Contents

Preface	xv
About the Editors List of Contributors	xvii
	xix
Activity-based costing	1
Add/delete bill of materials	2
Advanced manufacturing technology	2
Aggregate capacity management	3
Analytical estimating	5
Balancing loss	7
Beer distribution game	7
Benchmarking	7
Best practice	12
Bill of materials	15
Blueprinting	16
Bottlenecks	16
Bow-tie and diamond perspectives	17
Breakthrough improvement	17
Build-to-order	18
Business excellence model	21
Business process redesign	27
Capacity management	31
Capacity strategy	33
Causal ambiguity	36
Cell layout	37
Cladistics	38
Closed-loop MRP	39
Collaborative planning, forecasting, and replenishment	41
Competence	42
Complexity	44
Computer-integrated manufacturing	45
Concurrent engineering	47

viii Contents

Condition-based maintenance	47
Continuous improvement	48
Continuous replenishment programs	49
Cost	49
Critical incident technique	51
Crosby	52
Cross-docking	52
Customer support operations	53
Decoupling	55
Delivery dependability	56
Deming	57
Dependent and independent demands	58
Design	59
Design chain	59
Design for manufacture	60
Design-manufacturing interface	61
Division of labor	61
DMAIC cycle	63
Double-loop learning	63
Dynamic capabilities	64
E-auctions	67
E-business	68
E-intermediaries	70
Economic order quantity	71
Empowerment	73
Enterprise resources planning	74
Ergonomics	76
Esthetics (product)	78
Ethics	78
Extraprise	80
Fail-safing	83
Failure analysis	84
Failure in operations	85
Failure measures	87
Failure mode and effect analysis	88
Family bill	90
Fault tree analysis	90
Feigenbaum	90
Finite and infinite loading	91
Fit	91

	Contents	1X
Fixed position layout		94
Flexibility		95
Flexible manufacturing system		97
Focus		98
Forecasting process		100
Gantt chart		103
Generic manufacturing strategies		103
Global manufacturing network		105
Group working		107
Guest engineering		109
Healthcare operations management		111
Hierarchy of operations		114
High-involvement innovation		114
Human-centered CIM		115
Implementing process technology		117
Importance-performance matrix		119
Industrial engineering		120
Industrial networks		120
Innovations in service companies		124
Innovator's dilemma		125
Integrated management systems		126
Internal customer-supplier relationships		128
International location		129
International motor vehicle program (IMVP)		130
Inventory accuracy		131
Inventory control systems		132
Inventory management		133
Inventory performance measures		134
Inventory valuation		135
Inventory-related costs		136
Jidoka		137
JIT and MRP/ERP		138
JIT tools and techniques		139
Job design		140
Job enlargement		141
Job enrichment		141
Job rotation		142
Juran		142
Just-in-time		143
Kanban		147

x Contents

Key account management	14
Kit bill	15
Layout	15.
Lean production	15.
Lean service	15
Learning curves	16
Leveled scheduling	163
Life cycle effects	16.
Line balancing	164
Little's law	160
Logistics	16
Lot sizing in MRP	16
Maintenance	17:
Make or buy	177
Manufacturing resources planning	177
Manufacturing strategy	178
Manufacturing strategy process	183
Manufacturing systems engineering	187
Master production schedule	188
Material requirements planning	189
Method study	190
Modular bill	192
Multiple activity charts	193
Netting process in MRP	195
Network coordination mechanisms	196
Network techniques	197
New product development process	200
New product forecasting	202
Newsvendor problem	203
Offshoring	207
Operations activities	208
Operations management	209
Operations management history	210
Operations objectives	215
Operations role	216
Operations strategy	217
Optimized production technology	219
Order winners and qualifiers	221
Organizing for innovation	222
Outsourcing	225

	Contents	хi
Overall equipment effectiveness		229
P:D ratios		231
Pareto analysis		232
PDCA cycle		233
Performance measurement		234
Planning and control in operations		236
Predetermined motion time systems		238
Preventive maintenance		238
Principles of motion economy		239
Prisoner's dilemma		239
Process layout		241
Process mapping		243
Process technology		243
Process types		245
Product architecture		248
Product design process		249
Product families		249
Product layout		250
Product platforms		251
Product-process matrix		252
Product-service systems		254
Product-service systems (PSS)		255
Production flow analysis		256
Productivity		257
Productivity ratios		261
Project control		261
Project cost management and control		262
Project leadership		265
Project management		266
Project risk management		268
Public procurement		269
Purchasing		270
Push and pull planning and control		271
Quality		273
Quality characteristics		277
Quality costing		279
Quality function deployment		282
Quality management systems		284
Quality teams		286
Quality tools		289

xii Contents

Supply network information systems

Queuing analysis	292
Reliability-centered maintenance	297
Resilient operations	298
Risk and operations	299
Risk management	301
Robotics	302
Runners, repeaters, and strangers	303
Safety stocks in MRP	305
Sandcone model of improvement	306
Scheduling	307
Scientific management	307
Seiri, Seiton, Seiso, Seiketsu, and Shitsuke	308
Sequencing	309
Service design	310
Service operations	312
Service processes	313
Service productivity	317
Service profit chain	318
Service quality	319
Service recovery	321
Service strategy	323
Service technology	325
Setup reduction	326
SIMUL8 simulation package	327
Simulation modeling	327
Single-loop learning	331
Six-sigma	332
Statistical quality techniques	334
Structural and infrastructural decisions	337
Supplier development	338
Supply chain alignment	340
Supply chain coordination	344
Supply chain dynamics	34
Supply chain integration	34
Supply chain management	3.
Supply chain risk pooling	3
Supply management	:
Supply network centralization	
Supply network complexity	

	Contents	xiii
Sustainability		352
Sustainable procurement		356
System loss		359
Taguchi methods		361
Technology tiers		362
Time study		363
Time to market		364
Time-based performance		364
Total productive maintenance		366
Total quality management		368
Trade-offs		371
Transformation model		373
Triple-bottom line		375
TRIZ		376
Value engineering		377
Variety		377
Vendor-managed inventory		379
Vertical integration		379
Volume		380
Work breakdown structures		383
Work measurement		384
Work organization		386
Work study		387
Work-time distributions		
Zone of tolerance		387
Subject Index		389
odoject maca		391