

Chapter 1 *Rapid Review*

Main Heading	Review Material	MyLab Operations Management
WHAT IS OPERATIONS MANAGEMENT? (p. 4)	<ul style="list-style-type: none"> ■ Production—The creation of goods and services ■ Operations management (OM)—Activities that relate to the creation of goods and services through the transformation of inputs to outputs 	Concept Questions: 1.1–1.5 VIDEOS 1.1, 1.2 and 1.3 OM at Hard Rock OM at Frito-Lay Celebrity Cruises: Operations Management at Sea
ORGANIZING TO PRODUCE GOODS AND SERVICES (pp. 4–6)	All organizations perform three functions to create goods and services: <ol style="list-style-type: none"> 1. <i>Marketing</i>, which generates demand 2. <i>Production/operations</i>, which creates the product 3. <i>Finance/accounting</i>, which tracks how well the organization is doing, pays the bills, and collects the money 	Concept Questions: 2.1–2.6
THE SUPPLY CHAIN (p. 6)	<ul style="list-style-type: none"> ■ Supply chain—A global network of organizations and activities that supply a firm with goods and services 	Concept Questions: 3.1–3.4
WHY STUDY OM? (pp. 6–7)	We study OM for four reasons: <ol style="list-style-type: none"> 1. To learn how people organize themselves for productive enterprise 2. To learn how goods and services are produced 3. To understand what operations managers do 4. Because OM is a costly part of an organization 	Concept Questions: 4.1–4.2
WHAT OPERATIONS MANAGERS DO (pp. 7–8)	Ten OM strategic decisions are required of operations managers: <ol style="list-style-type: none"> 1. Design of goods and services 2. Managing quality 3. Process strategies 4. Location strategies 5. Layout strategies 6. Human resources 7. Supply chain management 8. Inventory management 9. Scheduling 10. Maintenance <p>About 40% of <i>all</i> jobs are in OM. Operations managers possess job titles such as plant manager, quality manager, process improvement consultant, and operations analyst.</p>	Concept Questions: 5.1–5.6
THE HERITAGE OF OPERATIONS MANAGEMENT (pp. 8–10)	Significant events in modern OM can be classified into six eras: <ol style="list-style-type: none"> 1. Early concepts (1776–1880)—Labor specialization (Smith, Babbage), standardized parts (Whitney) 2. Scientific management (1880–1910)—Gantt charts (Gantt), motion and time studies (Gilbreth), process analysis (Taylor), queuing theory (Erlang) 3. Mass production (1910–1980)—Assembly line (Ford/Sorensen), statistical sampling (Shewhart), economic order quantity (Harris), linear programming (Dantzig), PERT/CPM (DuPont), material requirements planning 4. Lean production (1980–1995)—Just-in-time, computer-aided design, electronic data interchange, total quality management, Baldrige Award, empowerment, kanbans 5. Mass customization (1995–2005)—Internet/e-commerce, enterprise resource planning, international quality standards, finite scheduling, supply-chain management, mass customization, build-to-order, radio frequency identification (RFID) 6. Globalization era (2005–2025)—Global supply chains and logistics, growth of transnational organizations, sustainability, ethics in the global workplace, Internet of Things (IoT), digital operations, Industry 4.0 	Concept Questions: 6.1–6.6
OPERATIONS FOR GOODS AND SERVICES (pp. 11–13)	<ul style="list-style-type: none"> ■ Services—Economic activities that typically produce an intangible product (such as education, entertainment, lodging, government, financial, and health services). Almost all services and almost all goods are a mixture of a service and a tangible product. ■ Service sector—The segment of the economy that includes trade, financial, lodging, education, legal, medical, and other professional occupations. Services now constitute the largest economic sector in postindustrial societies. The huge productivity increases in agriculture and manufacturing have allowed more of our economic resources to be devoted to services. Many service jobs pay very well. 	Concept Questions: 7.1–7.5

Chapter 1 **Rapid Review** *continued*

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THE PRODUCTIVITY CHALLENGE (pp. 13–18)	<ul style="list-style-type: none"> ■ Productivity—The ratio of outputs (goods and services) divided by one or more inputs (such as labor, capital, or management) High production means producing many units, while high productivity means producing units efficiently. Only through increases in productivity can the standard of living of a country improve. U.S. productivity has averaged a 2.5% increase per year for over a century. $\text{Single-factor productivity} = \frac{\text{Units produced}}{\text{Input used}} \quad (1-1)$ <ul style="list-style-type: none"> ■ Single-factor productivity—Indicates the ratio of goods and services produced (outputs) to one resource (input). ■ Multifactor productivity—Indicates the ratio of goods and services produced (outputs) to many or all resources (inputs). $\text{Multifactor productivity} = \frac{\text{Output}}{\text{Labor} + \text{Material} + \text{Energy} + \text{Capital} + \text{Miscellaneous}} \quad (1-2)$ <p>Measurement problems with productivity include: (1) the quality may change, (2) external elements may interfere, and (3) precise units of measure may be lacking.</p> <ul style="list-style-type: none"> ■ Productivity variables—The three factors critical to productivity improvement are labor (10%), capital (38%), and management (52%). ■ Knowledge society—A society in which much of the labor force has migrated from manual work to work based on knowledge 	Concept Questions: 8.1–8.6 Problems: 1.1–1.17 Virtual Office Hours for Solved Problems: 1.1, 1.2
CURRENT CHALLENGES IN OPERATIONS MANAGEMENT (pp. 18–19)	Some of the current challenges for operations managers include: <ul style="list-style-type: none"> ■ Global focus; international collaboration ■ Supply chain partnering; joint ventures; alliances ■ Sustainability; green products; recycle, reuse ■ Rapid product development; design collaboration ■ Mass customization; customized products ■ Lean operations; continuous improvement and elimination of waste 	Concept Questions: 9.1–9.5
ETHICS, SOCIAL RESPONSIBILITY, AND SUSTAINABILITY (p. 19)	Among the many ethical challenges facing operations managers are (1) efficiently developing and producing safe, quality products; (2) maintaining a clean environment; (3) providing a safe workplace; and (4) honoring stakeholder commitments. <ul style="list-style-type: none"> ■ Stakeholders—Those with a vested interest in an organization 	Concept Question: 10.1

Self Test

■ Before taking the self-test, refer to the learning objectives listed at the beginning of the chapter and the key terms listed at the end of the chapter.

LO 1.1 Productivity increases when:

- inputs increase while outputs remain the same.
- inputs decrease while outputs remain the same.
- outputs decrease while inputs remain the same.
- inputs and outputs increase proportionately.
- inputs increase at the same rate as outputs.

LO 1.2 A strategy that is *not* one of the 10 strategic operations management decisions is:

- maintenance.
- human resources, job design and work measurement.
- location strategies.
- design of goods and services.
- advertising strategies.

LO 1.3 Operations management jobs comprise approximately ____% of all jobs.**LO 1.4** Services often:

- are tangible.
- are standardized.
- are knowledge based.
- are low in customer interaction.
- have consistent product definition.

LO 1.5 Productivity:

- can use many factors as the numerator.
- is the same thing as production.

c) increases at about 0.5% per year.

- is dependent upon labor, management, and capital.
- is the same thing as effectiveness.

LO 1.6 Single-factor productivity:

- remains constant.
- is never constant.
- usually uses labor as a factor.
- seldom uses labor as a factor.
- uses management as a factor.

LO 1.7 Multifactor productivity:

- remains constant.
- is never constant.
- usually uses substitutes as common variables for the factors of production.
- seldom uses labor as a factor.
- always uses management as a factor.

LO 1.8 Productivity increases each year in the U.S. are a result of three factors:

- labor, capital, management
- engineering, labor, capital
- engineering, capital, quality control
- engineering, labor, data processing
- engineering, capital, data processing

Answers: LO 1.1, b; LO 1.2, e; LO 1.3 40; LO 1.4, c; LO 1.5, d; LO 1.6, c; LO 1.7, c; LO 1.8, a.

Chapter 2 *Rapid Review*

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Rapid Review

MyLab Operations Management

Main Heading	Review Material	MyLab Operations Management
A GLOBAL VIEW OF OPERATIONS AND SUPPLY CHAINS (pp. 32–35)	<p>Domestic business operations decide to change to some form of international operations for six main reasons:</p> <ol style="list-style-type: none"> 1. Improve supply chain 2. Reduce costs and exchange rate risks 3. Improve operations 4. Understand markets 5. Improve products 6. Attract and retain global talent <ul style="list-style-type: none"> ■ Operational hedging—Maintaining excess capacity in different countries and shifting production levels among those countries as costs and exchange rates change. ■ Maquiladoras—Mexican factories located along the U.S.–Mexico border that receive preferential tariff treatment. ■ World Trade Organization (WTO)—An international organization that promotes world trade by lowering barriers to the free flow of goods across borders. ■ NAFTA—A free trade agreement between Canada, Mexico, and the United States. ■ European Union (EU)—A European trade group that has 28 member states. 	<p>Concept Questions: 1.1–1.6</p> <p>Problems: 2.1–2.3</p>
DETERMINING MISSIONS AND STRATEGIES (pp. 35–36)	<p>An effective operations management effort must have a <i>mission</i> so it knows where it is going and a <i>strategy</i> so it knows how to get there.</p> <ul style="list-style-type: none"> ■ Mission—The purpose or rationale for an organization's existence. ■ Strategy—How an organization expects to achieve its missions and goals. The three strategic approaches to competitive advantage are: <ol style="list-style-type: none"> 1. Differentiation 2. Cost leadership 3. Response 	<p>Concept Questions: 2.1–2.4</p> <p>VIDEO 2.1 Operations Strategy at Regal Marine</p>
ACHIEVING COMPETITIVE ADVANTAGE THROUGH OPERATIONS (pp. 36–39)	<ul style="list-style-type: none"> ■ Competitive advantage—The creation of a unique advantage over competitors. ■ Differentiation—Distinguishing the offerings of an organization in a way that the customer perceives as adding value. ■ Experience differentiation—Engaging the customer with a product through imaginative use of the five senses, so the customer “experiences” the product. ■ Low-cost leadership—Achieving maximum value, as perceived by the customer. ■ Response—A set of values related to rapid, flexible, and reliable performance. 	<p>Concept Questions: 3.1–3.6</p> <p>Problems: 2.4–2.5</p> <p>VIDEO 2.2 Hard Rock's Global Strategy</p>
ISSUES IN OPERATIONS STRATEGY (pp. 40–41)	<ul style="list-style-type: none"> ■ Resources view—A view in which managers evaluate the resources at their disposal and manage or alter them to achieve competitive advantage. ■ Value-chain analysis—A way to identify the elements in the product/service chain that uniquely add value. ■ Five forces model—A way to analyze the five forces in the competitive environment. Forces in Porter's five forces model are (1) immediate rivals, (2) potential entrants, (3) customers, (4) suppliers, and (5) substitute products. Different issues are emphasized during different stages of the product life cycle: <ul style="list-style-type: none"> ■ Introduction—Company strategy: Best period to increase market share, R&D engineering is critical. OM strategy: Product design and development critical, frequent product and process design changes, short production runs, high production costs, limited models, attention to quality. ■ Growth—Company strategy: Practical to change price or quality image, strengthen niche. OM strategy: Forecasting critical, product and process reliability, competitive product improvements and options, increase capacity, shift toward product focus, enhance distribution. ■ Maturity—Company strategy: Poor time to change image or price or quality, competitive costs become critical, defend market position. OM strategy: Standardization, less rapid product changes (more minor changes), optimum capacity, increasing stability of process, long production runs, product improvement and cost cutting. ■ Decline—Company strategy: Cost control critical. OM strategy: Little product differentiation, cost minimization, overcapacity in the industry, prune line to eliminate items not returning good margin, reduce capacity. 	<p>Concept Questions: 4.1–4.6</p> <p>Problem: 2.6</p>

Chapter 2 **Rapid Review** *continued*

Main Heading	Review Material	MyLab Operations Management
STRATEGY DEVELOPMENT AND IMPLEMENTATION (pp. 41–44)	<ul style="list-style-type: none"> ■ SWOT analysis—A method of determining internal strengths and weaknesses and external opportunities and threats. ■ Key success factors (KSFs)—Activities or factors that are key to achieving competitive advantage. ■ Core competencies—A set of unique skills, talents, and activities that a firm does particularly well. A core competence may be a combination of KSFs. ■ Activity map—A graphical link of competitive advantage, KSFs, and supporting activities. 	Concept Questions: 5.1–5.6 Problem: 2.7 Virtual Office Hours for Solved Problem: 2.1
STRATEGIC PLANNING, CORE COMPETENCIES, AND OUTSOURCING (pp. 44–48)	<ul style="list-style-type: none"> ■ Outsourcing—Procuring from external sources services or products that are normally part of an organization. ■ Theory of comparative advantage—The theory which states that countries benefit from specializing in (and exporting) products and services in which they have relative advantage and importing goods in which they have a relative disadvantage. <p>Perhaps half of all outsourcing agreements fail because of inappropriate planning and analysis.</p> <p>Potential risks of outsourcing include:</p> <ul style="list-style-type: none"> ■ A drop in quality or customer service ■ Political backlash that results from outsourcing to foreign countries ■ Negative impact on employees ■ Potential future competition ■ Increased logistics and inventory costs <p>The most common reason given for outsourcing failure is that the decision was made without sufficient understanding and analysis.</p> <p>The factor-rating method is an excellent tool for dealing with both country risk assessment and provider selection problems.</p>	Concept Questions: 6.1–6.6 Problems: 2.8–2.12 Virtual Office Hours for Solved Problem: 2.2 VIDEO 2.3 Outsourcing Offshore at Darden
GLOBAL OPERATIONS STRATEGY OPTIONS (pp. 48–49)	<ul style="list-style-type: none"> ■ International business—A firm that engages in cross-border transactions. ■ Multinational corporation (MNC)—A firm that has extensive involvement in international business, owning or controlling facilities in more than one country. <p>The four operations strategies for approaching global opportunities can be classified according to local responsiveness and cost reduction:</p> <ul style="list-style-type: none"> ■ International strategy—A strategy in which global markets are penetrated using exports and licenses with little local responsiveness. ■ Multidomestic strategy—A strategy in which operating decisions are decentralized to each country to enhance local responsiveness. ■ Global strategy—A strategy in which operating decisions are centralized and headquarters coordinates the standardization and learning between facilities. ■ Transnational strategy—A strategy that combines the benefits of global-scale efficiencies with the benefits of local responsiveness. These firms transgress national boundaries. 	Concept Questions: 7.1–7.6 Problem 2.13

Self Test

■ Before taking the self-test, refer to the learning objectives listed at the beginning of the chapter and the key terms listed at the end of the chapter.

LO 2.1 A mission statement is beneficial to an organization because it:

- a) is a statement of the organization's purpose.
- b) provides a basis for the organization's culture.
- c) identifies important constituencies.
- d) details specific income goals.
- e) ensures profitability.

LO 2.2 The three strategic approaches to competitive advantage are _____, _____, and _____.

LO 2.3 Core competencies are those strengths in a firm that include:

- a) specialized skills.
- b) unique production methods.
- c) proprietary information/knowledge.
- d) things a company does better than others.
- e) all of the above.

LO 2.4 Evaluating outsourcing providers by comparing their weighted average scores involves:

- a) factor-rating analysis.
- b) cost-volume analysis.
- c) transportation model analysis.
- d) linear regression analysis.
- e) crossover analysis.

LO 2.5 A company that is organized across international boundaries, with decentralized authority and substantial autonomy at each business via subsidiaries, franchises, or joint ventures, has:

- a) a global strategy.
- b) a transnational strategy.
- c) an international strategy.
- d) a multidomestic strategy.

Answers: LO 2.1. a; LO 2.2. differentiation, cost leadership, response; LO 2.3. c; LO 2.4. a; LO 2.5. d.