
Index

- 21st Century Manufacturing Enterprise Strategy—An Industry-Led View*, 313
- Absenteeism, 114–115, 116
- Accountability, 51, 96, 135
- Add-and-delete transactions, operation, 43–44
- Adding zone, 198
- Advanced Planning and Scheduling (APS), 286, 291–295, 296, 302
- eliminating waste and, 242–243, 251, 252
- vs. ERP, 287–289
- implementation of, 299–304
- Agile Manufacturing, 306, 307–309, 312, 314–322
- Anticipated Delay Report, 90–91
- Assembly capacity planning, 239
- Available-to-Promise (ATP), 288–289, 290
- Available capacity. *See* Capacity planning, available vs. required
- Backward scheduling. *See* Scheduling, backward
- Bills of material:
- Class A process and, 208–209
- de-leveling, 267–268
- eliminating waste and, 263, 268
- explosion, 24–25
- Kanban Card and, 263
- request for, 39–40
- rough-cut capacity planning, 178–180
- Bill-of-resources. *See* Resource Profile
- Block standard, 203
- Bottleneck:
- queue levels and, 156
- scheduling capacity constraints, 215, 217
- Bow wave, 137
- Calendar, manufacturing, 67–68
- Campaigning, 228
- Capable-to-Promise (CTP). *See* Capacity-to-Promise (CTP)
- Capacity constraints. *See* Scheduling, capacity constraints
- Capacity hours, calculating required, 109–112
- Capacity planning, 99–106
- automatic rescheduling of requirements, 134–135
- available vs. required, 112–113
- calculating requirements, 114–115
- challenge, meeting the, 139–140
- creating the plan, 121–128
- for multiple resources, 129–132
- objectives of, 106–116
- OEE, 116–117
- reserving capacity, 118–120
- responsibilities of, 140–142
- summary capacity plan, 126–136
- terminology of, 104–106
- Capacity report, 7–9, 10–11
- Capacity-to-Promise (CTP), 251, 290
- Cells, 48–49. *See also* Work center

- Class A process, 15–16, 196–197, 211–212
 - accuracy and measurement of data, 25
 - continued change and, 306, 307, 308, 317, 319
 - ERP and, 208–211
 - quality control, 201–205
 - supply chain, 200–201
 - time zones for change, 198–199
 - tooling, 205–210
- Coaching, 171
- Collaborative Supply Planning, 287
- Constraint-Based-Scheduling, 285, 303
- Cost:
 - cost-benefit analysis, 174
 - roll-up process, 52
- Cross-training, increasing capacity by, 183

- Data, unreliable, 150–151
- Date, dispatch list, 81
- Demand pull, 250, 269
- Demand Review, 18–19
- Demonstrated capacity, 104–106
- Detail Capacity Planning, 25
 - Class A process and, 200
 - comparison to other techniques, 193–195
 - Resource Requirements Plan and, 182–183
 - rough-cut capacity planning, 167–180
- Dispatch List, 58, 80–98
 - accuracy of information, 94–98
 - available capacity and, 119
 - Class A process and, 205, 208
 - codes, 239
 - eliminating waste and, 249, 257
 - and daily meetings, 96–97
 - rough-cut capacity planning and, 168
 - rules, 87–92
 - scheduling capacity constraints, 214
 - sequencing considerations, 92–94
- Education:
 - Class A process and, 197–198
 - scheduling capacity constraints and, 239
- Efficiency, 114–115, 116
- Elapsed time, 203
- Enterprise Resource Planning (ERP), 11–12, 24–25, 287
 - accuracy of information, 94–98
 - APS and, 291–293, 296, 302
 - eliminating waste and, 242–243, 251, 265, 277–282
 - scheduling and, 70–71
- Fast-Moving Consumer Goods (FMCG), 300, 308
- Finite Capacity System (FCS), 216–219, 220, 223–235, 239, 285
 - APS and, 289–290
 - vs. finite loading, 132
 - output, 225–226
- Firm zone, 198
- Flow lines, 48
- Forward scheduling. *See* Scheduling, forward
- Fourth-Party Logistics (4PL), 293
- Funnel analogy, 162–163

- Hot list, 2, 4–7
 - backward scheduling and, 73
 - eliminating waste and, 278–280

- Infinite Capacity Scheduling, 216–219, 220, 227, 230
- Infinite vs. finite loading, 132–135
- Input/Output/Queue Plan, 143, 144, 145–147, 164–165
 - Class A process and, 205
 - data and, 147–148
 - misunderstanding, 144–145
 - monitoring the queue level, 148–149
 - as a performance measure, 151–152
 - rough-cut capacity planning, 170
 - scheduling capacity constraints, 213
 - See also* Queue levels
- Integrated Business Management, 14–17, 19–20, 21
- Intimidation, 6
- Inventory, accuracy, 197
- Item description, 31, 124
- Item number, 31
 - capacity planning and, 124
 - dispatch list, 81

- Job security, queue levels and, 157

- Kanban, 257–258
 - advantages, 259–260
 - APS and, 292
 - effective implementation, 261–263
 - implementation, 267–276
 - vs. planning, 259
 - setting sizes, 269
 - special order card, 263–264
 - rules of, 268–270

- Lead time:
 - actual and planned, 64–66

- reduce/compress, 73, 74–80
 - See* Scheduling, lead-time loop
- Lean Manufacturing, 80, 318
 - capacity planning and, 111
 - eliminating waste and, 255–257, 265, 273, 278–282
- Line Rate Schedule, 269, 275
- Load, infinite and finite, 132–137
- Load Factor, 32
 - available capacity and, 117–118
 - capacity planning and, 111–112, 114–116 planned, 116
- Load Profile, 102–103, 187, 192–193. *See also* Detail Capacity Planning
- Machine capacity, 128
- Machine stroke rate, 32
- Maintenance, scheduling, 159
- Management Business Review, 17–18
- Manufacturing calendar. *See* Calendar, manufacturing
- Manufacturing Execution Systems (MES), 242–243, 252
- Master Production Schedule, scheduling capacity constraints, 216
- Material Requirements Planning (MRP), 60–61
 - accuracy and, 57
 - APS and, 292, 294, 296, 302
 - eliminating waste and, 256–257
 - rough-cut capacity planning, 167–180
 - scheduling capacity constraints, 228–229, 233–234
- Move times, compressing. *See* Lead time, reduce/compress
- Operation complete date, 81, 82, 83, 87–89
- Operation description, 32
- Operation number, 31
 - dispatch list, 81
- Operation start date:
 - dispatch list, 81, 82, 83, 89
 - past-due, 89
- Operation status, 81, 82
- Order due date, 81, 83, 90–91
- Order number, 81, 83
- Overall Equipment Effectiveness (OEE), 116–117
- Overtime, increasing capacity by, 183
- Part number. *See* Item number
- Peters, Tom, 85
- Planned capacity, 104–105, 117–118
- Planned hours, 103–104, 146
- Planning, eliminating waste and, 248
- Postponement, concept of, 308–309
- Priorities:
 - dispatch list and, 87
 - hot list, 4, 84–85
 - See also* Scheduling, communicating priorities
- Productivity, 114–115, 116
- Proposal, scheduling capacity constraints, 239–240
- Queue levels, 147–148
 - advantages of reduction, 159–164
 - compressing, 75–76
 - eliminating waste and, 278–279
 - establishing, 155–159
 - reduction in, 147
 - scheduling capacity constraints, 229, 239
 - See also* Input/Output Queue Plan
- Radio Frequency Identification, 292
- Refurbishment, 102
- Required capacity, 104–106. *See also* Capacity planning, available vs. required
- Resource Profile, 192–193
 - Class A process and, 200
 - rough-cut capacity planning, 178–180, 188
- Resource Requirements Planning, 18–19, 20, 25
 - advantages of, 190–191
 - calculating, 181–186
 - Class A process and, 198–200
 - comparison to other techniques, 193–195
 - limitations, 192–193
 - operational requirements of, 188–190
 - rough-cut capacity planning, 170, 176–177
 - scheduling capacity constraints, 232
 - time zones for change and, 198–199
- Responsibilities, capacity planning, 141–142
- Roll-up process, 52
- Rough-Cut Capacity Planning, 25, 108, 138, 166–170, 174–180
 - advantages of, 190–191
 - APS and, 292
 - calculating, 186–188
 - Class A process and, 198–200
 - comparison to other techniques, 193–195
 - limitations, 192–193
 - operational requirements of, 188–190
 - scheduling capacity constraints, 222, 232
 - senior management and, 170–174
 - time zones for change and, 198–199

- Routing:
 - accuracy, 33–42, 58–59
 - alternate, 43–44
 - APS and, 292
 - change, request for, 39–40
 - Class A process and, 197
 - eliminating waste and, 268, 270–271
 - information to be included, 31–32
 - rework, 44–46
 - rough-cut capacity planning, 178–180
- Rules-based approach, 218–219
- Run hours:
 - capacity planning and, 125
 - dispatch list, 81, 82
- Scheduling:
 - actual lead time, 64
 - automatic rescheduling, 134, 135
 - backward, 66, 73–75, 216–219, 228–229
 - capacity planning and, 108–109, 122, 124
 - capacity constraints, 213–218, 219–222
 - information accuracy, 224–225
 - output, 225–226
 - real-time rescheduling, 224
 - rules-based approach, 218–219
 - simulation, 222–224
 - communicating priorities, 55–60
 - eliminating waste and, 248–249
 - forward, 73, 74–75, 216–219
 - lead-time loop, 61–64
 - operation, 66–75
 - planned lead time, 64–66
 - shop, 60–61
 - shortened lead-time, 73, 74–75
 - See also* Finite Capacity System (FCS); Infinite Capacity Scheduling
- Scrap/yield problem, 177
- In Search of Excellence* (Peters and Waterman), 85
- Setup hours:
 - capacity planning and, 125
 - dispatch list, 81, 82
- Setup time, queues and combining, 158–159
- Shop order, routing accuracy, 34
- Shop scheduling. *See* Scheduling, shop
- Shortage:
 - meetings, 3, 4–7
 - queues and minimizing, 158
- Simulation, 222–224
- Single Minute Exchange of Die (SMED)
 - approach, 158, 265
- Standard hours, 108
- Status code, capacity planning and, 125
- Stock records, 24–25
- Subcontracting, 137–138, 153–154, 183
- Summary Capacity Plans:
 - Class A process and, 205
 - rough-cut capacity planning, 167, 168
- Supervisory control, 51
 - and Dispatch list, 92–93
- Supply Chain Management, advanced, 286–287
- Supply Point Management Model, 22–24
- Supply Review, 18–19
- Theory of Constraints, 218, 289
- Third-Party Logistics (3PL), 293
- Tolerance:
 - eliminating waste and, 244–246
 - queues and, 147–148, 149–150, 153
- Total Cost of Ownership, 308
- Trading zone, 198
- Training, scheduling capacity constraints, 239
- Transparency, principle of, 222
- Utilization:
 - calculating capacity requirements and, 114–116
 - rough-cut capacity planning, 177
 - scheduling capacity constraints, 216
- Value-Stream-Mapping, 250
- Vendor Managed Inventory (VMI), 252
- Visibility, 7–8
 - dispatch list and, 84
- Waste, eliminating, 241–243
 - tolerance and, 244–246
- Waterman, Robert, 85
- Work center, 32
 - alternate, 183
 - identification, 46–47
 - improper grouping, 51
 - manufacturing cells, 48–49
 - next or previous, dispatch list, 81, 82
 - number
 - capacity planning and, 124
 - dispatch list, 81
 - operation splitting, 78–79
 - supervisory control, 51
- Zeroes culture, 260–261