PART ONE
UNDERSTANDING SERVICES  1

Chapter 1
The Service Economy  3

Learning Objectives  3
Chapter Preview  4
Service Definitions  4
Facilitating Role of Services in an Economy  4
Economic Evolution  5
Stages of Economic Development  6
Preindustrial Society  6
Industrial Society  7
Postindustrial Society  8
Nature of the Service Sector  9
The 21st Century Career  10
The Experience Economy  11
Consumer Service Experience  11
Business Service Experience  12
Service-Dominant Logic  13

Distinctive Characteristics of Service Operations  14
Customer Participation  15
Simultaneity  15
Perishability  16
Intangibility  16
Heterogeneity  17
Nontransferrable Ownership  17
The Service Package  18
Grouping Services by Delivery Process  20
Open-Systems View of Service Operations
Management  22
Service Benchmark: Walmart Is Number One
on the Fortune 500 List  23
Summary  24
Key Terms and Definitions  24
Topics for Discussion  24
Interactive Exercise  25
Case 1.1: Village Volvo  25
Case 1.2: Xpresso Lube  26
Selected Bibliography  27
Endnotes  28

Chapter 2
Service Strategy  29

Learning Objectives  29
Chapter Preview  29
The Strategic Service Vision  30
Understanding the Competitive Environment
of Services  32

Competitive Service Strategies  33

Overall Cost Leadership  33
Differentiation  34
Focus  35

Strategic Analysis  35
Porter’s Five Forces Analysis  35
SWOT Analysis: Strengths, Weaknesses,
Opportunities, Threats  36

Winning Customers in the Marketplace  37
Qualifiers  38
Service Winners  38
Service Losers  38

Sustainability in Services  38
Triple Bottom Line (TBL)  39

The Competitive Role of Information
in Services  41
Creation of Barriers to Entry  41
Revenue Generation  42
Database Asset  43
Productivity Enhancement  44

The Virtual Value Chain  45
First Stage (New Processes)  46
Second Stage (New Knowledge)  46
Third Stage (New Products)  46
Fourth Stage (New Relationships)  47

Economics of Scalability  47
Limits in the Use of Information  48
Anticompetitive  48
Fairness  48
Invasion of Privacy  48
Data Security  49
Reliability  49

Using Information to Categorize
Customers  49

Stages in Service Firm
Competitiveness  49
Available for Service  49
Journeyman  51
Distinctive Competence Achieved  51
World-Class Service Delivery  51
Summary  51
Service Benchmark: Outside the Box  52
Key Terms and Definitions  52
Topics for Discussion  53
Interactive Exercise  53
Case 2.1: United Commercial Bank and
El Banco  53
Case 2.2: The Alamo Drafthouse  56
Selected Bibliography  57
Endnotes  58
PART TWO
Designing the Service Enterprise  59

Chapter  3
New Service Development  61

Learning Objectives  61
Chapter Preview  62
Sources of Service Sector Growth  62
  Information Technology  62
  The Internet as a Service Enabler  63
  Innovation  64
  Changing Demographics  64
Innovation in Services  65
New Service Development  66
Technology in Service Innovation  68
  Challenges of Adopting New Technology in Services  68
  Readiness to Embrace New Technology  68
Service Design Elements  69
  Customer Value Equation  70
Strategic Positioning through Process Structure  71
Service Blueprinting  72
Taxonomy for Service Process Design  73
  Degree of Divergence  73
  Object of the Service Process  74
  Type of Customer Contact  75
Generic Approaches to Service System Design  75
  Production-Line Approach  76
  Customer as Coproducer  77
  Customer Contact Approach  79
  Information Empowerment  80
Intellectual Property  81
Service Benchmark: Ten Things Google Has Found To Be True  82
Summary  82
Key Terms and Definitions  83
Topics for Discussion  83
Interactive Exercise  83
Case 3.1: 100 Yen Sushi House  83
Case 3.2: Commuter Cleaning—A New Venture Proposal  84
Case 3.3: Amazon.com  86
Selected Bibliography  88
Endnotes  89

Chapter  4
The Service Encounter  91

Learning Objectives  91
Chapter Preview  91
Technology in the Service Encounter  92
The Emergence of Self-Service  93
The Service Encounter Triad  94
  Encounter Dominated by the Service Organization  95
  Contact Personnel–Dominated Encounter  95
  Customer-Dominated Encounter  96
The Service Organization  96
  Culture  96
  Empowerment  97
  Control Systems  98
  Customer Relationship Management  98
Contact Personnel  99
  Selection  99
  Training  100
  Creating an Ethical Climate  101
The Customer  102
  Expectations and Attitudes  102
  The Role of Scripts in Coproduction  103
Summary of Service Encounters  104
Creating a Customer Service Orientation  104
Summary  107
Service Benchmark: Miss Manners on Complaint Handling  108
Key Terms and Definitions  108
Topics for Discussion  109
Interactive Exercise  109
Case 4.1: Amy’s Ice Cream  109
Case 4.2: Enterprise Rent-A-Car  110
Selected Bibliography  112
Endnotes  114

Chapter  5
Supporting Facility and Process Flows  115

Learning Objectives  115
Chapter Preview  116
Environmental Psychology and Orientation  116
Servescapes  116
  Behaviors in Servescapes  117
  Environmental Dimensions of Servescapes  118
Facility Design  120
  Nature and Objectives of Service Organizations  120
  Land Availability and Space Requirements  121
  Flexibility  121
  Security  121
  Aesthetic Factors  122
  The Community and Environment  122
Process Analysis  123
  Types of Processes  123
  Flowcharting  123
  Gantt Chart  124
  Process Terminology  125
Facility Layout  127
  Flow Process Layout and the Work Allocation Problem  127
  Job Shop Process Layout and the Relative Location Problem  128
Chapter 7

Process Improvement 181

Learning Objectives 181
Chapter Preview 181
Quality and Productivity Improvement
  Process 182
    Foundations of Continuous Improvement 182
    Plan-Do-Check-Act (PDCA) Cycle 182
    Problem Solving 183
Quality Tools for Analysis and Problem Solving 184
  Check Sheet 184
  Run Chart 184
  Histogram 184
  Pareto Chart 185
  Flowchart 185
  Cause-and-Effect Diagram 186
  Scatter Diagram 187
  Control Chart 187
Benchmarking 188
Improvement Programs 189
  Deming's 14-Point Program 189
  Baldrige National Quality Award 190
  ISO 9000 191
  Six Sigma 191
  Lean Service 196
Value-Stream Mapping in Services 198
Summary 198
Service Benchmark: Service, Education, and Health Care Winners of the Baldrige National Quality Award 199
Key Terms and Definitions 200
Topics for Discussion 200
Interactive Exercise 200
Case 7.1: Sonora County Sheriff 200
Case 7.2: Mega Bytes Restaurant 201
Chapter 7 Supplement: Data Envelopment Analysis (DEA) 205
Measuring Service Productivity 205
  The DEA Model 205
  DEA and Strategic Planning 211
Exercises 212
Case 7.3: Mid-Atlantic Bus Lines 212
Selected Bibliography 213
Endnotes 214

Chapter 8

Service Facility Location 215

Learning Objectives 215
Chapter Preview 216
Strategic Location Considerations 216
  Competitive Clustering 217
  Saturation Marketing 217
Case 10.2: FedEx: Tiger International Acquisition 295
Selected Bibliography 298
Endnotes 298

Chapter 11
Managing Capacity and Demand 301
Learning Objectives 301
Chapter Preview 301
Generic Strategies of Level Capacity or Chase Demand 302
Strategies for Managing Demand 302
  Customer-Induced Variability 302
  Segmenting Demand 303
  Offering Price Incentives 304
  Promoting Off-Peak Demand 305
  Developing Complementary Services 306
  Reservation Systems and Overbooking 306
Strategies for Managing Capacity 308
  Defining Service Capacity 308
  Daily Workshift Scheduling 309
  Weekly Workshift Scheduling with Days-Off Constraint 311
  Increasing Customer Participation 312
  Creating Adjustable Capacity 312
  Sharing Capacity 313
  Cross-Training Employees 313
  Using Part-Time Employees 313
  Scheduling Part-Time Tellers at a Drive-In Bank 313
Yield Management 314
  Yield Management Applications 317
Service Benchmark: Pay Up Front and Take Your Chances 320
Summary 320
Key Terms and Definitions 320
Topics for Discussion 321
Interactive Exercise 321
Solved Problems 321
Exercises 323
Case 11.1: River City National Bank 325
Case 11.2: Gateway International Airport 327
Case 11.3: The Yield Management Analyst 328
Case 11.4: Sequoia Airlines 331
Selected Bibliography 332
Endnotes 333

Chapter 12
Managing Waiting Lines 335
Learning Objectives 335
Chapter Preview 335
The Economics of Waiting 336
Queuing Systems 336
Strategies for Managing Customer Waiting 337
  The Psychology of Waiting 338
  That Old Empty Feeling 338
  A Foot in the Door 339
  The Light at the End of the Tunnel 339
  Excuse Me, but I Was Next 340
Essential Features of Queuing Systems 340
  Arrival Process 341
  Queue Configuration 345
  Queue Discipline 347
  Service Process 348
Service Benchmark: The Magic of Disney Makes Queues Disappear 350
Summary 350
Key Terms and Definitions 351
Topics for Discussion 351
Interactive Exercise 351
Solved Problems 351
Exercises 351
Case 12.1: Thrifty Car Rental 352
Case 12.2: Eye’ll Be Seeing You 353
Case 12.3: Field Study 354
Selected Bibliography 354
Endnotes 354

Chapter 13
Capacity Planning and Queuing Models 355
Learning Objectives 355
Chapter Preview 356
Capacity Planning 356
  Strategic Role of Capacity Decisions 357
Analytical Queuing Models 358
  Relationships among System Characteristics 360
  Standard M/M/1 Model 360
  Standard M/M/c Model 362
  M/G/1 Model 365
  Finite-Queue M/M/1 Model 366
  Finite-Queue M/M/c Model 367
Capacity Planning Criteria 368
  Average Customer Waiting Time 368
  Probability of Excessive Waiting 369
  Minimizing the Sum of Customer Waiting Costs and Service Costs 370
  Probability of Sales Lost Because of Inadequate Waiting Area 371
Summary 372
Service Benchmark: Don’t Guesstimate, Simulate! 373
Key Terms and Definitions 373
Topics for Discussion 373
Interactive Exercise 374
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Techniques for Project Management</td>
<td>464</td>
</tr>
<tr>
<td>Gantt Project Charts</td>
<td>464</td>
</tr>
<tr>
<td>A Critique of Gantt Charts</td>
<td>466</td>
</tr>
<tr>
<td>Constructing a Project Network</td>
<td>466</td>
</tr>
<tr>
<td>Critical Path Method</td>
<td>467</td>
</tr>
<tr>
<td>Microsoft Project Analysis</td>
<td>470</td>
</tr>
<tr>
<td>Resource Constraints</td>
<td>473</td>
</tr>
<tr>
<td>Activity Crashing</td>
<td>473</td>
</tr>
<tr>
<td>Incorporating Uncertainty in Activity Times</td>
<td>478</td>
</tr>
<tr>
<td>Estimating Activity Duration Distributions</td>
<td>478</td>
</tr>
<tr>
<td>Project Completion Time Distribution</td>
<td>479</td>
</tr>
<tr>
<td>A Critique of the Project Completion Time Analysis</td>
<td>480</td>
</tr>
<tr>
<td>Problems with Implementing Critical Path Analysis</td>
<td>482</td>
</tr>
<tr>
<td>Monitoring Projects</td>
<td>482</td>
</tr>
<tr>
<td>Earned Value Chart</td>
<td>483</td>
</tr>
<tr>
<td>Project Termination</td>
<td>483</td>
</tr>
<tr>
<td>Project History Report</td>
<td>484</td>
</tr>
<tr>
<td>Service Benchmark: The House That Warren Built</td>
<td>484</td>
</tr>
<tr>
<td>Summary</td>
<td>484</td>
</tr>
<tr>
<td>Key Terms and Definitions</td>
<td>485</td>
</tr>
<tr>
<td>Topics for Discussion</td>
<td>485</td>
</tr>
<tr>
<td>Interactive Exercise</td>
<td>485</td>
</tr>
<tr>
<td>Solved Problems</td>
<td>485</td>
</tr>
<tr>
<td>Exercises</td>
<td>487</td>
</tr>
<tr>
<td>Case 16.1: Info-Systems, Inc.</td>
<td>491</td>
</tr>
<tr>
<td>Case 16.2: Whittier County Hospital</td>
<td>492</td>
</tr>
<tr>
<td>Selected Bibliography</td>
<td>494</td>
</tr>
<tr>
<td>Endnote</td>
<td>494</td>
</tr>
<tr>
<td>Appendix A: Areas of Standard Normal Distribution</td>
<td>495</td>
</tr>
<tr>
<td>Appendix B: Uniformly Distributed Random Numbers [0, 1]</td>
<td>496</td>
</tr>
<tr>
<td>Appendix C: Values of $L_q$ for the $M/M/c$ Queuing Model</td>
<td>497</td>
</tr>
<tr>
<td>Appendix D: Equations for Selected Queuing Models</td>
<td>499</td>
</tr>
<tr>
<td>Name Index</td>
<td>504</td>
</tr>
<tr>
<td>Subject Index</td>
<td>510</td>
</tr>
</tbody>
</table>