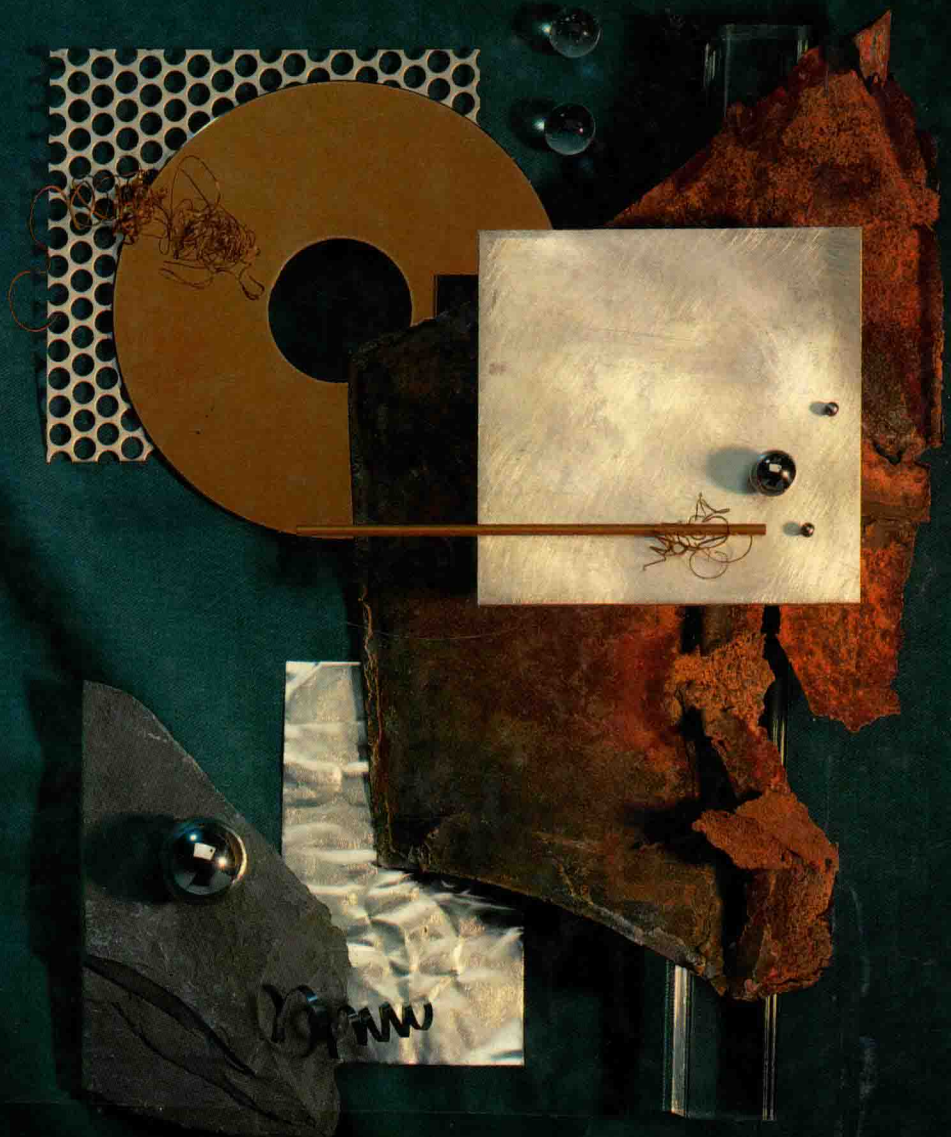
PRODUCTION & OPERATIONS MANAGEMENT

SIXTH EDITION



CHASE / AQUILANO

PRODUCTION & OPERATIONS MANAGEMENT

A Life Cycle Approach

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Sixth Edition

IRWIN
Homewood, IL 60430
Boston, MA 02116

To our wives
Harriet and Nina
and to our children
Laurie, Andy, Glenn, and Rob
Don, Kara, and Mark

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PRODUCTION & OPERATIONS MANAGEMENT

Preface for the Student
(By a student)

Operations Management (OM) has seen a resurgence of interest in recent years, returning to a position of critical importance in business. Competitive pressures for quality, time-based competition, and international production have demonstrated that excellent management of the operations function is vital to the survival of the firm. The modern field of Operations Management is broad in scope, ranging from automated manufacturing to high-touch services. An understanding of the operations function is now a necessary part of any good business education.

As a student, I have enjoyed OM. One experiences the intellectual challenge of using mathematical tools such as linear programming and queuing theory to solve problems as varied as locating a plant, scheduling workers, and producing products "just-in-time."

In the text, Dr. Chase and Dr. Aquilano provide coverage of the time-tested approaches, coupled with additional material on current business practices. There are numerous current examples of breakthrough ideas in services, total quality management, continuous improvement, and synchronous manufacturing. I feel that as a student you will find this text interesting, as well as relevant, to all areas of Business Administration, and that you will find studying Operations Management to be as productive and exciting an experience as I have.

Marcella Liem
Student, School of Business Administration
University of Southern California

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Preface for the Instructor

The tremendous growth in interest in OM courses at business schools has resulted in attracting individuals from other disciplines to teach it. If you fall into this category this year, we would like to welcome you to this fascinating subject. If you are an old pro, we hope that the sixth edition captures, to your satisfaction, the new developments in the field since 1989.

Adopting the notion of "continuous improvement" as our philosophy, we have made the following changes in this edition:

1. Beefed up our treatment of quality. This involved:
   a. A total revision of what is now our TQM chapter.
   b. Adding a chapter-length supplement on the Baldrige National Quality Award (one of us served as a Baldrige examiner primarily to develop materials to use in this book).
   c. Adding a new chapter on continuous improvement, which is now part of the quality approaches of most world-class companies.
2. Added material dealing with how operations is done in other countries and implications of globalization for U.S. competitiveness.
3. Introduced some new ideas in service management including service guarantees and a four-stage model of service firm competitiveness.
4. Refined the chapter on synchronous manufacturing and discussed its applicability in many other parts of the book. (The other author held a seminar on the subject, also with the objective of bringing the largest applications into the book.)
5. Provided detailed discussions of such contemporary issues as time-based competition, concurrent engineering, design for manufacture (DFM), quality function deployment (QFD), activity-based costing, competitive benchmarking, the Shingo system, and so on.
6. Heavily revised virtually every chapter to ensure that it is both topical and teachable. Our pedagogical goal, by the way, has always been to provide enough material on a technique to enable the student to solve a realistic problem using it.

Teaching aids available with this text include:

- *Study Guide and Lotus Templates* by Singhal, Aquilano, and Pope.
- *Instructor's Manual and Transparency Masters.*
- *Test Bank* by Delurgio, Foster, Chase, and Aquilano.
- *Computerized Testing Software.*
- *Decision Support Systems for Production and Operations Management* by Lofti and Pegels.

Also, we've done our best to make the book interesting reading. Disraeli once said, "The way to become rich is to be an expert on a dull subject." We hope that this book helps accomplish the former without suffering the latter.

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Last, but certainly not least, we would like to thank our families who for the sixth time let the life cycle of the book disrupt theirs.

Richard B. Chase
Nicholas J. Aquilano

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