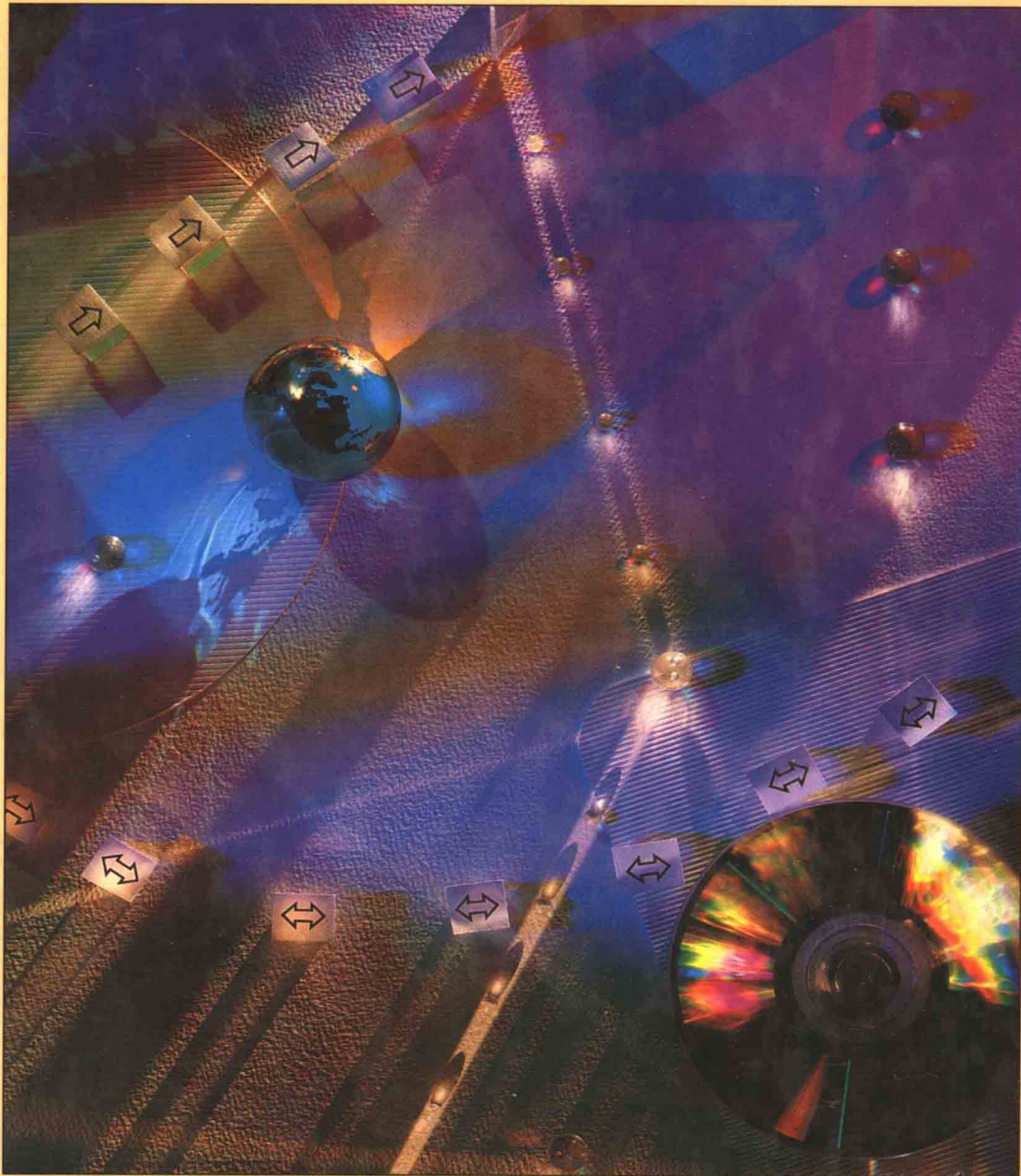


SEVENTH EDITION

PRODUCTION AND OPERATIONS MANAGEMENT

Manufacturing and Services



CHASE / AQUILANO

PRODUCTION AND OPERATIONS MANAGEMENT

Manufacturing and Services

Seventh Edition

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University of Southern California

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**PRODUCTION AND OPERATIONS
MANAGEMENT**

Manufacturing and Services

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

Preface

Operations management (OM) has seen a revolution in recent years, becoming a topic of critical importance in business today. Demands for quality, time-based competition, and international production have demonstrated that superior management of the operations function is vital to the survival of the firm. An understanding of OM strategy and its function is a necessary part of any good business education.

The field of operations management ranges from high-tech manufacturing to high-touch services so we have tried to balance the treatment of the manufacturing and service aspects. To emphasize the importance of services, a logo appears in the text margin next to service discussions. Our aim is to cover the latest and most important issues facing OM managers as well as the basic tools and techniques, and to provide examples of leading-edge companies and practices. We have done our best to make the book interesting reading. We hope you enjoy it.

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Several very talented scholars have made major contributions to specific chapters in the book. We are pleased to thank

Ravi Behara of Stephen F. Austin State University (Business Process Reengineering, Facility Location, and Strategic Capacity Planning).

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Thomas Foster of Boise State University prepared the Instructor's Manual. Phillip Fry, also of Boise State University, prepared the Test Bank. Marilyn Helms of the University of Tennessee at Chattanooga revised the Study Guide. These supplements are a great deal of work to write and we appreciate their efforts, which make teaching the course easier for everyone who uses the text.

We also thank the following reviewers for their many thoughtful suggestions for this edition: Joseph Blackburn, Vanderbilt University; James Blocher, Indiana University; Jim Browne, New York University; Farzaneh Fazel, Illinois State University; Lissa Galbraith, Florida State University; Dennis Geyer, Golden Gate University; Stephen Huxley, Uni-

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We indeed appreciate the enthusiastic support and innovativeness of Dick Hercher, our long-time editor at Richard D. Irwin, whose help in coordinating all of the resources behind the scenes has been terrific.

There are two people we want to single out for very special acknowledgments and thanks. U.S.C. doctoral student Doug Stewart contributed his considerable technical and writing skills in many chapters. He has been our right-hand man throughout the revision process. His help has been invaluable. To Gail Korosa (our developmental editor at Irwin), what can we say? Your dedication (obsession?) to helping us make this our best edition ever cannot be overstated.

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

Richard B. Chase
Nicholas J. Aquilano

Preface for the Student

(by a Student)

Operations management lies at the heart of the great changes sweeping through today's business environment. The competitive pressures for higher quality, quicker response time, superior service, and total customization can only be met through more intelligently run business operations. Even the recent enthusiasm for corporate reengineering is fundamentally about better managing operations.

I have found operations management to be the most relevant and enjoyable part of my business studies. This subject is about the fundamental essence of the firm—how its products are made, and how its services are delivered to customers. It involves everything from strategic concerns such as aggregate planning, plant location, and service capacity expansion, to tactical issues such as daily order scheduling, statistical quality control, and inventory control. Studying such a broad range of topics has helped me achieve a balance between skill with the necessary analytical tools, and an understanding of the underlying conceptual issues.

Dr. Chase and Dr. Aquilano have written a clear text addressing important current issues such as service management, just-in-time production, total quality management, and reengineering, while still covering such fundamental operations management topics as layout, job design, and forecasting. Box inserts throughout the book provide insights into some of the best current operations management practices. In addition, the authors have used their extensive experience to seek out examples of companies that have found radical new ways to run their operations—ways that may reflect how all such businesses will be operating in the future. They call these examples “Breakthroughs.” Several chapters also have special supplements devoted to more technical topics, such as technology management, linear programming, and waiting line theory. The supplements allow these topics to be clearly addressed without confusing the issues presented in the chapters. I am sure that as you read this book, you will appreciate the importance of operations management as a central part of any good business education, and I hope that you will become as fascinated with the field as I am.

Richard D. Bergin
Student, School of Business Administration
University of Southern California

Contents in Brief

Section I

NATURE AND CONTEXT OF OPERATIONS MANAGEMENT

I

- 1 Introduction to the Field 2
- 2 Operations Strategy and Competitiveness 22

Section II

PRODUCT DESIGN AND PROCESS SELECTION

49

- 3 Product Design and Process Selection—
Manufacturing 50
Supplement Technology Management 79
- 4 Product Design and Process Selection—
Services 102
Supplement Waiting Line Management 129
- 5 Total Quality Management 160
*Supplement Statistical Quality Control
Methods 211*

Section III

DESIGN OF FACILITIES AND JOBS

235

- 6 Just-In-Time Production Systems 236
- 7 Forecasting 262
- 8 Strategic Capacity Planning 316
Supplement Linear Programming 341
- 9 Facility Location 372
- 10 Facility Layout 396
- 11 Job Design, Work Measurement, and Learning
Curves 434

Section IV

STARTUP OF THE SYSTEM

481

- 12 Project Planning and Control 482

Section V

THE SYSTEM IN STEADY STATE

511

- 13 Aggregate Planning 512
- 14 Inventory Systems for Independent
Demand 544
- 15 Inventory Systems for Dependent Demand:
MRP-Type Systems 586
- 16 Operations Scheduling 634
Supplement Simulation 667
- 17 Materials Management and Purchasing 694

Section VI

IMPROVING THE SYSTEM

733

- 18 Business Process Reengineering 734
- 19 Synchronous Manufacturing 752

Epilogue How the Pros Do It 792

Appendixes 805

- A. *Financial Analysis in Production and
Operations Management 806*
- B. *Uniformly Distributed Random Digits 822*
- C. *Normally Distributed Random Digits 823*
- D. *Areas of the Standard Normal
Distribution 824*
- E. *Areas of the Cumulative Standard Normal
Distribution 825*
- F. *Negative Exponential Distribution: Values
of e^{-x} 826*
- G. *Interest Tables 827*
- H. *Answers to Selected Problems 831*
- Name Index 835*
- Subject Index 840*

Contents

Section I NATURE AND CONTEXT OF OPERATIONS MANAGEMENT

1

Chapter 1 Introduction to the Field

2

- 1.1 The Field of Operations Management 5
 - Operations Management Defined 5
 - Operations Decisions 5
 - Production Systems 6
 - Differences between Services and Goods Production 7
 - OM in the Organization Chart 8
- 1.2 Closed versus Open Systems Views of Operations 8
- 1.3 Manufacturing Operations as Service 10
- 1.4 Plan of this Book 12
- 1.5 Historical Development of OM 12
 - Scientific Management 13
 - Moving Assembly Line 15
 - Hawthorne Studies 15
 - Operations Research 15
 - OM's Emergence as a Field 15
 - Computers and the MRP Crusade 16
 - JIT, TQC, and Factory Automation 16
 - Manufacturing Strategy Paradigm 17
 - Service Quality and Productivity 18
 - Total Quality Management and Quality Certification 18
 - Business Process Reengineering 18
- 1.6 Conclusion 18
- 1.7 Review and Discussion Questions 19
- 1.8 Selected Bibliography 20

Chapter 2 Operations Strategy and Competitiveness

22

- 2.1 Operations Strategy 24
 - What Is Operations Strategy? 24
 - The Emergence of Operations Strategy 24
 - Types of Operations Strategies 25
 - Factory Focus and Trade-offs 26
 - Establishing Priorities 27
 - The Information Age 28
- 2.2 A Framework for Operations Strategy in Manufacturing 28
 - Developing a manufacturing strategy 31
- 2.3 Operations Strategy in Services 33
- 2.4 U.S. Competitiveness 35
- 2.5 Meeting the Competitive Challenge 38
 - Some Causes of America's Improved Competitiveness 39
- 2.6 Productivity Measurement 40
- 2.7 Conclusion 42
- 2.8 Solved Problem 42
- 2.9 Review and Discussion Questions 43
- 2.10 Problems 44
- 2.11 Case: Motorola's Plantation Factory 44
- 2.12 Case: Operations Strategy at Compaq Computer 45
- 2.13 Case: Memphis Toy Company 46
- 2.14 Selected Bibliography 47

Section II PRODUCT DESIGN AND PROCESS SELECTION

49

Chapter 3 Product Design and Process Selection— Manufacturing

50

- 3.1 Designing for the Customer 52
 - Industrial Design 53

3.2 Product Development	53
Generating New Product Ideas	53
Developing New Products	54
3.3 Linking Design and Manufacturing	56
Design for Manufacturability	56
Frequency of Design Changes	57
Opportunity for Product Design Change	59
Concurrent Engineering	59
3.4 Process Selection	60
Process Selection Contrasted with Process Planning	60
Types of Processes	60
Process Flow Structures	61
Product-Process Matrix	62
The Virtual Factory	65
Specific Equipment Selection	65
Choosing among Alternative Processes and Equipment	65
3.5 Process Flow Design	66
3.6 Process Analysis	68
An Example of Process Analysis	68
Walkthrough of Dell's Order Fulfillment Process	74
3.7 Conclusion	74
3.8 Solved Problem	74
3.9 Review and Discussion Questions	74
3.10 Problems	75
3.11 Case: The Best Engineered Part Is No Part	76
3.12 Case: Product Development in Japan	77
3.13 Selected Bibliography	78

Supplement 3 **Technology Management** *79*

S3.1 Drive for Acquiring New Technologies	81
S3.2 Technology Classifications	83
S3.3 Technologies in Manufacturing	83
Numerically Controlled Machines, Machining Centers, and Industrial Robots	83
Computer-Aided Design	86
Other Technologies	88
Computer-Integrated Manufacturing	89
S3.4 Technologies in Services	93
Office Automation	93
Image Processing Systems	93
Electronic Data Interchange	94

Decision Support Systems and Expert Systems	94
Networked Computer Systems	94
S3.5 Evaluation of Technology Investments	95
Cost Reductions	96
Other Benefits	97
Risks in Adopting New Technologies	97
S3.6 Conclusion	100
S3.7 Review and Discussion Questions	100
S3.8 Selected Bibliography	101

Chapter 4 **Product Design and Process Selection—Services** *102*

4.1 The Nature of Services	104
Service Businesses and Internal Services	105
A Contemporary View of Service Management	105
4.2 An Operational Classification of Services	106
4.3 Designing Service Organizations	107
Service Strategy: Focus and Advantage	108
4.4 Structuring the Service Encounter: Service-System Design Matrix	112
Strategic Uses of the Matrix	112
4.5 Service Blueprinting	114
4.6 Service Fail-Safing Using Poka-Yokes	115
4.7 Three Contrasting Service Designs	116
The Production Line Approach	116
The Self-Service Approach	118
The Personal Attention Approach	120
4.8 Service Guarantees as Design Drivers	122
4.9 Review and Discussion Questions	123
4.10 Problems	125
4.11 Case: Kinko's Copier Stores	126
4.12 Selected Bibliography	127

Supplement 4 **Waiting Line Management** *129*

S4.1 Economics of the Waiting Line Problem	131
Cost Effectiveness Balance	131
The Practical View of Waiting Lines	132

S4.2 The Queuing Phenomenon	132
Customer Arrivals	134
The Queuing System	138
Exit	142
S4.3 Waiting Line Models	142
S4.4 Computer Simulation of Waiting Lines	152
S4.5 Conclusion	152
S4.6 Formula Review	153
S4.7 Solved Problems	153
S4.8 Review and Discussion Questions	155
S4.9 Problems	155
S4.10 Selected Bibliography	159

C h a p t e r 5

Total Quality Management 160

5.1 Overview of Total Quality Management	163
Eligibility for the Baldrige Award	165
Description of the 1994 Baldrige Award Criteria	165
To Win the Baldrige or Not to Win?	170
The Baldrige Award and the Quality Gurus	173
5.2 Quality Specifications and Quality Costs	173
Developing Quality Specifications	173
Quality Function Deployment	175
Cost of Quality	178
Generic Tools and Tools of the QC Department	179
5.3 Continuous Improvement (CI)	180
Distinguishing Features of CI	181
Tools and Procedures of CI	181
Benchmarking for CI	183
5.4 The Shingo System: Fail-Safe Design	186
5.5 ISO 9000	190
The ISO 9000 Series	191
ISO 9000 Certification	193
ISO 9000: An Everyday Example	194
ISO 9000 versus the Baldrige Criteria	196
5.6 Conclusion	196
5.7 Review and Discussion Questions	197
5.8 Problems	199
5.9 Case: Hank Kolb, Director Quality Assurance	200
5.10 Case: Shortening Customers' Telephone Waiting Time	202
5.11 Case: The First National Bank of Chicago's Quality Program	205
5.12 Selected Bibliography	209

S u p p l e m e n t 5

Statistical Quality Control Methods 211

S5.1 Acceptance Sampling	212
Design of a Single Sampling Plan for Attributes	212
Operating Characteristic Curves	214
Shaping the OC Curve	214
The Effects of Lot Size	215
S5.2 Process Control Procedures	215
Process Control Using Attribute Measurements using p Charts	216
Process Control with Variable Measurements Using \bar{X} and R Charts	216
How to Construct \bar{X} and R Charts	218
Process Capability	219
Capability Index (C_{pk})	223
S5.3 Taguchi Methods	224
S5.4 Conclusion	228
S5.5 Formula Review	228
S5.6 Solved Problems	229
S5.7 Review and Discussion Questions	230
S5.8 Problems	230
S5.9 Selected Bibliography	234

S e c t i o n III

DESIGN OF FACILITIES AND JOBS 235

C h a p t e r 6

Just-in-Time Production Systems 236

6.1 JIT Logic	239
6.2 The Japanese Approach to Productivity	240
Elimination of Waste	240
Respect for People	245
6.3 North American Modifications of JIT	246
6.4 JIT Implementation Requirements	247
JIT Layouts and Design Flows	247
JIT Applications for Line Flows	247
JIT Applications for Job Shops	248
TQC (Total Quality Control)	249
A Stable Schedule	251
Work with Vendors	251
6.5 JIT in Services	252

- 6.6 Conclusion 256
- 6.7 Review and Discussion Questions 257
- 6.8 Case: Quick Response Apparel 257
- 6.9 Case: EDI and JIT 258
- 6.10 Case: Toyota Work Contracts 259
- 6.11 Case: Quality Parts Company 259
- 6.12 Selected Bibliography 261

C h a p t e r 7

Forecasting

262

- 7.1 Demand Management 264
- 7.2 Types of Forecasting 265
- 7.3 Components of Demand 266
- 7.4 Qualitative Techniques in Forecasting 267
 - Grass Roots 267
 - Market Research 268
 - Panel Consensus 268
 - Historical Analogy 269
 - Delphi Method 269
- 7.5 Time Series Analysis 270
 - Simple Moving Average 271
 - Weighted Moving Average 272
 - Exponential Smoothing 273
 - Forecast Errors 277
 - Sources of Error 277
 - Measurement of Error 278
 - Linear Regression Analysis 280
 - Decomposition of a Time Series 285
- 7.6 Causal Relationship Forecasting 291
 - Multiple Regression Analysis 292
- 7.7 Choosing a Forecasting Method 293
- 7.8 Focus Forecasting 294
 - Methodology of Focus Forecasting 294
 - Developing a Focus Forecasting System 297
- 7.9 Computer Programs 297
- 7.10 Conclusion 298
- 7.11 Formula Review 300
- 7.12 Solved Problems 301
- 7.13 Review and Discussion Questions 305
- 7.14 Problems 305
- 7.15 Selected Bibliography 314

C h a p t e r 8

Strategic Capacity Planning

316

- 8.1 Nature of Capacity Relative to OM 318
 - Strategic Capacity Planning (Long-Range) 319
- 8.2 Important Capacity Planning Concepts 319
 - Best Operating Level 319
 - Economies of Scale 320
 - The Experience Curve 321
 - Where Economies of Scale Meet the Experience Curve 322
 - Capacity Focus 322
 - Capacity Flexibility 323
- 8.3 Capacity Planning 324
 - Considerations in Adding Capacity 324
 - Determining Capacity Requirements 326
 - Using Decision Trees to Evaluate Capacity Alternatives 328
- 8.4 Planning Service Capacity 330
 - Capacity Planning in Service versus Manufacturing 330
 - Capacity Utilization and Service Quality 331
- 8.5 Adding Capacity through Multisite Service Growth 332
 - Entrepreneurial Stage 332
 - Multisite Rationalization Stage 333
 - Growth Stage 334
 - Maturity Stage 334
- 8.6 Conclusion 335
- 8.7 Solved Problem 336
- 8.8 Review and Discussion Questions 336
- 8.9 Problems 337
- 8.10 Case: Shouldice Hospital—A Cut Above 338
- 8.11 Selected Bibliography 340

S u p p l e m e n t 8

Linear Programming

341

- S8.1 The Linear Programming Model 344
- S8.2 Graphical Linear Programming 344
- S8.3 The Simplex Method 347
 - The Six-Step Solution Procedure 347
 - Search Path Followed by the Simplex Method 353
 - Shadow Prices, Ranging, and Sensitivity 354
 - Computer Program Output 354
 - Linear Programming on a Spreadsheet—Microsoft Excel 5.0 357

S8.4 Transportation Method	359
Step 1: Set Up Transportation Matrix	359
Step 2: Make Initial Allocations	360
Step 3: Develop Optimal Solution	361
S8.5 Conclusion	366
S8.6 Solved Problems	366
S8.7 Review and Discussion Questions	367
S8.8 Problems	367
S8.9 Selected Bibliography	370

C h a p t e r 9

Facility Location

372

9.1 Issues in Facility Location	374
9.2 Plant Location Methods	378
Factor-Rating Systems	379
Linear Programming	380
Center of Gravity Method	380
Analytic Delphi Model	382
9.3 Locating Service Facilities	383
9.4 Conclusion	389
9.5 Formula Review	389
9.6 Solved Problem	389
9.7 Review and Discussion Questions	390
9.8 Problems	390
9.9 Case: Is It Russian Roulette?	391
9.10 Case: The Plant Location Puzzle	392
9.11 Selected Bibliography	395

C h a p t e r 10

Facility Layout

396

10.1 Basic Production Layout Formats	398
10.2 Process Layout	399
Computerized Layout Techniques—CRAFT	402
Applying CRAFT to the Toy Factory	402
Systematic Layout Planning	403
10.3 Product Layout	405
Assembly Lines	405
Assembly-Line Balancing	405
Splitting Tasks	409
Flexible Line Layouts	410
Computerized Line Balancing	410

Mixed-Model Line Balancing	411
Current Thoughts on Assembly Lines	413
10.4 Group Technology (Cellular) Layout	413
Developing a GT Layout	414
“Conceptual” GT Layout	416
10.5 Fixed-Position Layout	416
10.6 Retail Service Layout	416
Servicescapes	417
Ambient Conditions	418
Spatial Layout and Functionality	418
Signs, Symbols, and Artifacts	420
10.7 Office Layout	421
10.8 Conclusion	421
10.9 Solved Problems	423
10.10 Review and Discussion Questions	425
10.11 Problems	425
10.12 Case: Soteriou’s Souvlaki	429
10.13 Case: State Automobile License Renewals	431
10.14 Selected Bibliography	432

C h a p t e r 11

Job Design, Work Measurement, and Learning Curves

434

11.1 Job Design Decisions	436
11.2 Behavioral Considerations in Job Design	438
Degree of Labor Specialization	438
Job Enrichment	439
Sociotechnical Systems	439
11.3 Physical Considerations in Job Design	440
11.4 Work Methods	440
Overall Productive System	441
Worker at a Fixed Workplace	442
Worker Interacting with Equipment	442
Workers Interacting with Other Workers	444
11.5 Work Measurement and Standards	445
Work Measurement Techniques	446
11.6 Financial Incentive Plans	455
Basic Compensation Systems	455
Individual and Small-Group Incentive Plans	456
Organizationwide Plans	456
11.7 Learning Curves	457
Application of Learning Curves	457
Plotting Learning Curves	459

General Guidelines for Learning 465
 Learning Curves Applied to Heart Transplant
 Mortality 467

- 11.8 Conclusion 470
- 11.9 Formula Review 471
- 11.10 Solved Problems 472
- 11.11 Review and Discussion Questions 473
- 11.12 Problems 474
- 11.13 Case: Teamwork at Volvo 478
- 11.14 Selected Bibliography 479

S e c t i o n I V

STARTUP OF THE SYSTEM

481

C h a p t e r 12

Project Planning and Control

482

- 12.1 Definition of Project Management 484
 - Work Breakdown Structure 485
- 12.2 Project Control 486
 - Reporting Mechanisms 486
- 12.3 Organizational Structures 488
 - Pure Project 488
 - Functional Project 488
 - Matrix Project 489
- 12.4 Critical Path Scheduling 489
- 12.5 Time-Oriented Techniques 490
 - CPM with a Single Time Estimate 491
 - CPM with Three Activity Time Estimates 494
 - Maintaining Ongoing Project Schedules 496
- 12.6 Time–Cost Models 497
 - Minimum–Cost Scheduling (Time–Cost Trade–Off) 497
- 12.7 Managing Resources 500
- 12.8 Tracking Progress 500
- 12.9 Picking on PERT and CPM 500
- 12.10 Conclusion 503
- 12.11 Formula Review 503
- 12.12 Solved Problems 503
- 12.13 Review and Discussion Questions 505
- 12.14 Problems 506
- 12.15 Selected Bibliography 510

S e c t i o n V

THE SYSTEM IN STEADY STATE

511

C h a p t e r 13

Aggregate Planning

512

- 13.1 Overview of Operations Planning Activities 514
- 13.2 Hierarchical Production Planning 515
- 13.3 Aggregate Production Planning 516
 - Production Planning Environment 518
 - Relevant Costs 520
- 13.4 Aggregate Planning Techniques 520
 - A Cut-and-Try Example: The C&A Company 521
 - Aggregate Planning Applied to Services: Tucson Parks and Recreation Department 528
 - Level Scheduling 529
 - Mathematical Techniques 532
- 13.5 Conclusion 534
- 13.6 Solved Problem 534
- 13.7 Review and Discussion Questions 538
- 13.8 Problems 538
- 13.9 Case: XYZ Brokerage Firm 541
- 13.10 Selected Bibliography 543

C h a p t e r 14

Inventory Systems for Independent Demand

544

- 14.1 Definition of Inventory 546
- 14.2 Purposes of Inventory 547
- 14.3 Inventory Costs 548
- 14.4 Independent versus Dependent Demand 549
- 14.5 Inventory Systems 549
 - Classifying Models by Fixed-Order Quantity or Fixed-Time Period 549
- 14.6 Fixed Order Quantity Models 551
 - Basic Sawtooth Model 551
 - Fixed-Order Quantity Model with Usage 554
 - Establishing Safety Stock Using Service Levels 555
 - Fixed-Order Quantity Model with Specified Service Level 558
 - Fixed-Time Period Model with Service Level 562
 - Special-Purpose Models 564
- 14.7 Miscellaneous Systems and Issues 568
 - Three Simple Inventory Systems 568

- ABC Inventory Planning 569
- Inventory Accuracy and Cycle Counting 570
- Inventory Control in Services 572
- 14.8 Conclusion 575**
- 14.9 Formula Review 575**
- 14.10 Solved Problems 577**
- 14.11 Review and Discussion Questions 578**
- 14.12 Problems 578**
- 14.13 Selected Bibliography 585**

C h a p t e r 15

Inventory Systems for Dependent Demand: MRP-Type Systems 586

- 15.1 Where MRP Can Be Used 589**
- 15.2 A Simple MRP Example 590**
- 15.3 Master Production Schedule 592**
 - Time Fences 593
- 15.4 Material Requirements Planning (MRP) Systems 594**
 - Purposes, Objectives, and Philosophy of MRP 594
 - Advantages of an MRP System 594
 - Disadvantages of an MRP System 595
- 15.5 Material Requirements Planning System Structure 596**
 - Demand for Products 597
 - Bill of Materials File 597
 - Inventory Records File 599
 - MRP Computer Program 600
 - Output Reports 600
 - Net Change Systems 601
- 15.6 An Example Using MRP 601**
 - Forecasting Demand 602
 - Developing a Master Production Schedule 602
 - Bill of Materials (Product Structure) File 602
 - Inventory Records (Item Master) File 603
 - Running the MRP Program 603
- 15.7 Improvements in the Basic MRP System 606**
 - Computing Work Center Load 606
 - Closed-Loop MRP 608
- 15.8 MRP II (Manufacturing Resource Planning) 608**
- 15.9 Embedding JIT into MRP 609**
 - Phasing MRP into JIT 610
- 15.10 Lot Sizing in MRP Systems 614**
 - Lot-for-Lot 614
 - Economic Order Quantity 615
 - Least Total Cost 616
 - Least Unit Cost 617

- Which Lot Size to Choose 617
- 15.11 Advanced MRP-Type Systems 618**
 - Distributed MRP Processing versus Centralized Processing 618
 - SAP America, Inc.'s R/3 619
 - ManMan/X 622
 - COMMS (Customer-Oriented Manufacturing Management System) 622
 - EDI (Electronic Data Interface) 622
 - Transition to Advanced MRP-Type Systems 624
- 15.12 Conclusion 624**
- 15.13 Solved Problems 625**
- 15.14 Review and Discussion Questions 626**
- 15.15 Problems 626**
- 15.16 Case: Nichols Company 630**
- 15.17 Selected Bibliography 633**

C h a p t e r 16

Operations Scheduling 634

- 16.1 The Nature and Importance of Job Shops 636**
 - Objectives of Job-Shop Scheduling in Manufacturing 636
- 16.2 Scheduling and Control in the Job Shop 637**
- 16.3 Elements of the Job-Shop Scheduling Problem 638**
 - Job Arrival Patterns 638
 - Number and Variety of Machines 639
 - Ratio of Workers to Machines 639
 - Flow Patterns of Jobs 639
 - Job Sequencing 640
 - Priority Evaluation Criteria 640
- 16.4 Priority Rules and Techniques 640**
 - Scheduling n Jobs on One Machine 640
 - Comparison of Priority Rules 643
 - Scheduling n Jobs on Two Machines 643
 - Scheduling a Set Number of Jobs to the Same Number of Machines 644
 - Scheduling n Jobs on m Machines: Complex Job Shops 646
- 16.5 Shop-Floor Control 647**
 - Gantt Charts 648
 - Tools of Shop-Floor Control 648
 - Input/Output Control 648
 - OPT and "Q Control" Approaches 650
 - Data Integrity 651
- 16.6 Example of a Shop Floor Control System: H.P.'s Manufacturing Management II 651**
 - Principles of Job Shop Scheduling 652
- 16.7 Improving Performance in Job Shops 653**
- 16.8 Personnel Scheduling in Services 653**

- Scheduling Consecutive Days Off 653
- Scheduling Daily Work Times 655
- Scheduling Hourly Work Times 656
- 16.9 Conclusion 657**
- 16.10 Solved Problem 657**
- 16.11 Review and Discussion Questions 658**
- 16.12 Problems 658**
- 16.13 Case: Keep Patients Waiting? Not in My Office 662**
- 16.14 Case: McCall Diesel Motor Works (Need for a Complete System of Production Control) 664**
- 16.15 Selected Bibliography 666**

S u p p l e m e n t 16

Simulation

667

- S16.1 Definition of Simulation 669**
- S16.2 Simulation Methodology 669**
 - Problem Definition 670
 - Constructing a Simulation Model 670
 - Specifying Values of Variables and Parameters 673
 - Evaluating Results 673
 - Validation 674
 - Proposing a New Experiment 674
 - Computerization 675
- S16.3 Example: Simulating Waiting Lines 675**
 - A Two-Stage Assembly Line 675
- S16.4 Spreadsheet Simulation 678**
- S16.5 Simulation Programs and Languages 680**
 - Desirable Features of Simulation Software 683
- S16.6 Advantages and Disadvantages of Simulations 683**
- S16.7 Conclusion 684**
- S16.8 Solved Problems 684**
- S16.9 Review and Discussion Questions 686**
- S16.10 Problems 686**
- S16.11 Selected Bibliography 693**

C h a p t e r 17

Materials Management and Purchasing 694

- 17.1 Definitions 696**
- 17.2 Materials Management in Manufacturing 698**
 - Organizational Placement of Materials Management 698
 - Materials Handling Systems 699
 - Value Density (Value per Unit of Weight) 700

17.3 Purchasing 701

- Value-Based Purchasing 702
- The Purchasing Organization 703
- The Firm as a Supplier 704
- Value Analysis 705
- Partnership Relationships: Buyer-Supplier 705
- Just-in-Time Purchasing 707
- Small Suppliers and JIT Purchasing 710
- Multiple Suppliers versus Few Suppliers 713
- Single-Source Supplier Qualification 714

17.4 Global Sourcing 715

- Purchasing in the International Marketplace 716
- Geographic Areas for Sourcing 718
- Locating International Suppliers 719
- International Distribution 720

17.5 Electronic Information Flow 721

- Quick Response (QR) 721
- Efficient Consumer Response (ECR) 722
- Wal-Mart's Information System 723

17.6 Conclusion 723

17.7 Review and Discussion Questions 724

17.8 Case: Thomas Manufacturing Company 724

17.9 Case: Ohio Tool Company (Vendor Selection) 726

- Reading: Buying in the Common Global Economy 727

17.10 Selected Bibliography 732

S e c t i o n VI **IMPROVING THE SYSTEM** 733

C h a p t e r 18 **Business Process Reengineering** 734

- 18.1 The Nature of Business Process Reengineering 736**
- 18.2 Principles of Reengineering 737**
- 18.3 The Reengineering Process 740**
 - Step 1. State a Case for Action 740
 - Step 2. Identify the Process for Reengineering 741
 - Step 3. Evaluate Enablers of Reengineering 741
 - Step 4. Understand the Current Process 742
 - Step 5. Create a New Process Design 743
 - Step 6. Implement the Reengineered Process 744
- 18.4 Process Redesign Techniques and Tools 745**
- 18.5 Reengineering and Continuous Improvement 747**
- 18.6 Integrating Reengineering and Process Improvement 747**