View
Difficulty: Moderate
Keywords: internal supplier
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
AACSB: Application of Knowledge

14) Use the information provided in Table 1.1. An example of an external customer is:
A) the lumber company.
B) the Receiving Department at ABC.
C) the Shipping Department at ABC.
D) the toy store at the mall.
Answer: D
Reference: A Process View
Difficulty: Moderate
Keywords: external customer
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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15) Use the information provided in Table 1.1. An example of an external supplier is:
A) the lumber company.
B) the Receiving Department at ABC.
C) the Shipping Department at ABC.
D) the toy store at the mall.
Answer: A
Reference: A Process View
Difficulty: Moderate
Keywords: external supplier
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16) Which of the following is an example of a nested process?
A) At the start of the new semester, a student first pays tuition and then goes to the bookstore.
B) A customer service representative verifies a caller's account information.
C) A candidate's intent to graduate is checked for financial holds by the Bursar and for degree requirements by Advising before the diploma mill prints their sheepskin.
D) A stockbroker calls a client and advises her to sell silver short.
Answer: C
Reference: A Process View
Difficulty: Easy
Keywords: nested process
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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17) Which of the following statements is more of a general characteristic of a manufacturing organization, as compared to a service organization?
A) Short-term demand tends to be highly variable.
B) Operations are more capital intensive.
C) Outputs are more intangible.
D) Quality is more difficult to measure.
Answer: B
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, capital intensity
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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18) Which one of the following statements is more of a general characteristic of a service organization, as compared to a manufacturing organization?
A) Output can be inventoried.
B) The response time is longer.
C) There is less customer contact.
D) The facilities tend to be smaller.
Answer: D
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, facilities
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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19) Manufacturing processes usually have:
A) physical, durable output.
B) high levels of customer contact.
C) output that cannot be inventoried.
D) low levels of capital intensity.
Answer: A
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, physical output
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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20) Service processes usually have:
A) physical, durable output.
B) low levels of customer contact.
C) output that can be inventoried.
D) low levels of capital intensity.
Answer: D
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, capital intensity
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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21) A(n) _____ is any activity or group of activities that takes one or more inputs, transforms and adds value to them, and provides one or more outputs for its customers.
Answer: process
Reference: A Process View
Difficulty: Moderate
Keywords: process, activity, input, value
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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22) List and briefly describe five differences between services and manufacturing. Provide examples to illustrate your arguments.
Answer:

Manufactured Goods	**Services**
Physical, durable products	Intangible, perishable products
Output can be produced, stored, and transported	Can't be produced and stored
Low customer contact	Customers can be part of the input and part of the process
Have days to deliver	Must be offered within minutes
Regional, national, or international markets	Local markets
Large facilities	Small facilities
Capital intensive	Labor intensive
Quality easily measured	Quality not easily measured

Examples will vary.
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing process, service process
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
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23) Identify a large employer in your hometown. Describe this organization's inputs, processes, and outputs.
Answer: Answers will vary based on the employer selected.
Reference: A Process View
Difficulty: Moderate
Keywords: input, process, output
Learning Outcome: Describe the main types of operations processes and layouts in manufacturing and in services.
AACSB: Application of Knowledge

1.3 A Supply Chain View

1) A core process is a set of activities that delivers value to external customers.
Answer: TRUE
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: core process, supply chain
Learning Outcome: Compare common approaches to supply chain design.
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2) The supplier relationship process selects the suppliers of services, materials and information, while the order fulfillment process facilitates the timely and efficient flow of these items into the firm.
Answer: FALSE
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: supplier relationship, process, order fulfillment process
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

3) One distinction between core processes and support processes is that core process can cut across the organization while support processes do not.
Answer: FALSE
Reference: A Supply Chain View
Difficulty: Easy
Keywords: core process, process analysis
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

4) A set of activities that delivers value to external customers is a:
A) supply chain.
B) core process.
C) support process.
D) system.
Answer: B
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: activity, core process
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

5) Budgeting, recruiting, and scheduling are examples of a(n):
A) development.
B) core process.
C) support process.
D) system.
Answer: C
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: activity, support process
Learning Outcome: Compare common approaches to supply chain design.
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6) The process that facilitates the placement of orders and identifies, attracts, and builds relationships with external customers is called the:
A) customer relationship process.
B) new service development process.
C) order fulfillment process.
D) supplier relationship process.
Answer: A
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: process, customer relationship
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

7) The process that includes the activities required to produce and deliver the service or product to the external customer is called the:
A) customer relationship process.
B) new service development process.
C) order fulfillment process.
D) supplier relationship process.
Answer: C
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: process, order fulfillment
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

8) Which of these business processes typically lies within the realm of operations?
A) complaint handling
B) customer relationship
C) help desks
D) waste management
Answer: B
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: process, customer relationship
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

9) The cumulative work of the processes of a firm is a(n) _____.
Answer: supply chain
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: processes, supply chain
Learning Outcome: Compare common approaches to supply chain design.
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10) _____ provide vital resources and inputs to core processes.
Answer: Support processes
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: support process, core process
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

1.4 Operations Strategy

1) A firm's core competencies should determine its core processes.
Answer: TRUE
Reference: Operations Strategy
Difficulty: Easy
Keywords: core competency, core process
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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2) Firm A wants to enter a foreign market and has a skill that is difficult to duplicate. Firm B desires this skill, so Firm A works with Firm B in an arrangement known as a joint venture.
Answer: FALSE
Reference: Operations Strategy
Difficulty: Moderate
Keywords: strategic alliance
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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3) The framework for carrying out all of an organization's functions is:
A) the competitive priority.
B) the corporate strategy.
C) the market analysis.
D) the organizational design.
Answer: B
Reference: Operations Strategy
Difficulty: Moderate
Keywords: corporate strategy
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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4) In response to social and political moves to discourage cigarette smoking, major cigarette manufacturers have had to diversify into other products. Identifying the pressures against smoking is an example of:
A) environmental scanning.
B) market segmentation.
C) flow strategy.
D) mission statement development.
Answer: A
Reference: Operations Strategy
Difficulty: Moderate
Keywords: environmental scanning, strategy
Learning Outcome: Discuss the role of operations management in corporate social responsibility and sustainability
AACSB: Application of Knowledge

5) A company realizes that recent layoffs at its primary customers reflect potential falling demands for its customers' products, and hence for its own products. The company has engaged in:
A) flow strategy.
B) market segmentation.
C) mission statement redefinition.
D) environmental scanning.
Answer: D
Reference: Operations Strategy
Difficulty: Moderate
Keywords: environmental scanning
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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6) Core competencies are:
A) product or service attributes that represent the needs of a particular market segment.
B) another name for competitive priorities.
C) various flow strategies.
D) the unique resources and strengths that management considers when formulating strategy.
Answer: D
Reference: Operations Strategy
Difficulty: Moderate
Keywords: core competency, strategy
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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7) Which of the following is an example of a core competency?
A) facilities
B) top quality
C) low-cost operations
D) on-time delivery
Answer: A
Reference: Operations Strategy
Difficulty: Moderate
Keywords: core competency
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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8) Price, quality, and the degree of customization are all examples of:
A) volume needs.
B) other needs.
C) product needs.
D) delivery system needs.
Answer: C
Reference: Operations Strategy
Difficulty: Moderate
Keywords: needs assessment
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

9) The Gap, Inc. has targeted teenagers and young adults in need of casual clothes, and through its GapKids stores, the parents or guardians of infants through 12-year-olds. This is an example of:
A) market segmentation.
B) a collaborative effort between the company and its customers.
C) a needs assessment.
D) a mission statement.
Answer: A
Reference: Operations Strategy
Difficulty: Moderate
Keywords: market segmentation
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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10) One form of strategic alliance is the _____, in which two firms agree to cooperate to produce a product or service together.
Answer: joint alliance
Reference: A Supply Chain View
Difficulty: Moderate
Keywords: joint alliance
Learning Outcome: Compare common approaches to supply chain design.
AACSB: Application of Knowledge

11) What are four core processes in a firm and how are they related?
Answer: The customer relationship process identifies, attracts, and builds relationships with external customers and facilitates the placement of orders. The order fulfillment process includes activities required to produce and deliver the service or product to the external customer. The new service/product development process designs and develops new services or products, which may be to customer specifications. The supplier relationship process selects the suppliers of services, materials, and information and facilitates the flow of these items into the firm. All of these processes exist to provide a service or product to the customer.
Reference: Operations Strategy
Difficulty: Moderate
Keywords: core process, customer relationship, service/product development, order fulfillment, supplier relationship
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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1.5 Competitive Priorities and Capabilities

1) Competitive priorities are the means by which operations implements the firm's corporate strategies.
Answer: FALSE
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priority, corporate strategy
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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2) Flexibility is a possible competitive priority.
Answer: TRUE
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: flexibility, competitive priority
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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3) A firm once made purchasing decisions based on which supplier had the lowest cost. But once cash flow was healthy, purchasing decisions were made based on the fastest delivery of goods and services by firms. In this case, delivery speed is clearly the order qualifier.
Answer: FALSE
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priority, order qualifier
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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4) Admission to the prestigious school had become so competitive that a high GPA is no longer enough to separate one fresh-faced high school student from another. Today's outstanding candidate must also demonstrate their involvement in a myriad of extracurricular activities in order to be admitted. It seems that good grades are now:
A) a needs assessment.
B) order qualifiers.
C) order winners.
D) a mission statement.
Answer: B
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: order qualifier
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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5) The first three cars I bought all fell apart around 50,000 miles. It was called planned obsolescence and no one seemed to care until companies entered the market that promised 70,000, then 80,000, and finally 100,000 warranties. What sets a great car apart from a good one now is not the quality, which is assumed, but performance, safety and fuel economy. A car that can achieve all three is highly sought after. In the automotive market, performance, safety and fuel economy are sterling examples of:
A) order winners.
B) a needs assessment.
C) order qualifiers.
D) a mission statement.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: order winner
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6) You are interested in buying a laptop computer. Your list of considerations include the computer's speed in processing data, its weight, screen size, and price. You consider a number of different models, and narrow your list based on speed and monitor screen size, then finally select a model to buy based on its weight and price. In this decision, weight and price are examples of:
A) order qualifiers.
B) a needs assessment.
C) order winners.
D) a mission statement.
Answer: C
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: order winner
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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7) Competitive priorities:
A) may change over time.
B) are the cost, quality, time and flexibility dimensions that a process or supply chain actually possesses and is able to deliver.
C) are used to distinguish between a service that is considered and one that is actually purchased.
D) are developed by a review of internal operations capabilities.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

8) You are interested in buying a laptop computer. Your list of considerations include the computer's speed in processing data, its weight, screen size and price. You consider a number of different models, and narrow your list based on its speed and monitor screen size, then finally select a model to buy based on its weight and price. In this decision, speed and monitor screen size are examples of:
A) order winners.
B) a mission statement.
C) a needs assessment.
D) order qualifiers.
Answer: D
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: order qualifier
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9) Using an airline example for competitive priorities, the process capability of handling service needs of all market segments and promotional programs would be best described by:
A) top quality.
B) variety.
C) consistent quality.
D) delivery speed.
Answer: B
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: variety, competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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10) A company's ability to quickly introduce a new service or product would be best described as:
A) volume flexibility.
B) variety.
C) consistent quality.
D) development speed.
Answer: D
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: development speed, competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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11) A business focusing on increasing the efficiency of its operations is more directly addressing:
A) volume flexibility.
B) variety.
C) consistent quality.
D) low-cost.
Answer: D
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: efficiency, low-cost, competitive priority
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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12) While other suppliers bidding for the contract brought bids with lower per unit costs, Orchard wanted to take delivery based on the fact that the components they were using were machined to their exacting specifications 99.99999% of the time. Orchard's competitive priority was:
A) top quality.
B) consistent quality.
C) on-time delivery.
D) delivery speed.
Answer: B
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

13) A popular haberdashery could take a customer's measurements in the afternoon and produce a dandy suit ready for customer pickup by next morning. Their competitive priority was:
A) variety.
B) top quality.
C) delivery speed.
D) on-time delivery.
Answer: C
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

14) For students not wanting a traditional major in marketing or accounting, for example, the college decided to create a general business major, which allowed any combination of the easiest business courses to comprise the program. The competitive priority achieved in this example is:
A) customization.
B) delivery speed.
C) consistent quality.
D) low-cost.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: customization, competitive priority
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

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15) A company's ability to support varying rates of production is BEST described as:
A) volume flexibility.
B) variety.
C) consistent quality.
D) development speed.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: volume flexibility, competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

16) A firm gains competitive advantage by outperforming competitors in terms of competitive priorities, which fall into four major groups: _____, _____, _____, and _____.
Answer: cost, quality, time, flexibility
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: competitive priorities, cost, quality, time, flexibility
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

17) _____ is the elapsed time between receiving a customer's order and filling it.
Answer: Lead time
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: time, delivery speed
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

18) _____ measures the frequency with which delivery-time promises are met.
Answer: On-time delivery
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: on-time delivery
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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19) _____ is the ability to accelerate or decelerate the rate of production quickly to handle large fluctuations in demand.
Answer: Volume flexibility
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: volume flexibility, demand fluctuations
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

20) Every sub-contractor knew that their quality had to be excellent to be considered for the project; it was their ability to deliver on time that would secure the lucrative contract. Quality was recognized as being an _____, but on-time delivery was the _____.
Answer: order qualifier, order winner
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: order qualifier, order winner
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

21) Explain what an operations strategy is and the importance of competitive priorities. Give an example from an organization (public or private, manufacturing or service).
Answer: An operations strategy is the means by which operations implements the firm's corporate strategy. Competitive priorities are the key capabilities that operations must develop to compete successfully in a market segment. Possible competitive priorities include low-cost operation, high-performance design, consistent quality, delivery speed, on-time delivery, development speed, customization, and volume flexibility. Examples will vary.
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: operations strategy competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

22) Name the two competitive priorities for quality and give an example of each.
Answer: The two competitive priorities are top quality, which is the determination of the level of operations performance required in making a product or performing a service, and consistent quality, which measures the frequency with which the product or service meets design specifications. Examples will vary.
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priorities, top quality, consistent quality
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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23) Name the three competitive priorities for time and give an example of each.
Answer: The three competitive priorities for time are delivery speed, on-time delivery, and development speed. Delivery speed refers to the elapsed time between receiving a customer's order and filling it. On-time delivery measures the frequency with which delivery-time promises are met. Development speed measures how quickly a new product or service is introduced. Examples will vary.
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priorities, delivery speed, on-time delivery, development speed
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

1.6 Addressing the Trends and Challenges in Operations Management

1) Strategic plans are developed farther into the future than tactical plans.
Answer: TRUE
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Easy
Keywords: strategic plans, tactical plans
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

2) Most products today are composites of global materials and services from throughout the world.
Answer: TRUE
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: globalization, products
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

3) The increased global presence of many firms has lessened the burden to behave ethically.
Answer: FALSE
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Easy
Keywords: ethics, global presence
Learning Outcome: Discuss the influences of the global competitive environment on operations management
AACSB: Application of Knowledge

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4) Operations managers are involved at both the strategic and tactical levels of corporate strategy.
Answer: TRUE
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Easy
Keywords: strategic level, tactical level
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

5) In an assembly operation at a furniture factory, six employees assembled an average of 450 custom chairs per 5-day week. What is the labor productivity of this operation?
A) 90 chairs per worker per day
B) 20 chairs per worker per day
C) 15 chairs per worker per day
D) 75 chairs per worker per day
Answer: C
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: labor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Analytical Thinking

6) A manufacturing process requires 12 minutes of labor to make 10 units of product. Which of the following actions will increase productivity?
1. Increase labor per 10 units of production
2. Decrease labor per 10 units of production
3. Increase number of units per 10 minutes of labor
4. Decrease number of units per 12 minutes of labor
A) 1 and 3 only
B) 2 and 4 only
C) 1 and 4 only
D) 2 and 3 only
Answer: D
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Easy
Keywords: labor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Analytical Thinking

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7) The details of weekly output and input for a fabrication process are as follows: output is 400 units, with a standard selling price of $100 per unit. For the week, total labor costs are: 10 workers at 40 hours for the week, are paid $15 per hour. Total material costs for the 400 units are $5,000. Weekly overhead is charged at the rate of 1.5 times the labor costs. What is the multifactor productivity for the week?
A) 0.02
B) 0.75
C) 1.50
D) 2.00
Answer: D
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Easy
Keywords: multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Analytical Thinking

Table 1.2
The Abco Company manufactures electrical assemblies. The current process uses 10 workers and produces 200 units per hour. You are considering changing the process with new assembly methods that increase output to 300 units per hour, but will require 14 workers. Particulars are as follows:

	CURRENT PROCESS	**NEW PROCESS**
OUTPUT (UNITS / HOUR)	200	300
NUMBER OF WORKERS	10	14
MATERIAL COST / HOUR	$120	$150

Workers are paid at a rate of $10 per hour, and overhead is charged at 140% (or 1.4 times) labor costs. Finished switches sell for $20 / unit.

8) Use the information provided in Table 1.2. What is the multifactor productivity of the current process?
A) less than or equal to 8.0
B) greater than 8.0 but less than or equal to 10.0
C) greater than 10.0 but less than or equal to 12.0
D) greater than 12.0
Answer: C
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Analytical Thinking

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9) Use the information provided in Table 1.2. What is the multifactor productivity of the new process?
A) less than or equal to 8.0
B) greater than 8.0 but less than or equal to 10.0
C) greater than 10.0 but less than or equal to 12.0
D) greater than 12.0
Answer: D
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Analytical Thinking

10) Use the information provided in Table 1.2. Based on your productivity calculations, what decision should you make?
A) implement the new process
B) stay with the current process
C) need more information to make a decision
D) Either process is acceptable (since the multi-factor productivities are the same).
Answer: A
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Analytical Thinking

11) It takes the Blacksburg shipyard twenty six weeks with 500 workers to build a small tanker. Material costs are $32 million and overhead costs are $2 million. Workers cost $40 per hour including benefits and work 40 hours per week. The ship sells for $75 million. What is the multifactor productivity ratio?
A) less than 1.0
B) greater than 1.0 but less than or equal to 2.0
C) greater than 2.0 but less than or equal to 3.0
D) greater than 3.0
Answer: B
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Analytical Thinking

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12) Which of the following would be considered an advantage of global competition?
A) ability to safeguard proprietary technology in working with offshore suppliers
B) a recent climate of low political risk and lessening nationalization
C) high levels of worker skills in foreign countries mean less required training
D) strong global competition and increased worldwide demand
Answer: D
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: global competition
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Diverse and Multicultural Work Environments

13) With regards to globalized operations and cost advantages, what China is to manufacturing, India is to:
A) services.
B) human resources.
C) finance.
D) supply chain.
Answer: A
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: global competition
Learning Outcome: Discuss the influences of the global competitive environment on operations management
AACSB: Application of Knowledge

14) Companies that do not have operations in China find it difficult to compete based on the basis of low prices with companies that do. Instead those companies tend to compete based on:
A) quality and social responsibility.
B) speed and small production runs.
C) luxury.
D) quality and small production runs.
Answer: B
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: global competition
Learning Outcome: Discuss the influences of the global competitive environment on operations management
AACSB: Application of Knowledge

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15) Productivity is defined as _____ divided by _____.
Answer: output, input
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: output, input, productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

16) Half of the world's greenhouse gases are produced by only _____ nations.
Answer: seven
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: environment, greenhouse gas
Learning Outcome: Discuss the role of operations management in corporate social responsibility and sustainability
AACSB: Ethical Understanding and Reasoning

17) How has global competition affected productivity? Cite specific examples and reference the productivity equation to support your thesis.
Answer: Examples will vary; students should argue that the increase in global competition has increased productivity for those firms that have survived. Firms that fail (or have already failed) to effectively compete with new competition suffer from reduced sales, so the numerator in the productivity equation will be lower, perhaps without a commensurate decrease in the denominator, resulting in reduced productivity. Firms that are effectively competing against global competition probably have higher levels of productivity. Global operations might include cheaper or better raw materials and labor, resulting in a smaller denominator and higher productivity. Global competition might also inject new management techniques and leaner operations if some services are outsourced to specialist companies.
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: productivity, raw materials, labor
Learning Outcome: Discuss the influences of the global competitive environment on operations management
AACSB: Application of Knowledge

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18) What are some disadvantages of globalization?
Answer: Operations in other countries can have disadvantages. A firm may have to relinquish proprietary technology if it turns over some of its component manufacturing to offshore suppliers or if suppliers need the firm's technology to achieve desired quality and cost goals. Political risks may also be involved. Each nation can exercise its sovereignty over the people and property within its borders. The extreme case is nationalization, in which a government may take over a firm's assets without paying compensation. Exxon and other large multinational oil firms are scaling back operations in Venezuela due to nationalization concerns. Further, a firm may actually alienate customers back home if jobs are lost to offshore operations. Employee skills may be lower in foreign countries, requiring additional training time. South Korean firms moved much of their sports shoe production to low-wage Indonesia and China, but they still manufacture hiking shoes and in-line roller skates in South Korea because of the greater skills required. In addition, when a firm's operations are scattered globally, customer response times can be longer. Coordinating components from a wide array of suppliers can be challenging.
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: globalization
Learning Outcome: Discuss the influences of the global competitive environment on operations management
AACSB: Application of Knowledge

19) What are some ethical issues that are prevalent in organizations that have a global operations presence?
Answer: Some countries are more sensitive than others about conflicts of interest, bribery, discrimination against minorities and women, minimum-wage levels, and unsafe workplaces. Managers must decide whether to design and operate processes that do more than just meet local standards. In addition, technological change brings debates about data protection and customer privacy. In an electronic world, businesses are geographically far from their customers, so a reputation of trust is paramount.
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: ethical issues, ethics, globalization
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

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20) Barry's Tire Service completed 100 tire changes, six brake jobs, and 16 alignments in an eight-hour day with his standard crew of six mechanics. A brake specialist costs $16 per hour, a tire changer costs $8 per hour, and an alignment mechanic costs $14 per hour. The materials cost for a day was $2000, and overhead cost was $500.
a. What is the shop's labor productivity if the retail price for each respective service is $60, $150, and $40?
b. What is the multifactor productivity, if the crew consisted of two of each type mechanic?
Answer:

a. $\frac{(100 \times 60 + 6 \times 150 + 16 \times 40)}{6 \times 8} = \$157/\text{hr}$

b. $\frac{\{(100 \times 60) + (6 \times 150) + (16 \times 40)\}}{\{(2 \times 8 \times 16) + (2 \times 8 \times 8) + (2 \times 8 \times 14) + 2000 + 500\}} = 2.43$

Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: labor productivity, multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

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21) Consider the information in Table 1.3.

Table 1.3
The Abco Company manufactures electrical assemblies. The current process uses 10 workers and produces 200 units per hour. You are considering changing the process with new assembly methods that increase output to 300 units per hour, but will require 14 workers. Particulars are as follows:

	CURRENT PROCESS	NEW PROCESS
OUTPUT (UNITS / HOUR)	200	300
NUMBER OF WORKERS	10	14
MATERIAL COST / HOUR	$120	$150

Workers are paid at a rate of $10 per hour, and overhead is charged at 140% (or 1.4 times) labor costs. Finished switches sell for $20/unit.

a. Calculate the multifactor productivity for the current process.
b. Calculate the multifactor productivity for the new process.
c. Determine if the new process should be implemented.
Answer:

a. $$\frac{(200)(\$20)}{(10)(\$10)+\$120+(1.4)(10)(\$10)}=\frac{\$4{,}000}{\$360}=\underline{\underline{11.11}}$$

b. $$\frac{(300)(\$20)}{(14)(\$10)+\$150+(1.4)(14)(\$10)}=\frac{\$6{,}000}{\$486}=\underline{\underline{12.35}}$$

c. The new process increases multifactor productivity and should be implemented.
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: labor productivity, multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

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22) The three person crew worked their way through the neighborhood, mowing lawns, edging, applying fertilizer and weed treatments where necessary and collecting all the clippings for use as mulch as part of their new green initiative. Their pricing scheme appears in Table A and the mix of orders and service costs appear in Table B:

a. What is their multifactor productivity for these orders in the prestigious Edmond Oaks neighborhood?
b. Which of the service combinations provided by them is the most productive service combination from a multifactor perspective?
c. What is their labor productivity for the same mix of orders?

Table A: Price List

SERVICE	PRICE	LABOR	MATERIAL
Mow lawn	$75	1 hr	$2
Edge	$20	.25	$1
Fertilizer treatment	$120	.25	$45
Weed prevention treatment	$80	.25	$25
Multiple services	5% discount times the number of services		

Workers are paid at a rate of $10 per hour, and overhead is charged at 120% (or 1.2 times) labor costs. For a customer that gets both mowing and edging, their $95 bill would be discounted for two services times 5% for a total of 10% off the $95 straight charge for a cost of $85.50. A customer receiving three services would get a 15% discount off their service bill. Labor hours shown in Table A are total hours for the three-person crew.

Table B: Orders Processed

SERVICE	# Customers
Mow lawn & edge	6
Mow lawn, edge, and fertilize	3
Mow lawn, edge, and weed prevention treatment	2
Mow lawn & fertilize	2

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Answer:
a. Multifactor Productivity Overall

Total Revenue = $86 × 6 + $182.75 × 3 + $148.75 × 2 + $175.50 × 2 = $1709.75
Labor Cost = $12.50 × 6 + $15 × 3 + $15 × 2 + $12.50 × 2 = $175
Material Cost = $3 × 6 + $48 × 3 + $28 × 2 + $47 × 2 = $312
Overhead Cost = 1.2 × ($12.50 × 6 + $15 × 3 + $15 × 2 + $12.50 × 2) = $210

$$\text{Multifactor Productivity} = \frac{\$1709.75}{\$175 + \$312 + \$210}$$

Multifactor Productivity = 2.45

b. Multifactor Productivity by Service

$$\textit{Mow \& Edge} = \frac{0.9 \times (\$75 + \$20)}{(1.25 \times \$10) + (\$2 + \$1) + 1.2 \times (1.25 \times \$10)} = 2.8$$

$$\textit{Mow \& Edge \& Fertilize} = \frac{0.85 \times (\$75 + \$20 + \$120)}{(1.5 \times \$10) + (\$2 + \$1 + \$45) + 1.2 \times (1.5 \times \$10)} = 2.26$$

$$\textit{Mow \& Edge \& Weed} = \frac{0.85 \times (\$75 + \$20 + \$80)}{(1.5 \times \$10) + (\$2 + \$1 + \$25) + 1.2 \times (1.5 \times \$10)} = 2.44$$

$$\textit{Mow \& Fertilize} = \frac{0.9 \times (\$75 + \$120)}{(1.25 \times \$10) + (\$2 + \$45) + 1.2 \times (1.25 \times \$10)} = 2.36$$

The package with the highest multifactor productivity is the Mow & Edge

c. Overall Labor Productivity.

Total Revenue = $85.59 × 6 + $182.75 × 3 + $148.75 × 2 + $175.50 × 2 = $1709.75
Labor Cost = $12.50 × 6 + $15 × 3 + $15 × 2 + $12.50 × 2 = $175

$$\text{Labor Productivity} = \frac{\$1709.75}{\$175}$$

Labor Productivity = 9.77

Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: labor productivity, multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
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23) The three-person crew worked their way through the neighborhood, testing doorknobs and windows and slipping past security systems like a team of ninjas. Of course, they weren't ninjas, but a crew of brazen burglars, hoping to grab cash and other valuables to fence at the next level of their supply chain. Fortune smiles on them on this day in the prestigious Edmond Oaks neighborhood. A lawn maintenance crew is creating a tremendous racket mowing and edging lawns, which completely drowns out the sounds of breaking glass. Details of the day's haul appear in Table C.

a. What is the multifactor productivity?
b. What is the labor productivity?

Table C: The Haul

ITEM	SALES PRICE	LABOR	MATERIAL
Krugerrand	$1500	1 hr	$2
Flat screen TV	$250	.25	$1
$200 cash	$200	.05	$45
Lava lamp	$5	.15	$25
Rolex watch	$180	.10	$1

Workers are paid at a flat rate of 20% of the sales price of the merchandise. Materials cost represents the cost of gasoline and surgical gloves, and overhead is 20% of the sales price of the merchandise.

Answer:

a. Multifactor Productivity

Total Revenue = $1500 + $250 + $200 + $5 + $180 = $2135
Labor Cost = 20% × ($1500 + $250 + $200 + $5 + $180) = $427
Material Cost = $2 + $1 + $45 + $25 + $1 = $74
Overhead Cost = 20% × ($1500 + $250 + $200 + $5 + $180) = $427

$$\text{Multifactor Productivity} = \frac{\$2135}{\$427 + \$74 + \$427}$$

Multifactor Productivity = 2.30

b. Labor Productivity

Total Revenue = $1500 + $250 + $200 + $5 + $180 = $2135
Labor Cost = 20% × ($1500 + $250 + $200 + $5 + $180) = $427

$$\text{Labor Productivity} = \frac{\$2135}{\$427}$$

Labor Productivity = 5
Reference: Addressing the Trends and Challenges in Operations Management
Difficulty: Moderate
Keywords: labor productivity, multifactor productivity
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
AACSB: Application of Knowledge

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