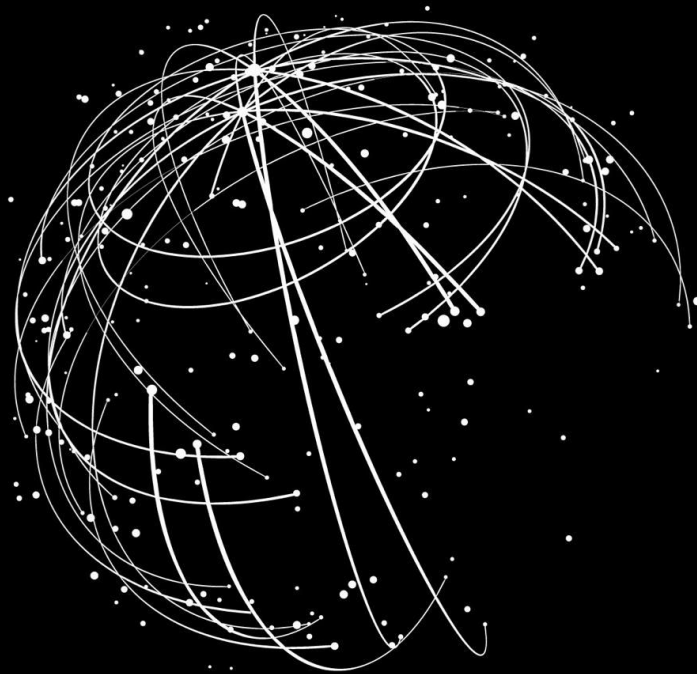


MANAGING OPERATIONS

Across the Supply Chain

third edition



SWINK | MELNYK
HARTLEY | COOPER

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Education

Managing Operations

Across the Supply Chain

Third Edition

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MANAGING OPERATIONS ACROSS THE SUPPLY CHAIN, THIRD EDITION

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Dedication

To Jenni, Derek, Rachel, and Sarah, who make my life so full!

Morgan Swink

To my wife and children-Christine, Charles and Beth-for their support and patience.

To four great friends who have been “teachers” to me in my continual quest for more knowledge-Alan Dunn, Abe Eshkenazi (CEO of APICS), and Colin Seftel (my South African friend).

To these people, this book is dedicated.

Steven A. Melnyk

To my children who make my life complete.

Bix Cooper

To Glenn and Caleb, for their love and support.

Janet Hartley

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Preface

We continue to live in dynamic and exciting times. The recent 20 years have seen many changes that have affected nearly every aspect of business—including operations management. In this third edition of our book, we continue to reflect key shifts in operations management, including transitions:

- **From a focus on the internal system to a focus on the supply chain** In today’s highly competitive business environment, organizations must leverage the capabilities of their suppliers and customers. Operations managers must look beyond the “four walls” of the firm and take an integrated supply chain perspective of operations.
- **From a local focus to a global focus** As Thomas L. Friedman pointed out,¹ the world is indeed flat. Business solutions generated in Argentina are used to meet needs in the United States, and parts built by suppliers located in China are used to assemble cars in Canada. Commercial needs have overcome, to a large part, national borders, presenting new opportunities and challenges for operations managers.
- **From an emphasis on tools and techniques to an emphasis on systems, people, and processes** To be successful, operations managers must think more broadly than just the application of analytical tools and techniques. They must take a systems view to address important managerial issues such as designing processes, working with people, managing information flows, and building interorganizational relationships.
- **From myopic pursuit of profit to a holistic pursuit of sustainability.** Pressures on businesses have risen to the point that they can no longer ignore or give only lipservice to social and environmental issues. Operations managers have to balance the profit motive with the need to protect and even strengthen both people and the planet.

Managing Operations Across the Supply Chain provides a global, supply chain perspective of operations management for students in introductory courses in operations management and in supply chain management courses that do not require an operations management prerequisite. While the book is primarily written for undergraduates,

it also can be used effectively in MBA courses. There are several features that help to differentiate this book in its view of operations management:

- **Broader Treatment of Operations Management** While many operations management textbooks have revised or added a chapter to address supply chain issues, we developed our book from the ground up to effectively integrate operations management and the supply chain. The primary focus of the book is operations management, but we provide a “supply chain” perspective. Operations management cuts across a firm’s boundaries, bringing together its internal activities with the operations of customers, suppliers, and other partners around the world. We clarify the functional roles of operations, supply management, and logistics while examining the integrative processes that make up the supply chain. One unique aspect of the book is that we examine both the upstream (supply-side) and downstream (demand-side) aspects of the supply chain, including a discussion of marketing and customer relationships.
- **Balanced Treatment** The book balances the quantitative and qualitative coverage needed to equip operations and supply chain managers for the challenges and opportunities they face. It describes and applies analytical tools that operations managers use to support decision making. However, we also address the important managerial issues such as systems, people, and processes that are critical in a supply chain context.
- **Use of Integrative Frameworks** The various elements of operations management are introduced and developed using an operations strategy framework that brings together three critical elements: (1) the key customer, (2) the value proposition, and (3) capabilities. Furthermore, the students are introduced to operations management in a structured way that begins with the “big” picture of operations strategy, proceeds to the foundations of operations management, integrating relationships, planning for integrated supply chain operations, and then ending with a discussion of how to manage the system looking to the future.

¹Thomas L. Friedman, *The World Is Flat: A Brief History of the Twenty-First Century* (New York: Farrar, Straus, and Giroux, 2006).

- **Use of Integrating Themes** Three key themes are highlighted throughout the book: global issues, relationships, and sustainability. Because most organizations have supply chains that reach beyond a single country, we examine global issues associated with operations and supply chain management. Organizations must collaborate with customers and suppliers to accomplish many operations activities. Thus, the book show-cases how to build, maintain, and benefit from cross-functional and interorganizational relationships. To reduce costs and be competitive, organizations today must adapt sustainable business practices. We expect sustainability to increasingly become a key metric for operations and supply chain management performance. Accordingly, we have dedicated an entire chapter to sustainability, while also incorporating it throughout the book.
 - **Real, Integrated Examples** The book brings operations and supply chain management to life through opening vignettes, Get Real highlights, and rich examples throughout the book.
- Managing Operations Across the Supply Chain* offers a new, global, supply chain perspective of operations management—a treatment that embraces the foundations of operations management but includes new frameworks, concepts, and tools to address the demands of today and changing needs of the future. The book is organized into five major sections:
- **Part 1 Supply Chain: A Perspective for Operations Management** provides an overview of operations management as a field, and describes the strategic role operations has in business from the perspective of supply chain management.
 - **Part 2 Foundations of Operations Management** discusses foundational process concepts and principles that govern all operational activities. This section examines concepts such as product/process innovation, quality, lean, and inventory fundamentals.
 - **Part 3 Integrating Relationships Across the Supply Chain** deals with the primary functional relationships between internal operations management activities and other operational functions both inside and outside the firm. This section describes customer relationship management, supply management, and logistics management.
 - **Part 4 Planning for Integrated Operations Across the Supply Chain** discusses planning approaches and technologies used at different levels of operations decision making. Key topics such as demand planning, forecasting, sales and operations planning, inventory management, and materials requirements planning are examined.
 - **Part 5 Managing Change in Supply Chain Operations** discusses how operations managers use projects, change programs, and technologies to shape a sustainable future for operations and supply chain management.

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*Morgan Swink
Steven A. Melynk
Janet L. Hartley
M. Bixby Cooper*

Walkthrough

The following section highlights the key features of the text and accompanying resources, which have been developed to help you learn, understand, and apply operations concepts.

CHAPTER ELEMENTS

Within each chapter, of the text, you will find the following elements. All of these have been developed to facilitate study and learning.

Chapter Opener

Each chapter begins with an opening vignette to help set the tone for the material that follows. Learning objectives provide a quick introduction to the material students will learn and should understand before moving to the next chapter.

Opening Vignette

Each chapter opens with an introduction to the important operations topics covered in the chapter. Students need to see the relevance of operations management in order to actively engage in learning the material.

1 Introduction to Managing Operations Across the Supply Chain

LEARNING OBJECTIVES After studying this chapter, you should be able to:

- LO1-1** Explain what operations management is and why it is important.
- LO1-2** Describe the major decisions that operations managers typically make.
- LO1-3** Explain the role of processes and "process thinking" in operations management.
- LO1-4** Explain what the supply chain is and what it means to view operations management using a "supply chain perspective."
- LO1-5** Identify the partners and functional groups that work together in operations management.
- LO1-6** Define the planning activities associated with managing operations across the supply chain.

2

It Takes More than Cool Products to Make Apple Great

Apple often receives praise for its user-friendly and aesthetically pleasing product designs. But a less well-known contributor to Apple's success is its prowess in managing operations across its supply chain. This is the world of manufacturing, procurement, and logistics in which the chief executive officer, Tim Cook, excelled, earning him the trust of Steve Jobs. Apple has built a closed ecosystem where it exerts control over nearly every piece of the supply chain, from design to retail store.

This operational edge is what enables Apple to handle massive product launches without having to maintain large, profit-sapping inventories. It has allowed a company often criticized for high prices to sell its iPad at a price that very few rivals can beat, while still earning a 25 percent margin on the device. Some of the basic elements of Apple's operational strategy include:

- Capitalize on volume. Because of its buying power, Apple gets big discounts on parts, manufacturing capacity, and air freight.
- Work closely with suppliers. Apple engineers sometimes spend months living out of hotel rooms in order to be close to suppliers and manufacturers, helping to tweak the industrial processes and tools that translate prototypes into mass-produced devices.
- Focus on a few product lines, with little customization. Apple's unified strategy allows it to eliminate complexity and cost, while maximizing volume-based economies in its supply chain.
- Ensure supply availability and low prices. Apple makes big upfront payments to suppliers to lock in their capacity and to limit options for competitors.
- Keep a close eye on demand. By selling through its own retail stores, Apple can track demand by specific store and by the hour, then it adjusts sales forecasts and production plans daily to respond quickly to demand changes.

Apple designs cool products. But its enormous profit margins—two to four times the profit margins of most other hardware companies—come in large part from its priority and focus on operations management.

Key Terms

Key terms are presented in bold and defined in the margin as they are introduced. A list of chapter key terms is also available at the end of the chapter.

<p>supply chain The global network of organizations and activities involved in designing, transforming, consuming, and disposing of goods and services.</p>	<p>A supply chain is the global network of organizations and activities involved in (1) designing a set of goods and services and their related processes, (2) transforming inputs into goods and services, (3) consuming these goods and services, and (4) disposing of these goods and services.</p> <p>Think about all the different organizations located in different companies that are</p>
--	--

Student Activity

Students are asked to do a personal activity that illustrates the concept being presented or covered, thereby helping them learn to apply the concepts and understand them more deeply.

student activity

Find a description of digital moviemaking technology on the Internet. Which of the stages and organizations depicted in Figure 1-3 are likely to be most affected by a shift to a completely digital process? How will the structure of the overall supply chain be changed?

Numbered Examples

Numbered examples are integrated into chapters where analytic techniques are introduced. Students learn how to solve specific problems step-by-step and gain insight into general principles by seeing how they are applied.

EXAMPLE 2-1

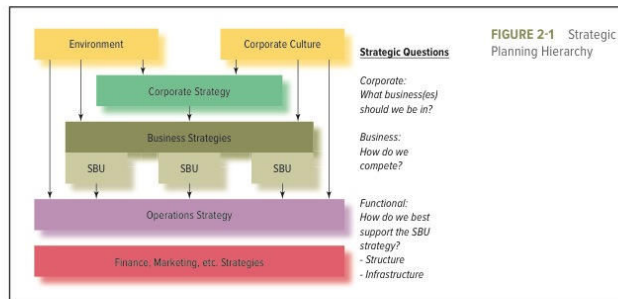
Suppose that the director of marketing has approached you, as a member of the top management team, with a suggestion that appears very attractive. The proposal begins by noting that because demand is down, the firm (and its supply chain) has much unused capacity. Happily, the marketing group has identified a new potential customer segment. Unlike existing customers (who are price sensitive and who buy large quantities of fairly standard products), these new customers will likely order smaller quantities more frequently. The new customers are also likely to want to make last-minute changes to order sizes, due dates, and product mix. Your current operating system is not really set up to accommodate such changes. However, the marketing director feels that the prices these customers are willing to pay will provide gross margins (30 percent, as compared to the 10–15 percent currently being given by existing customers) that should be high enough to offset any operational problems. The chief financial officer has stated that, in order to enter any new market, it must be expected to generate at least a 25 percent return on assets (ROA).

Given the information provided below, would you recommend accepting the marketing director’s proposal?

Category	Estimated First Year Impact	Comments
Sales	\$420,000	
Cost of Goods Sold	\$294,000	30% gross margin

Figures and Photos

The text includes photographs and graphic illustrations to support student study and provide interest and motivation.



Get Real Boxes

Throughout the chapters, readings highlight important real-world applications. They provide examples of operations issues and offer a picture of the concepts in practice. These also provide a basis for classroom discussion and generate interest in the subject matter.

GET REAL

Bosch CS20: Finding a New Order Winner by Changing the Way Customers Cut Straight Lines

Managers at Bosch Power Tools faced a challenging problem—how to design and deliver a better circular saw. Such saws are found in nearly every handyman’s workshop, and over the years their designs had become fairly standard. Consequently, there were few features except price to differentiate competing products. Bosch managers looked at circular saws from an outcome perspective. They saw that many of the circular saws on the market did a poor job of helping users attain a simple but critical outcome—cutting straight lines. Customers were frustrated because the lines were inevitably covered up by either sawdust or by the footplate of the saw itself. Bosch’s solution? First, it installed a powerful fan to vacuum dust off of the cut line. Second, it replaced the steel footplate with an acrylic one that allowed users to see the line as they cut. The result: an award-winning product that customers want to buy.²

© Richard Hamilton Smith/Corbis

²For more information about this innovative product, see: www.newwoodworker.com/reviews/bcs20rvu.html.

Logos

Logos are included throughout the text to point out relevant applications of relationships, sustainability, and global issues.

Since most organizations have supply chains that reach beyond a single country, we examine global issues associated with operations and supply chain management.



global

Organizations must collaborate with customers and suppliers to accomplish many operations activities. Thus, the book showcases how to build, maintain, and benefit from cross-functional and interorganizational relationships.



relationships

To reduce costs and be competitive, organizations today must adopt sustainable business practices. In fact, we expect sustainability to become a key metric for operations and supply chain management performance.



sustainability

END-OF-CHAPTER RESOURCES

For student study and review, the following items are provided at the end of each chapter:

Chapter Summary Chapters contain summaries that provide an overview of the material covered.

CHAPTER SUMMARY

This chapter has introduced the operations strategic planning process within the context of supply chain management. In discussing this process, the following points were made within this chapter:

1. Strategic planning defines the specific types of value that the firm will deliver to its customers. It takes place at three levels. Corporate strategy identifies the business units to be included in the firm. Business unit strategy defines how the business will compete. Operations strategy identifies the priorities, capabilities, and resource deployments needed to support the business strategy and associated value proposition. These three levels of strategic planning should be integrated, with planning taking place from the top down, while execution takes place from the bottom up.
2. Operations strategic planning is driven by the business model—an integrative, systematic view of how the SBU generates value. This planning process begins with the

Key Terms Key terms are highlighted in the text, and then repeated at the end of the chapter with page references.

KEY TERMS

business model	27	flexibility	35	order-to-delivery	
business unit strategy	27	functional strategy	28	lead time	33
capabilities	36	innovation	34	order winners	30

Discussion Questions Each chapter has a list of discussion questions. These are intended to serve as a student self-review or as class discussion starters.

DISCUSSION QUESTIONS

1. Why should the firm never outsource its core capabilities? What happens if the firm is approached by a supplier who is willing to supply goods and services based on these core capabilities at a significantly lower price? What should the firm do?
2. Apply the corporate/SBU/functional planning hierarchy introduced in this chapter to your university/college or business. What would be the equivalent to corporate planning? SBU planning? Functional planning?
3. How would you define capabilities within a school or business?
4. When can a consumer be a critical consumer? In other words, when does it make sense to focus on consumers such as retail stores, distributors, or buyers, rather than on the end consumer?
5. A critical concept introduced in this chapter was that of the value proposition. Explore

Solved Problems Solved problems are provided to illustrate problem solving and the main concepts in the chapter. These have been carefully prepared to enhance student understanding as well as to provide additional examples of problem solving.

SOLVED PROBLEM

Suppose you have been asked to determine the return on net worth for Great Northwest Canoe and Kayak, a small manufacturer of kayaks and canoes, located near Seattle, Washington. For this task, you have been given the following information:

Categories	Values
Sales	\$32,000,000
Cost of goods sold	\$20,000,000
Variable expenses	\$ 4,000,000
Fixed expenses	\$ 6,000,000
Inventory	\$ 8,000,000
Accounts receivable	\$ 4,000,000
Other current assets	\$ 3,000,000
Fixed assets	\$ 6,000,000

Problems Each chapter includes a set of problems for assignment. The problems are intended to be challenging but doable for students.

PROBLEMS

1. Given the following information:

Categories	Values
Sales	\$32,000,000
Cost of goods sold	\$20,000,000
Variable expenses	\$ 4,000,000
Fixed expenses	\$ 6,000,000
Inventory	\$ 8,000,000
Accounts receivable	\$ 4,000,000
Other current assets	\$ 3,000,000
Fixed assets	\$ 6,000,000

a. What is the net profit margin for this firm?
 b. What is the asset turnover?
 c. What is the return on assets?

Cases The text includes short cases for most chapters. The cases were selected to provide a broader, more integrated thinking opportunity for students without taking a full “case” approach.

CASE

Trail Frames Chassis

Trail Frames Chassis (TFC) of Elkhart, Indiana, is a major manufacturer of chassis for the motor home and van markets. Since it was founded in 1976 by two unemployed truck-manufacturing engineers, TFC has grown into one of the major suppliers in this market. Success in the motor home and van markets is difficult because of the constant rate of change taking place. Increasingly, motor homes and vans are bought by people in their late 40s to 60s. What these people want is a motor home that rides like a car. They are willing to pay for innovations such as ABS (antilock breaking systems),

This approach has served TFC well for a number of years. However, recently sales for TFC have begun to level off. After visiting numerous customers in the field, John Stickley identified what he thought was the reason for this leveling off—the market for high-end, customized motor home chassis had been effectively saturated. There were only just so many customized motor homes that people wanted. Several of the major customers for TFC had strongly hinted that there was another market that TFC could enter that was consistent with its design strengths and its reputation.

INSTRUCTOR RESOURCES

Online Learning Center (OLC) www.mhhe.com/swink3e

The Online Learning Center provides complete materials for study and review. At this book’s website, instructors have access to teaching supports such as electronic files of the ancillary materials: Solutions Manual, PowerPoint Lecture Slides, Digital Image Library, and Test Bank.

Solutions Manual. Prepared by the authors, this manual contains solutions to all the end-of-chapter problems and cases.

Test Bank. Prepared by the authors, the Test Bank includes true/false, multiple-choice, and discussion questions/problems at varying levels of difficulty.



EZ Test Online. All test bank questions are available in EZ Test Online, a flexible electronic testing program. The answers to all questions are given, along with a rating of the level of difficulty, chapter learning objective met, Bloom’s taxonomy question type, and the AACSB knowledge category.

PowerPoint Lecture Slides. The PowerPoint slides draw on the highlights of each chapter and provide an opportunity for the instructor to emphasize the key concepts in class discussions.

Digital Image Library. All the figures in the book are included for insertion in PowerPoint slides or for class discussion.

Operations Management Video Series

The operations management video series, free to text adopters, includes professionally developed videos showing students real applications of key manufacturing and service topics in real companies. Each segment includes on-site or plant footage, interviews with company managers, and focused presentations of OM applications in use to help the companies gain competitive advantage. Companies such as Zappos, FedEx, Subaru, Disney, BP, Chase Bank, DHL, Louisville Slugger, McDonald's, Noodles, and Honda are featured.

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Chapter 1 quiz	01/11/16-01/21/16		
Chapter 2. Operations and Supply Chain Strategy	01/11/16-01/21/16		
Chapter 2 Problems	01/19/16-01/26/16		

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eBook
Managing Operations Across the Supply Chain
Morgan Swink, Steven Meinyk, M. Cooper, Janet Harley, 2

Section web address:
<http://connect.mheducation.com/class/k-et>

Upload syllabus

Integration of Excel Data Sets. A convenient feature is the inclusion of an Excel data file link in many problems using data files in their calculation. The link allows students to easily launch into Excel, work the problem, and return to *Connect* to key in the answer.

Guided Examples. These narrated video walkthroughs provide students with step-by-step guidelines for solving problems similar to those contained in the text. The student is given personalized instruction on how to solve a problem by applying the concepts presented in the chapter. The narrated voiceover shows the steps to take to work through an exercise. Students can go through each example multiple times if needed.

LEARNSMART

LearnSmart. LearnSmart adaptive self-study technology with *Connect Operations Management* helps students make the best use of their study time. LearnSmart provides a seamless combination of practice, assessment, and remediation for every concept in the textbook. LearnSmart’s intelligent software adapts to students by supplying questions on a new concept when students are ready to learn it. With LearnSmart students will spend less time on topics they understand and instead focus on the topics they need to master.

Simple Assignment Management and Smart Grading. When it comes to studying, time is precious. *Connect Operations Management* helps students learn more efficiently by providing feedback and practice material when they need it, where they need it. When it comes to teaching, your time also is precious. The grading function enables you to:

- Have assignments scored automatically, giving students immediate feedback on their work and side-by-side comparisons with correct answers.
- Access and review each response; manually change grades or leave comments for students to review.

Student Reporting. *Connect Operations Management* keeps instructors informed about how each student, section, and class is performing, allowing for more productive use of lecture and office hours. The progress-tracking function enables you to:

- View scored work immediately (Add Assignment Results Screen) and track individual or group performance with assignment and grade reports.
- Access an instant view of student or class performance relative to learning objectives.
- Collect data and generate reports required by many accreditation organizations, such as AACSB.

The screenshot shows the 'assignment statistics' page in the Connect LMS. The page header includes the course name 'MGMT 3000 Integrated Ops and S...' and navigation options like 'Library' and 'Performance'. Below the header, there's a section for 'assignment statistics' with a dropdown menu set to 'Assignment Statistics'. A note indicates 'View score statistics on submitted assignments.' and a link to 'show report options & settings'. A yellow banner states 'Scores below are averages across attempts.' The main content area shows 'assignment statistics: MGMT 3000 Integrated Ops and SCM (Spring 2016) (Eboch, Karen)' with report creation and assignment type details. Below this is a table of assignment statistics.

assignment	mean score	highest score	lowest score	# students submitted	# times submitted
▶ Chapter 1 Introduction to Managing Operations Across the Supply Chain (unlimited attempts, 100.0 points)	93.41	100	0	78	78
▶ Chapter 1 quiz (3 attempts, 100.0 points)	80.62	100	10	77	129
▶ Chapter 2. Operations and Supply Chain Strategy (unlimited attempts, 100.0 points)	96.39	100	0	78	78
▶ Chapter 2 Problems (unlimited attempts, 40.0 points)	37.94	40	0	76	78
▶ Chapter 2 Quiz (3 attempts, 100.0 points)	85.25	100	30	78	120

Instructor Library. The *Connect Operations Management* Instructor Library is your repository for additional resources to improve student engagement in and out of class. You can select and use any asset that enhances your lecture. The *Connect Business Statistics* Instructor Library includes:

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Connect® Plus Operations Management includes a seamless integration of an eBook and *Connect Operations Management* with rich functionality integrated into the product.



Integrated Media-Rich eBook. An integrated media-rich eBook allows students to access media in context with each chapter. Students can highlight, take notes, and access shared instructor highlights/notes to learn the course material.

The screenshot shows the McGraw-Hill Connect eBook interface. At the top, there's a navigation bar with 'Library' and 'Performance' tabs, and a search bar. The main content area displays 'Chapter 1. Introduction to Managing Operations Across the Supply Chain'. Below the chapter title, there's a table of contents with columns for 'relationships', 'sustainability', and 'global'. A text box below the table explains operations management.

	relationships	sustainability	global
1 Introduction to Managing Operations Across the Supply Chain	X	X	X
2 Operations and Supply Chain Strategy	X	X	X

What is operations management? Have you ever stopped to consider all of the "nuts and bolts" of how organizations (business and not-for-profit) deliver goods and services to their customers? Think of all the details that must be managed to develop product concepts, to identify sources for raw materials, to decide how products will be made and delivered, and to establish how to serve customers. Operations management includes all of these types of decisions.

Operations management is the management of processes used to design, supply, and deliver products, goods, and services to customers.

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Chapter-by-Chapter Revisions for Third Edition

In this major revision to the book, we made many specific changes to the chapters; the larger changes are highlighted for each chapter below. We updated or replaced most of the opening vignettes and Get Real stories throughout the book. We added about 20 percent more practice problems, as well as more solved problems and examples.

Chapter 1: Introduction to Managing Operations Across the Supply Chain

- Made stronger linkages of operations to other functions, economics, and business success.

Chapter 2: Operations and Supply Chain Strategy

- New opening vignette on Redbubble.
- Added a case on Lil Me, a manufacturer of customized dolls that look like their owner.
- Additional discussion questions and problems.

Chapter 3 and 3S: Managing Processes and Capacity

- Included a better focus on the notion of process thinking.
- Additional discussion questions and problems.

Chapter 4: Product/Process Innovation

- New **Get Real** on Lego.
- New discussion of crowdsourcing and 3D printing.
- Additional problems.

Chapter 5: Manufacturing and Service Process Structures

- New opening vignette on Invisalign and their use of 3D printing, robots, and customer contact.
- Added a discussion of 3D printing.
- Major revision to Capabilities Enabling Technologies section including more on mobile apps, robots, drones, and Internet of Things.
- New **Get Real** on Robots.
- Additional discussion questions and problems.

Chapter 6: Managing Quality

- Updated the Hyundai story to include awards and changes within the last 3 years.
- Updated **Get Real** on food safety.
- Dropped discussion of Malcolm Baldrige award.
- Additional problems.

Chapter 6 Supplement: Quality Improvement Tools

- Additional discussion questions and problems.

Chapter 7: Managing Inventories

- Additional discussion questions and problems.

Chapter 8: Lean Systems

- Additional discussion questions and problems.

Chapter 9: Customer Service Management

- New opening vignette focusing on Macy's and its attempts to deal with the "Amazon Effect".
- Detailed discussion of how Amazon has changed customer service through its impact on such issues as returns and customer knowledge.
- Additional problems.

Chapter 10: Sourcing and Supply Management

- New opening vignette on sourcing and supply management at Chipotle.
- New **Get Real** on Flextronics and supply chain risk management.
- Updated the supplier quality **Get Real** box to discuss Takata air bags.
- New **Get Real** on K'Nex and reshoring.
- Added a student activity about insourcing/outourcing.
- Additional discussion questions and problems.

Chapter 11: Logistics Management

- New opening vignette about Amazon's innovations in delivery.
- New **Get Real** on how mobile apps are transforming the trucking industry.
- New **Get Real** on how GameStop depends upon reverse logistics.
- Additional problems.

Chapter 12: Demand Planning: Forecasting and Demand Management

- New **Get Real** on how Lennox uses artificial intelligence to improve demand planning.
- Additional discussion questions and problems.

Chapter 13: Sales and Operations Planning

- Additional discussion questions and problems.

Chapter 14: Materials and Resource Requirements Planning

- Added a new vignette on Blue Apron, a home meal delivery service.
- Additional problems.

Chapter 15 and 15S: Project Management

- Updated opening Pixar vignette.
- Updated to include some of Pixar's recent hit movies.
- Additional problems.

Chapter 16: Sustainable Operations Management-Preparing for the Future

- Updated Unilever vignette with achievements of zero landfill waste.
- New **Get Real** on Patagonia's sustainability efforts.
- Discussion of Starbucks Reserve, a new experiential coffee store in Seattle aimed at making the experience of brewing and enjoying a unique cup of coffee critical and attractive
- Discussion of how the Internet of Things (IoT) is affecting not only the supply chain but also the business model.

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1

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relationships



sustainability



global

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- 2 Operations and Supply Chain Strategy

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What is operations management? Have you ever stopped to consider all of the specifics of how organizations (business and not-for-profit) deliver goods and services to their customers? Think of all the details that must be managed to develop product concepts, identify sources for raw materials, decide how products will be made and delivered, and establish how to serve customers. Operations management includes all of these types of decisions:

Operations management is the management of processes used to design, supply, produce, and deliver valuable goods and services to customers.

In Part 1, *Supply Chain: A Perspective for Operations Management*, we define the scope of operations

management, as well as its strategic role in businesses. **Chapter 1** explains what operations management is and why it is important for all managers (accounting, marketing, finance, and other managers) to understand the basics of this management discipline. **Chapter 1** also introduces an important perspective, the *supply chain*, as a way to think about how to coordinate operational activities across different organizations. **Chapter 2** describes how strategic choices in operations management relate to an organization's overall objectives and to choices made in marketing, finance, and other functional areas. In addition, **Chapter 2** explains how to increase competitiveness through effective operations and how to measure the effectiveness of operations activities.