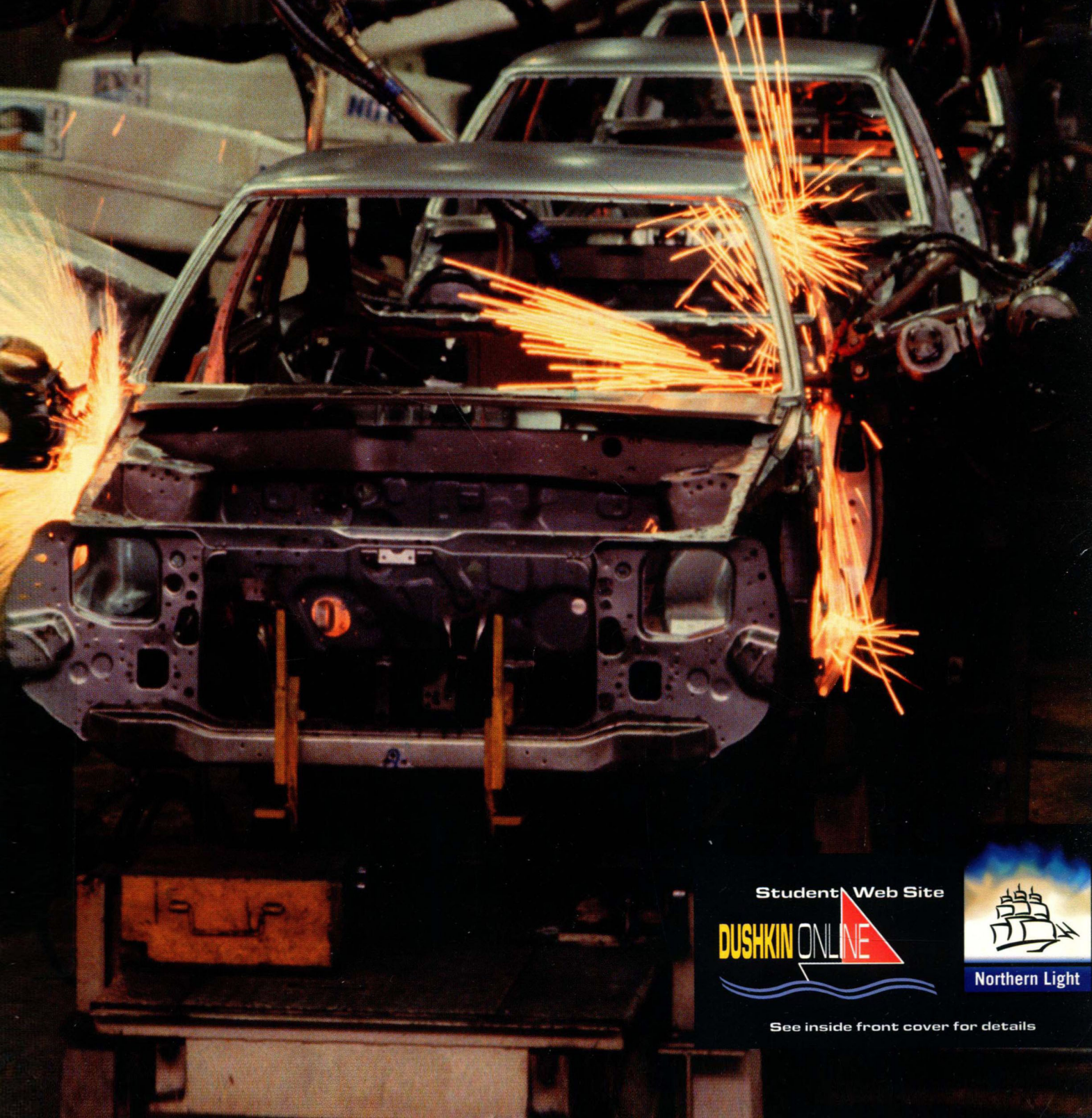


A·N·N·U·A·L E·D·I·T·I·O·N·S

Production and Operations Management 01/02



Student Web Site



Northern Light

See inside front cover for details

1. Performance Improvement and Electronic Commerce

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Second Edition

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Members of the Advisory Board are instrumental in the final selection of articles for each edition of ANNUAL EDITIONS. Their review of articles for content, level, currentness, and appropriateness provides critical direction to the editor and staff. We think that you will find their careful consideration well reflected in this volume.

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In publishing ANNUAL EDITIONS we recognize the enormous role played by the magazines, newspapers, and journals of the public press in providing current, first-rate educational information in a broad spectrum of interest areas. Many of these articles are appropriate for students, researchers, and professionals seeking accurate, current material to help bridge the gap between principles and theories and the real world. These articles, however, become more useful for study when those of lasting value are carefully collected, organized, indexed, and reproduced in a low-cost format, which provides easy and permanent access when the material is needed. That is the role played by ANNUAL EDITIONS.

Organizations today are faced with challenges to improve performance and to increase customer service. Firms must provide greater quality and faster delivery than ever before and simultaneously reduce costs. Important decisions are required in forecasting demand accurately, human resources management, capacity, location, logistics, and layout planning. Supply chain management has emerged as a major area of importance for all firms. The Internet has provided new challenges and opportunities for electronic commerce; both business-to-consumer and business-to-business sales opportunities have been created. These challenges are dealt with by the utilization of operations and production management concepts.

The field of production management has its roots in scientific management principles from the early 1900s that were developed when the United States economy was primarily manufacturing-based. As the economy shifted to more service-based and information-based sectors, the focus shifted away from production management to operations management within service organizations. As we see greater globalization, firms must now ensure that they are world class to remain competitive. With the dynamic environment in the field, managers need to keep up with these new developments. This second edition of *Annual Editions: Production and Operations Management* is designed to provide students and managers with a concise review of recent developments in theory and company illustrations of practice.

This publication contains a number of features designed to be useful for managers and students interested in production and operations management. These features include a *topic guide* for locating articles on a specific subject and a *table of contents* with abstracts that summarize each article, highlighting key ideas in bold italics. Also, there are selected *World Wide Web sites* that can

be used to further explore the topics. These sites are cross-referenced by number to the topic guide.

Annual Editions: Production and Operations Management 01/02 is organized into seven units, each dealing with specific interrelated topics in production and operations management. The units cover performance improvement and electronic commerce; quality; human resources management for productivity; forecasting and product design; decisions on capacity, location, logistics, and layout planning; inventory and supply chain management; and emerging trends in operations and production management. These seven units cover the major decision areas and considerations faced by managers in the field. The units are interrelated and cumulatively provide the reader with concepts of management within both manufacturing and service environments. Each unit begins with an overview that provides the necessary background information and basic core concepts. These unit overviews allow the reader to place the selections in the context of the book. Important topics are emphasized, and key points to consider address major themes.

This is the second edition of *Annual Editions: Production and Operations Management* and it is designed to provide the reader with the most complete and current selection of readings available on the subject. We would like to know what you think. Please take a few minutes to complete and return the postage-paid *article rating form* at the back of the volume. Any book can be improved, and we need your help to improve *Annual Editions: Production and Operations Management*.



P. K. Shukla
Editor

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1. An Empirical Assessment of the Production/Operations Manager's Job , Brian D'Netto, Amrik S. Sohal, and John Trevillyan, <i>Production and Inventory Management Journal</i> , First Quarter, 1998.	8
Findings from a survey of production/operations managers indicate that the modern production manager is vastly different from the traditional profile. The nature of the job has changed from a department-centered approach to cross-functional linkages with marketing, engineering, human resources, finance, and accounting.	
2. Reengineer or Perish , G. Berton Latamore, <i>APICS—The Performance Advantage</i> , January 1999.	13
Michael Hammer, the originator of both reengineering and process-centering, is interviewed in this article. He comments on how reengineering the supply chain is the key to manufacturing success in the new millennium.	
3. Hurry Up and Wait , Kelly Barron, <i>Forbes</i> , October 16, 2000.	17
Time is a scarce resource for customers and frustration occurs when customers are forced to wait in lines. Firms need to value customer time and use concepts like queuing theory to reduce waiting time.	
4. Do You Have What It Takes To Be Lean? William Feld, <i>APICS—The Performance Advantage</i> , May 2000.	22
Most firms have had difficulty in achieving successful lean manufacturing. Benchmarks, primary elements, principles, and a road map for successful lean manufacturing implementation are presented. Performance measurement is viewed as vital for successful implementation.	
5. Rally of the Dolls: It Worked for Toyota. Can It Work for Toys? Alex Taylor III, <i>Fortune</i> , January 11, 1999.	26
Alexander Doll Company has turned around its operations and finances from bankruptcy to profitability, and it has improved its operations processes by utilizing the same lean production system concepts used by Toyota Motor Corporation .	
6. Using ERP Data to Get [Close] to Customers , G. Berton Latamore, <i>APICS—The Performance Advantage</i> , September 2000.	28
Enterprise Resource Planning (ERP) systems provide valuable data to shop-floor personnel. Firms using ERP data are improving response to order changes, customer needs, and market conditions.	



Performance Improvement and Electronic Commerce

Six articles in this section examine some of the elements in improving the process of business operations: reengineering the supply chain, benchmarking, job design, and the management of services.



Quality

Seven selections consider job design, tracking quality, effective service strategies, and improving the various job processes.

Overview

- | | | |
|--|---|-----------|
| 7. Fool Proof Service: Poka-Yoke, | Richard B. Chase and Douglas M. Stewart, <i>USC Business</i> , Spring 1994. | 32 |
| | This article reviews the Japanese concept of quality management called "poka-yoke." In essence, it builds a step into a process that must be completed before the next stage can be performed. In other words, it ensures that each phase of an operation is done correctly. | 34 |
| 8. A Conversation With Joseph Juran, | Thomas A. Stewart, <i>Fortune</i> , January 11, 1999. | 37 |
| | Joseph Juran, a pioneer in quality control, presents his views on why quality matters , why quality takes so long, the cost of quality, control versus creativity, and perfection. | |
| 9. One More Time: Eight Things You Should Remember About Quality, | John P. Mello Jr., <i>Harvard Management Update</i> , May 1998. | 39 |
| | John Mello identifies eight suggestions for gaining organizational commitment to quality by involvement of customers, top management, and workers. Examples of several firms provide support to the view that more than just quality standards are needed. | |
| 10. ISO 9000 Myth and Reality: A Reasonable Approach to ISO 9000, | Frank C. Barnes, <i>SAM Advanced Management Journal</i> , Spring 1998. | 42 |
| | Frank Barnes presents a background on ISO 9000 quality system standards , discusses benefits and costs, and makes recommendations based upon data collected on actual savings to firms of different sizes. | |
| 11. 2-D or Not 2-D? | Srikumar S. Rao, <i>Forbes</i> , November 15, 1999. | 49 |
| | Bar codes, introduced over 20 years ago, have been improved to "2-D" bar codes. The enhanced bar codes allow for more data capacity , reduce paperwork with inventories, and reduce costs. | |
| 12. Jac Nasser's Biggest Test, | Alex Taylor III, <i>Fortune</i> , September 18, 2000. | 51 |
| | Ford CEO Jac Nasser faced a crisis in 2000 with Ford Explorer SUV tire failures and rollovers. Unlike other CEOs faced with litigation and congressional hearings, Nasser chose to speak openly about the crisis. | |
| 13. Cause of Tire Failures Still a Matter of Dispute, | Terril Yue Jones, <i>Los Angeles Times</i> , October 22, 2000. | 55 |
| | Ford and Bridgestone/Firestone disputed the cause of tire failures in 1999 and 2000. Explanations for the tire cracks ranged from manufacturing flaws and poor design to improper tire inflation and maintenance. | |

Overview

- 14. How Will Kawai's Hand-Built Grand Play Against Steinway?** Sonni Efron, *Los Angeles Times*, November 3, 2000. **62**
Kawai Musical Instrument Manufacturing Company has mass-produced affordable family pianos for 72 years. Kawai plans to introduce a limited number of high quality hand-built pianos to compete against Steinway.
- 15. Less Stress, More Productivity**, Phillip M. Perry, *Area Development*, May 1999. **64**
Employee stress affects productivity in addition to employee job satisfaction. Suggestions are presented to reduce stress and to increase productivity.
- 16. How Great Machines Are Born**, Stuart F. Brown, *Fortune*, March 1, 1999. **66**
Friendly machines, based upon human factors and ergonomics, have been developed for use in the home and in industry. The designs are efficient and often safer, and users say the machines are a joy to use.
- 17. Characteristics of the Manufacturing Environment That Influence Team Success**, Mark Pagell and Jeffrey A. LePine, *Production and Inventory Management Journal*, Third Quarter, 1999. **71**
Work performed through teams is common in many firms. In this article, Mark Pagell and Jeffrey LePine analyze characteristics of *the manufacturing environment* that influence team success. They examine three categories: operational system, informal communication, and new or unusual problems.
- 18. The Legal Limitations to Self-Directed Work Teams in Production Planning and Control**, Steven E. Abraham and Michael S. Spencer, *Production and Inventory Management Journal*, First Quarter, 1998. **76**
The use of employee-driven problem-solving teams, or quality circles, is a central component of Just-In-Time (JIT) and total quality management (TQM). The authors identify the *legal limitations to self-directed work teams* with a review of case law.

Overview

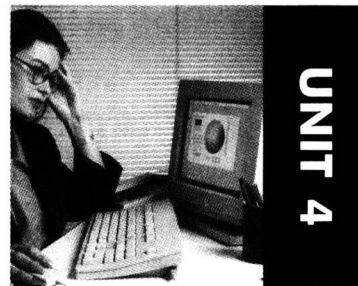
- 19. Managing the New Product Development Process: Strategic Imperatives**, Melissa A. Schilling and Charles W. L. Hill, *Academy of Management Executive*, August 1998. **82**
For many industries, *new product development* is now the single *most important factor* driving success or failure. The authors present models of the new product development (NPD) process and recommend strategic imperatives to reduce delays and failures.
- 20. BMW Drives New Web Strategy**, Dan Carmel, *EC World*, October 2000. **84**
Dan Carmel reports on how BMW lets customers "build" their own cars online, thereby gathering *marketing research on customer preferences*. This data is then linked to production for better model designs and communications to customers. **98**



UNIT 3

Human Resources Management for Productivity

Five articles in this section discuss the various challenges faced by human resources when targeting productivity. Some of the topics considered are: job design, product design, self-directed work teams, and ergonomic machines.



UNIT 4

Forecasting and Product Design

Six articles in this section assess the importance of new product development, the impact of effective management on the project, the role of forecasting, and the need for improving the necessary processes.



Capacity, Location, Logistics, and Layout Planning

Five selections in this section discuss the importance of creating the proper atmosphere for a productive company.

21. **Bringing Discipline to Project Management**, Jeffrey Elton and Justin Roe, *Harvard Business Review*, March/April 1998. 100
Project delays and excessive costs can be reduced or eliminated through **proper project management** as well as by managers' taking a comprehensive view of managing problems, according to Eliyahu Goldratt, who has outlined his new theories in the book, *Critical Chain*.
22. **New Era About to Dawn for International Space Station**, Peter Pae, *Los Angeles Times*, October 29, 2000. 105
The **International Space Station** is a multination \$25 billion project. Peter Pae reports that cost estimates have far exceeded original figures. Some critics propose that the project should be shut down.
23. **Seven Keys to Better Forecasting**, Mark A. Moon, John T. Mentzer, Carlo D. Smith, and Michael S. Garver, *Business Horizons*, September/October 1998. 108
Sales forecasting is important for company success, especially financial health. The authors review seven key focus points that will help any company to **improve its forecasting performance**.
24. **Vitamin Efficiency**, Amy Doan, *Forbes*, November 1, 1999. 117
Longs Drug Stores slashed its inventory without running short by using a **demand forecasting system**. The system provided up-to-the-day sales predictions that cut inventory and lowered replenishment costs, according to Amy Doan.

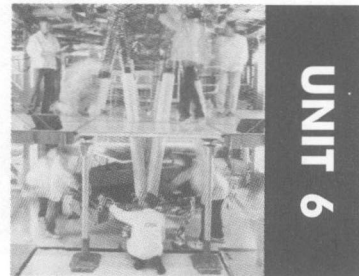
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25. **Not All Projections Bad for Overgrown Theater Chains**, Claudia Eller and James Bates, *Los Angeles Times*, September 8, 2000. 122
The authors report that movie theatre chains increased the number of screens rapidly from 1980 to 1999, but ticket sales did not keep pace with the increase in **capacity**. Many chains filed Chapter 11 bankruptcy petitions in 2000.
26. **State Declares First Stage 3 Power Alert**, Nancy Rivera Brooks and Nancy Vogel, *Los Angeles Times*, December 8, 2000. 124
California faces a crisis with **high energy demand and limited electricity capacity**. The authors report that the state declared its first Stage 3 power alert in December 2000, when the state dipped into its last 1.5 percent of reserves.

- 27. Changes in Performance Measures on the Factory Floor**, Robert F. Marsh and Jack R. Meredith, *Production and Inventory Management Journal*, First Quarter, 1998.
Robert Marsh and Jack Meredith review cellular manufacturing, where some production is moved from a job shop to a line process design. With a **move to cells**, managers can change performance measures on the factory floor, leading to **lower costs and shorter lead times**.
- 28. Using Queueing Network Models to Set Lot-Sizing Policies for Printed Circuit Board Assembly Operations**, Maged M. Dessouky, *Production and Inventory Management Journal*, Third Quarter, 1998.
To implement Just-In-Time (JIT) manufacturing, **small lot sizes** often need to be run. Queueing network models can be used to set lot-sizing policies, as illustrated in this article about a printed circuit board assembly operation.
- 29. A New Route for Boeing's Latest Model**, Peter Pae, *Los Angeles Times*, November 19, 2000.
Boeing Corporation is manufacturing its 717 jet on a **moving assembly line**, hoping to improve the plane's prospects by speeding production and cutting costs. Peter Pae explains that with the old, nonmoving, assembly line, mechanics wasted a lot of time looking for tools and parts.

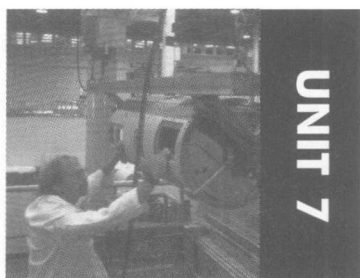
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- 30. Introducing JIT Manufacturing: It's Easier Than You Think**, Luciana Beard and Stephen A. Butler, *Business Horizons*, September/October 2000.
Some firms have assumed that **JIT** (Just-In-Time) would be too difficult to implement and abandoned its consideration. Luciana Beard and Stephen Butler claim that the benefits of JIT warrant its consideration, and they offer examples to show that introducing JIT is easier than some managers think.
- 31. Tailored Just-In-Time and MRP Systems in Carpet Manufacturing**, Z. Kevin Weng, *Production and Inventory Management Journal*, First Quarter, 1998.
This article shows how **JIT** can be **applied to low-tech industries** and how it can be used alongside a traditional material-requirements planning system.
- 32. The Critical Importance of Master Production Scheduling**, Steve Wilson and Chuck Davenport, *APICS—The Performance Advantage*, October 1998.
For proper supply chain management, **master production scheduling (MPS) is one of the most critical points**. The evolution of master planning, inputs, and the potential for problems without proper MPS are identified.



Inventory and Supply Chain Management

Six articles in this section consider the importance of proper and effective inventory control, the value of Just-In-Time manufacturing, and the general need for a well-designed supply chain system.



Emerging Trends in Production and Operations Management

Six articles in this section look at some of the challenges facing an effective production management system.

33. **The Manager's Guide to Supply Chain Management,** 157
F. Ian Stuart and David M. McCutcheon, *Business Horizons*, March/April 2000.
Supply chain management has been growing in importance to manufacturing firms. The authors identify objectives, supply cost reduction advantages, relationship choices, and supporting practices. They also present a contingency model for **supply chain decisions**.
34. **Squeezing the Most Out of Supply Chains,** 167
Michael S. McGarr, *EC World*, December 2000.
Supply chain management can benefit from the use of software tools that identify best practices for firms, a supply chain partner-strategic certification process, and steps for managing **supply chain partnerships**.
35. **Saturn's Supply-Chain Innovation: High Value in After-Sales Service,** 172
Morris A. Cohen, Carl Cull, Hau L. Lee, and Don Willen, *Sloan Management Review*, Summer 2000.
A case study is presented on innovations in Saturn Corporation's after-sales service business. Results indicate that Saturn's innovations have resulted in efficient **supply chain management**, satisfied customers, and brand loyalty.
36. **From Supply Chain to Value Net,** David Bovel and Joseph Martha, *Journal of Business Strategy*, July/August 2000. 180
Supply chain management should lead to strategic advantages, but too many firms have utilized a traditional approach that misses opportunities, according to the authors. A **value net** is proposed to create value for all participants.

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37. **Electronics Manufacturing: A Well-Integrated IT Approach,** Bruce Reinhart, *APICS—The Performance Advantage*, October 1998. 186
For proper supply chain planning, an effective and efficient use of **information technology** (IT) is required. Bruce Reinhart examines the IT requirements to support customer requirements and company concerns for cost savings.
38. **Are You Ready for the E-Supply Chain?** Jim Turcotte, Bob Silveri, and Tom Jobson, *APICS—The Performance Advantage*, August 1998. 189
The authors examine how the growth of the Internet will affect the managing of supply chains. **Information technology terms and concepts** are reviewed along with recommendations for **e-supply chain success**.

39. The Global Six, *Business Week*, January 25, 1999. 193

This article reviews the mergers that are taking place in the ***auto-mobile manufacturing*** industry and predicts that the "Global Six" will remain: General Motors, Ford Motor, DaimlerChrysler, Volkswagen, Toyota Motor, and Honda Motor.

40. Thinking Machines, Otis Port, *Business Week*, August 7, 2000. 197

Computer hardware and software have increased in capabilities with artificial intelligence, neural networks, and robotics. This special report presents examples of ***"smart manufacturing"*** to show how thinking machines are affecting factories.

41. One Giant Leap for Machinekind? Usha Lee McFarling, *Los Angeles Times*, August 31, 2000. 202

Computer scientists have created ***self-evolving and self-generating robotic machines*** that will greatly alter manufacturing. Usha McFarling reports that these robotic creatures are powered by motors and are controlled by a neural network on a microchip.

42. Environmental Management: New Challenges for Production and Inventory Managers, R. Anthony Inman, *Production and Inventory Management Journal*, Third Quarter, 1999. 205

According to the author, increased interest in ***environmental preservation*** has presented new challenges for production and inventory managers. Environmental programs will have an impact on their decisions on production planning and control, inventory control, and distribution.

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Production and Operations Management *Second Edition*

01/02

EDITOR

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Dr. P. K. Shukla is associate professor of management at Chapman University. He received his bachelor's degree from California State University, Long Beach, his master's degree from the University of Southern California, and his doctorate from the University of California at Los Angeles. He is certified in Production and Inventory Management by APICS—The Educational Society for Resource Management. His research and consulting interests include operational and strategic planning. Dr. Shukla resides in Villa Park, California, with his wife and children.

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Topic Guide

This topic guide suggests how the selections in this book relate to the subjects covered in your course.

The Web icon (🌐) under the topic articles easily identifies the relevant Web sites, which are numbered and annotated on the next two pages. By linking the articles and the Web sites by topic, this ANNUAL EDITIONS reader becomes a powerful learning and research tool.

TOPIC AREA	TREATED IN	TOPIC AREA	TREATED IN
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Forecasting	23. Seven Keys to Better Forecasting 24. Vitamin Efficiency 26. State Declares First Stage 3 Power Alert 39. Global Six 🌐 7, 8, 9, 25, 26, 27	Job Design	1. Empirical Assessment of the Production/Operations Manager's Job 5. Rally of the Dolls 7. Fool Proof Service 8. Conversation With Joseph Juran 9. One More Time 14. How Will Kawai's Hand-Built Grand Play Against Steinway? 15. Less Stress, More Productivity 16. How Great Machines Are Born 17. Characteristics of the Manufacturing Environment 18. Legal Limitations to Self-Directed Work Teams 40. Thinking Machines 41. One Giant Leap for Machinekind? 🌐 1, 2, 3, 6, 7, 10, 12, 13, 14, 22, 23, 24
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TOPIC AREA	TREATED IN	TOPIC AREA	TREATED IN
	4. Do You Have What It Takes to Be Lean? 5. Rally of the Dolls 7. Fool Proof Service 8. Conversation With Joseph Juran 9. One More Time 11. 2-D or Not 2-D? 18. Legal Limitations to Self-Directed Work Teams 19. Managing the New Product Development Process 29. New Route for Boeing's Latest Model 35. Saturn's Supply-Chain Innovation • 1, 2, 6, 7, 11, 20, 22, 23, 24, 30	Quality	7. Fool Proof Service 8. Conversation With Joseph Juran 9. One More Time 10. ISO 9000 Myth and Reality 11. 2-D or Not 2-D? 12. Jac Nasser's Biggest Test 13. Cause of Tire Failures Still a Matter of Dispute 14. How Will Kawai's Hand-Built Grand Play Against Steinway? 19. Managing the New Product Development Process • 1, 2, 3, 6, 10, 12, 13, 15, 16, 17, 18, 19, 24
Product Design	3. Hurry Up and Wait 13. Cause of Tire Failures Still a Matter of Dispute 14. How Will Kawai's Hand-Built Grand Play Against Steinway? 16. How Great Machines Are Born 19. Managing the New Product Development Process 20. BMW Drives New Web Strategy 39. Global Six 42. Environmental Management • 1, 2, 3, 10, 18, 19, 25, 26, 27	Supply Chain Management/ Inventory, Master Production Scheduling (MPS), Materials Research Planning (MRP)	2. Reengineer or Perish 28. Using Queuing Network Models to Set Lot-Sizing Policies 30. Introducing JIT Manufacturing 31. Tailored Just-In-Time and MRP Systems in Carpet Manufacturing 32. Critical Importance of Master Production Scheduling 33. Manager's Guide to Supply Chain Management 34. Squeezing the Most out of Supply Chains 35. Saturn's Supply-Chain Innovation 36. From Supply Chain to Value Net 37. Electronics Manufacturing 38. Are You Ready for the E-Supply Chain? • 4, 6, 7, 9, 10, 11, 13, 14, 19, 21, 22, 28, 29, 30, 31, 32, 33
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● AE: Production and Operations Management

The following World Wide Web sites have been carefully researched and selected to support the articles found in this reader. The sites are cross-referenced by number and the Web icon (●) in the topic guide. In addition, it is possible to link directly to these Web sites through our DUSHKIN ONLINE support site at <http://www.dushkin.com/online/>.

The following sites were available at the time of publication. Visit our Web site—we update DUSHKIN ONLINE regularly to reflect any changes.

General Sources

1. American National Standards Institute (ANSI)

<http://web.ansi.org/default.htm>

ANSI Online is designed to provide convenient access to timely information on the ANSI Federation and the latest national and international standards-related activities.

2. APICS Online

<http://www.apics.org>

APICS is the Educational Society for Resource Management. The *Performance Advantage* magazine is located here as well as a link to certification testing information.

3. Data Interchange Standards Association (DISA)

<http://www.disa.org>

DISA is a not-for-profit organization that supports the development of EDI standards in electronic commerce.

4. Introduction to Operations Management

<http://members.tripod.co.uk/tomi/whatis.html>

Here is an excellent starting place for understanding the basics of operations management. This TOMI site uses interesting examples on the Web to illustrate its points.

5. Operations Management Center (OMC)

<http://www.mhhe.com/pom>

OMC is a supersite developed by McGraw-Hill/Irwin that contains a number of resources. Available are links to OM resource sites by topic; full text of OM articles from *Business Week*; a number of links to OM publications, organizations, and news feeds; and virtual tours of OM companies. The site also allows for interactive feedback that effectively works to improve content and coverage.

Performance Improvement and Electronic Commerce

6. Agile Manufacturing Project at MIT

<http://web.mit.edu/ctpid/www/agile/atlanta.html>

This interesting paper describes the research plan, methods, and early progress of two coordinated Agile Pathfinders focused on the aircraft and automobile industry respectively. The paper's working hypothesis is that a network of companies can improve its performance if participants take proactive steps during early product design.

7. American Productivity and Quality Center (APQC)

<http://www.apqc.org>

APQC is a nonprofit education and research organization. Its Web site shows how benchmarking and best practices can help an organization improve its processes and performance.

8. Business Forecasting

<http://forecasting.cwru.edu>

Use this page to access the thinking of business researchers who, using statistics, economics, psychology, and related disciplines, attempt to predict the future.

9. Demystifying Supply Chain Management

<http://www.manufacturing.net/magazine/logistic/archives/1998/scmr/myst.htm>

Peter J. Metz shows that SCM is, in fact, a logical development of lasting value, and not just a buzzword.

10. Design for Competitive Advantage TOC

<http://dfca.larc.nasa.gov/dfc/toc.html>

The table of contents of Ed Dean's book *Design for Competitive Advantage* leads to chapters on technologies of business, quality, cost, and others.

11. Galaxy: Manufacturing and Processing

<http://galaxy.einet.net/GJ/mnfg.html>

Billed as "the professional's guide to a world of information," Galaxy is a rich source of links to engineering and technology (cryogenics, quality control and more).

12. Kaizen

<http://akao.larc.nasa.gov/dfc/kai.html>

This selection explains kaizen and its relationship to Total Quality Control.

13. Voice of the Shuttle: Postindustrial Business Theory Page

<http://vos.ucsb.edu/shuttle/commerce.html>

Subjects covered at this Web page include the team concept, the quality movement, outsourcing, diversity management, restructuring, reengineering, downsizing, knowledge work, knowledge management, and learning organizations.

14. WARIA, the Workflow and Reengineering International Association

<http://www.waria.com>

This nonprofit organization tries to make sense of what is happening at the intersection of business process reengineering, workflow, and electronic commerce.

Quality

15. American Society for Quality (ASQ)

<http://www.asq.org>

Subtitled "Your Quality Resource," ASQ covers the field. The site includes a glossary, quality-related sites, and a quality forum, as well as standards and certification.

16. Concept Corner

<http://members.tripod.co.uk/tomi/concepts.html>

Concept Corner provides an introduction to Internet sites that help explain concepts, tools, and techniques that may be applied within the subject of operations management.

17. International Organization for Standardization (ISO)

<http://www.iso.ch/welcome.html>

Through ISO's home page find out everything you need to know about ISO, ISO 9000, and ISO 14000.

18. John Grout's Poka-Yoke Page

<http://www.campbell.berry.edu/faculty/jgrout/pokayoke.shtml>

Find out about mistake-proofing, zero defect quality (ZDQ), and fail-safing here. Choose from 20 selections, including Poka-Yoke Resources, Bad Designs, and Quality Links.

19. Plan-Do-Check-Act

<http://www.inform.umd.edu/CampusInfor/Departments/cqi/Outlook/Tech/pdca.html>

This article offers a clear explanation of PDCA as well as an example of how to put this concept of Continuous Quality Improvement (CQI) to work.

Human Resources Management for Productivity

20. Ergonomics, HCI, and Human Factors: Working Environments

<http://www.workspace-resources.com/work00.htm>

Workspace Resources offers information about the societal changes that have been made in the commercial office.

21. Just-in-Time Manufacturing

http://dali.ece.curtin.edu.au/~clive/public_html/jit/jit.htm

Curtin University of Technology offers this introduction to the basic concepts of a JIT manufacturing system.

22. Quality Circles

<http://www.nw.com.au/~jingde/homepa6.htm>

This interesting Web page from Australia is all about the behavioral science technique called quality circles.

23. SDWT: Self-Directed Work Teams

<http://users.ids.net/~brim/sdwt.html>

This very complete site links to discussions of the what and why of SDWT, skills and steps needed for success, examples of teams, work teams in public, and related resources.

24. TQM: Total Quality Management Diagnostics

<http://www.skyenet.net/~leg/tqm.htm>

Offered at this Web site is a simplified TQM diagnostic model.

Forecasting and Product Design

25. New Product Development: Practice and Research

<http://www.eas.asu.edu/~kdooley/nsfnpd/practices.html>

These are the results of a research project that surveyed over 40 New Product Development programs. From this page link to a description of the theory behind this work.

26. Project Management Institute (PMI)

<http://www.pmi.org>

PMI aims to build professionalism into project management and this Web site is part of that endeavor. Download *A Guide to the Project Management Body of Knowledge* here. The site also contains links to other organizations.

27. STORES June 1998: Editor's Choice

<http://www.stores.org/eng/archives/jun98edch.html>

This article on sales forecasting, "Retailers, Suppliers Push Joint Sales Forecasting" by Ginger Koloszyyc, introduces the concept of information sharing known as collaborative planning, forecasting, and replenishing (CPFR).

Capacity, Location, Logistics, and Layout Planning

28. Manufacturers Information Net

<http://mfginfo.com/newhome2.htm>

A complete source of information for industry and services related to manufacturing is provided at the site.

29. Warwick Business School—Focus on Research

<http://users.wbs.ac.uk/om/research/>

Visit this page for some downloadable research papers. Topics on operations strategy, capacity management, supply chain management, service quality and design, and performance measurement are covered.

30. TWIGG's Operations Management Index (TOMI)

<http://members.tripod.co.uk/tomi/index.html>

This Index is an entry point to operations management resources on the Web, providing information on topics like purchasing, product development, and quality.

Inventory and SupplyChain Management

31. System 21 Manufacturing

<http://jbaworld.com/solutions/infosheets/masterprodsched.htm>

This description of System 21 manufacturing is an example of using the computer in a manufacturing environment.

32. MAGI: Master Production Scheduling

http://www.magimfg.com/Master_Production_Scheduler.htm

MAGI, the Manufacturing Action Group Inc., opens windows and shows you the screens it uses in setting up this Web program of master production scheduling.

33. Informs: Institute for Operations Research and the Management Sciences

<http://www.informs.org>

From the home page of Informs you can link to research on operations research and management science (OR/MS) and also explore articles that have appeared in the press.

Emerging Trends in Production and Operations Management

34. Centre for Intelligent Machines

http://www.cim.mcgill.ca/index_nf.html

CIM's mission is to excel in the field of intelligent machines, stressing basic research, technology development, and education. Domains such as robotics, automation, artificial intelligence, and computer vision systems are explored.

35. International Center for Research on the Management of Technology (ICRMOT)

<http://web.mit.edu/icrmot/www/>

ICRMOT will demonstrate its scope at this site. Specific research themes include managing complex global projects, capturing the value of technological innovation, and creating and delivering technology-based services.

36. Information Technology Association of America

<http://www.itaa.org>

An interesting article available at this Web site is one about global information technology spending. The ITAA provides information about the IT industry and links to other sites.

37. KPMG United States

<http://www.us.kpmg.com/cm/article-archives/actual-articles/global.html>

KPMG, knowledge management experts, offers this article, "Tips for Improving Global Supply Chains," at their United States Web site.

We highly recommend that you review our Web site for expanded information and our other product lines. We are continually updating and adding links to our Web site in order to offer you the most usable and useful information that will support and expand the value of your Annual Editions. You can reach us at:
<http://www.dushkin.com/annualeditions/>

Unit Selections

1. **An Empirical Assessment of the Production/Operations Manager's Job,** Brian D'Netto, Amrik S. Sohal, and John Trevillyan
2. **Reengineer or Perish,** G. Berton Latamore
3. **Hurry Up and Wait,** Kelly Barron
4. **Do You Have What It Takes to Be Lean?** William Feld
5. **Rally of the Dolls: It Worked for Toyota. Can It Work for Toys?** Alex Taylor III
6. **Using ERP Data to Get [Close] to Customers,** G. Berton Latamore

Key Points to Consider

- ❖ What forces within the United States and globally have pressured firms to seek performance improvement?
- ❖ What are the similarities and differences in the performance improvement approaches presented in this unit?
- ❖ What are the opportunities and challenges to firms from electronic commerce?

DUSHKIN ONLINE

Links

www.dushkin.com/online/

6. **Agile Manufacturing Project at MIT**
<http://web.mit.edu/ctpid/www/agile/atlanta.html>
7. **American Productivity and Quality Center (APQC)**
<http://www.apqc.org>
8. **Business Forecasting**
<http://forecasting.cwru.edu>
9. **Demystifying Supply Chain Management**
<http://www.manufacturing.net/magazine/logistic/archives/1998/scmr/myst.htm>
10. **Design for Competitive Advantage TOC**
<http://dfca.larc.nasa.gov/dfc/toc.html>
11. **Galaxy: Manufacturing and Processing**
<http://galaxy.einet.net/GJ/mnfg.html>
12. **Kaizen**
<http://akao.larc.nasa.gov/dfc/kai.html>
13. **Voice of the Shuttle: Postindustrial Business Theory Page**
<http://vos.ucsb.edu/shuttle/commerce.html>
14. **WARIA, the Workflow and Reengineering International Association**
<http://www.waria.com>

These sites are annotated on pages 4 and 5.