

A

Accountability, 147
 Adaptive decision making, 264–265
 Affinity diagrams, 276–277
 Agile PM, 4, 110, 125–127
 Alternative solutions:
 development of, 249–252
 evaluating, 279–281
 Apple, 8, 9
 Application engineering strategy, 207
 Archibald, Russ, 117
 Assumptions:
 in PM 1.0, 3
 in portfolio management, 184
 in problem solving and decision making,
 235
 validation of, 120–123
 Audits and auditors, 39, 96
 Autocratic decision makes, 271

B

Benefits realization management, 184–193
 and life-cycle phases, 186–192
 metrics, 193–195
 terminology, 185–186
 value in, 192–193
 Benefits realization phase, 189
 Best practices, 79
 Booz, Allen & Hamilton, 221, 222
 Boston Consulting Group (BCG) model, 202–204, 208
 Boundary conditions (in problem solving), 243–244
 Brainstorming, 220–221, 255–260
 Budgeting, 201
 Business case, 118–120, 162
 Business decision making, 233
 Business intelligence (BI), 93

C

Capacity planning, 78, 307
 Change management, 181–182
 Charvat, Jason, 108, 109
 Circular decision makers, 272
 Classifying projects, 170–171
 Client-specific metrics, 119
 Cohen, Corine, 93
 Commercial intelligence, 200, 201
 Competitive bidding, 18, 49

Complexity(-ies):
 of metric measurement, 42–43, 80–81
 of problems, 240
 of projects, 30–31, 80
 with value metrics, 73–76
 VUCA situations, 9
 Confidentiality agreements, 219
 Constraints, 40–46, 184, 234–235
 Consulting companies, 50, 117
 Contingency planning, 23–24
 Continuous improvement, 34, 106
 Contract R&D, 218
 Convergent thinking, 269
 Corporate governance, 143–144, 148–149
 Cost-benefit analysis, 277–278
 Cost formula ($80/20$), 17
 Creativity, 260–263
 Crises, 131–133, 248
 Crisis dashboards, 129–138
 defining a crisis, 131–133
 images for, 134–137
 metrics/KPIs in relation to targets, 130–131

Critical assumptions, 122
 Culture, 100, 305
 Customer approvals, 124–125
 Customer group PMOs, 299
 Customer-related value, 61–62
 Customer satisfaction, 18–19

D

Dashboards, 90–95
 crisis, 129–138
 infographic designers for, 95
 new trends in, 33
 rules for metrics display, 20–21
 value metrics in, 71
 Dashboard information systems, 93–94
 Data analysis, 249
 Data gathering, 242–248
 Davis, David, 139
 Decision making. *See also* Problem solving and decision making
 project vs. business, 233
 research techniques in, 230–231
 separating stakeholder management and, 148
 stages of, 266
 steps in, 266–267
 Decision-making authority, 144, 145
 Decision-making styles, 270–273

Decision trees, 275–276
 Defensive R&D, 213
 Delivery phase, 188
 Delphi techniques, 278–279
 Democratic decision makers, 272–273
 Department of Defense (DOD), 38–39
 Design freezes, 123–124
 Development, research vs., 210–211
 Directed brainstorming, 259
 Disney, 45
 Distressed projects, 162
 Distributed collaboration, 4, 8
 Divergent thinking, 268
 Duarte, D. L., 100

E

Earned value measurement system (EVMS), 16, 17, 39, 76
 Eckerson, W. W., 84, 88, 90
 Economic evaluation (R&D projects), 223–225
 Electronic brainstorming, 258–259
 Engagement PM (engagement selling), 28–30
 Engelbart, Douglas, 8
 Enterprise project management (EPM), 2, 76
 Enterprise resource planning (ERP), 10–11, 77–78
 Enterprisewide methodologies, 108–112
 Environment, project, 234–236
 Equivalent units, 17
 Excellence in PM, 105–106, 283
 Exception reports, 19–20
 Executives:
 and achieving maturity, 285
 reducing meddling by, 22–23
 view of PM among, 26–28, 167
 Exit champions, 138–139
 Explicit assumptions, 121

F

Failure, 37, 47–52
 of IT projects, 4, 48–49
 of PMO implementation, 301–309
 of project governance, 161–162
 of strategic planning, 166–167
 in use of KPIs, 89–90
 in use of value metrics, 70
 Fearful decision makers, 271–272
 50/50, 17
 Financial value, 61–62
 First to market strategy, 205–206
 Flexibility, 117–118
 Follow the leader strategy, 206
 Foundation values, 62
 Functional PMOs, 298–299

Future of project management, 25–34
 additional metrics needed, 31–32
 continuous improvement, 34
 engagement in PM, 28–30
 executive view of PM, 26–28
 impact of recessions, 25–26
 increasingly complex projects, 30–31
 new PM developments, 32–33
 tool box for project managers, 33
 Future value, 61–62

G

Game theory, 277
 Gap analysis, 177–179
 General Electric (GE) model, 20, 212
 Global stakeholders, 160
 Goals, 43
 Google, 10
 Governance/governance committees, 118–119
 corporate, 143–144, 148–149
 new trends in, 33
 PMO, 301
 portfolio management, 195–197
 project, *see* Project governance
 governments, R&D and, 219–220
 Group-passing technique, 258

H

Heavy methodologies, 110–112
 History of project management, 38–40
 Hubbard, Doug, 43
 Human behavior, 212

I

Idea generation phase, 186, 187
 Individual brainstorming, 259–260
 Influence diagrams (IDs), 276
 Infographic designers, 95, 100
 Information, 78. *See also* Metrics
 for business case, 120
 filtering, 152
 misinterpretation of, 151–152
 PMIS, 77–78
 primary and secondary, 232
 for problem solving and decision making, 232–233
 Information overload, 18, 231–232
 Innovation, 221, 260–263
 Innovation values, 62
 Innovative decision making, 265
 Intangible goals/constraints, 43
 Intellectual property, 304–305

Internal clients, 19, 117
 Internal value, 61–62
 Intuitive thinking, 268
 IT project failures, 4, 48–49

K

Key performance indicators (KPIs), 15, 83–90
 characteristics of, 88–89
 and crisis dashboard targets, 130–131
 failure in use of, 89–90
 metrics vs., 85
 new trends in, 32
 using, 86
 value, 73

L

Lagging indicators, 88
 Large projects, 5
 Leadership, 58–62
 in problem solving/decision making meetings,
 246–247
 transformational, 179–183
 Leading indicators, 84, 88
 Level of effort, 17
 Life-cycle phases, 114–117, 186–192
 Life-cycle planning and control, 39
 Light methodologies, 109–110. *See also* Agile PM

M

Manufacturing, R&D and, 211
 Marketing, R&D and, 201, 205–207, 216–218
 Market share, and planning R&D projects, 203–209
 Martino, J. P., 223–224
 Maturity, PM, 283–287. *See also* project management maturity models (PMMM)
 Measurement, 33, 43–44, 79, 83. *See also* Metrics
 Methodologies of PM, 105–139
 agile PM, 110, 125–127
 and business case development, 119–120
 and client-specific metrics, 119
 critical components of, 114–115
 and customer approvals, 124–125
 and definition of excellence in PM, 105–106
 and design freezes, 123–124
 enterprisewide, 108–112
 flexibility in application of, 117–118
 heavy, 110–112
 implementing, 127–128
 and life-cycle phase determination, 115–117
 light, 109–110
 move toward frameworks from, 116

and moving targets, 118–119
 need for, 106–108
 overcoming barriers in development/implementation
 of, 128–129
 and project shutdown, 138–139
 standardized, 112–114
 using crisis dashboards with, 129–138
 and validation of assumptions, 120–123

“Me too” strategy, 207

Metrics, 77–103, 191–192
 for benefits realization, 189–190, 193–195
 business intelligence, 93
 characteristics of, 81–82
 client-specific, 119
 core, 175–176
 and crisis dashboards targets, 130–131
 dashboard information systems, 93–94
 dashboard rules for display, 20–21
 dashboards and scorecards, 90–93
 for future PM, 31–32
 improvement needed in, 78–80
 information overload, 18
 and integration of ERP and PMIS, 77–78
 key performance indicators, 15, 83–90
 to maintain project’s direction, 99
 meaningfulness of, 15
 metric mania, 100–101
 metric owner position, 102–103
 new trends in, 32
 PMO, 308
 of project health, 95–99
 questions about, 103
 rule of inversion, 42
 selecting, 82–83
 and selection of infographic designer, 95
 value, *see* Value metrics
 and virtual teams, 99–100

Metric libraries, 31–32

Metrics management:
 benefits of, 79
 controlling metric mania, 100–101
 lack of support for, 80–81
 PM 2.0 issues in, 15–16
 training in, 101–102

Metric mania, 19, 100–101

Metric owner, 102–103

Microsoft, 10

Milestones, 17

Mission statement (PMO), 301–302

Mobile technologies, 7–8

Moving targets, 118–119

N

Networking PMOs, 300
 New product development (NPD) projects, 123, 221–223
 Nominal group technique, 257–258
 Nominal work groups, 278
 Nondisclosure agreements, 219

O

Offensive R&D, 212–213
 Opelt, Andreas, 126–127
 Operational dashboards, 92
 Opportunity-seeking, 200, 201
 Out-of-tolerance conditions, 131
 Over-the-fence management, 38

P

Paired-comparison analysis, 275–276
 Paperwork cost, 21–22, 307
 Pareto analysis, 274–275
 Percent complete, 17–18
 Personality problems, 238–239
PMBOK® Guide, 2, 46, 116, 168, 242
PMBOK® Guide—5th edition, 14, 110
 PMP®s, 27–28
 Polarity management, 269
 Politics, project, 152–160

- and effective communications, 158
- and governance committees, 155–156
- identifying players in, 156
- managing, 159–160
- political risks, 153–154
- power and influence in PM, 158–159
- reasons for, 154
- rules of, 156–157
- situations conducive to, 154–155

 Portfolio management, 183–197

- governance of, 195–197
- metrics for benefits realization, 193–195
- product portfolio analysis, 202–205
- value management and benefits realization, 184–193

 Pressured decision making, 265
 Prioritization, 162

- of constraints, 44
- of projects, 184
- of R&D projects, 216–218

 Problem analysis, 229
 Problem solving and decision making, 16, 229–281

- accessing the right information in, 232
- alternative solutions development, 249–252
- brainstorming, 255–260
- conceptual process for, 236–238
- creativity and innovation in, 260–263

data analysis, 249
 data gathering, 242–248
 decision evaluation and corrective actions in, 279–281
 facts about, 231
 identifying/understanding problems in, 238–241
 and information overload, 231–232
 lack of information for, 233
 necessity for, 230
 and project environment, 234–236
 project vs. business, 233
 research techniques in, 230–231
 root-cause analysis, 252–255
 selecting best solutions, 263–273
 tools/methods for decision making, 273–279
 tools/techniques for problem solving, 252–263

Processes, PMO success and, 307–308
 Product life cycles, 208
 Product life-cycle model, 204, 205
 Product portfolio analysis, 202–205
 Profit center, PMO as, 305–306
 Progress reports, 20
 Project approval phase, 187, 188
 Project champions, 127
 Project charter, 115
 Project decision making, 233
 Project environment, 234–236
 Project governance, 94, 141–162

- core principles of, 147–151
- corporate governance vs., 143–144
- decision-making authority in, 144, 145
- defining, 142–143
- failure of, 161–162
- filtering information in, 152
- frameworks for, 145–146
- global stakeholder relations management, 160
- governance committees, 143–145, 147, 152, 155–156, 159
- and misinterpretation of information, 151–152
- need for, 141–142
- pillars of, 146–147
- and PMO, 300–301
- and politics, 152–160
- responsibilities in, 144, 145
- roles in, 144
- and saving distressed projects, 162

 Project health, 19–20, 95–99
 Projection reports, 19–20
 Project management 1.0 (PM 1.0), 1. *See also specific topics*

- activities of, 2
- critical issues with, 2–4
- PM 2.0 compared to, 4–24

- traditional PMOs, 296–297
 - traditional POs, 295–296
 - Project management 2.0 (PM 2.0), 1–24. *See also specific topics*
 - additional PMO responsibilities, 12–13
 - calculating percent complete, 17–18
 - characteristics of, 1–2
 - contingency planning, 23–24
 - and critical issues with PM 1.0, 2–4
 - criticism of, 4, 7
 - and customer satisfaction, 18–19
 - dashboard rules for data display, 20–21
 - determining project health, 19–20
 - distributed collaboration, 4
 - executive meddling reduction, 22–23
 - finding status information, 16
 - information overload, 18
 - input into PMMMs, 291–293
 - origin of, 4
 - for paperwork cost reduction, 21–22
 - PM 1.0 compared to, 4–6
 - for predicting future outcomes based on
 - assumptions, 3
 - skills for, 23
 - and technological advances, 7–12
 - working with stakeholders, 13–16
 - Project management information system (PMIS), 77–78
 - Project management maturity models (PMMM), 283–293
 - benefits of using, 284
 - choosing, 285–286
 - determining amount of maturity needed, 284–285
 - estimating time to reach maturity, 286
 - lessons to be learned about, 285
 - levels of, 287–290
 - PM 2.0 input into, 291–293
 - strategic planning for PM maturity, 286–287
 - Project management office (PMO), 295–309
 - additional PM 2.0 responsibilities, 12–13
 - failures of, 301–309
 - implementation risks for, 297–298
 - metrics libraries managed by, 31–32
 - networking PMOs, 300
 - and project governance, 300–301
 - specialized PMO, 298–299
 - strategic PMO, 299
 - traditional PMOs, 12–13, 296–297
 - traditional project offices vs., 295–296
 - Project managers, 9–10, 174–175
 - in PM 1.0, 2
 - selecting, 236
 - skills for, 23, 153, 158, 159
 - tool box for, 33
 - trust in, 300
 - Project ownership, 147–150, 212
 - Project planning phase, 188
 - Project termination, 227–228
- Q**
- Question brainstorming, 260
- R**
- Rational thinking, 268
 - R&D projects, 49, 50, 209–210
 - R&D project management, 199–228
 - classification of projects, 209–210
 - confidentiality agreements, 219
 - contract R&D, 218
 - economic evaluation of projects, 223–225
 - governments' influence on, 219–220
 - marketing and, 205–207
 - modeling R&D planning function, 213–216
 - non-disclosure agreements, 219
 - and offensive vs. defensive R&D, 212–213
 - planning according to market share, 208–209
 - priority setting in, 216–218
 - product life cycles, 208
 - product portfolio analysis, 202–205
 - project termination, 227–228
 - R&D ratio in, 211–212
 - R&D's role in strategic planning, 200–202
 - readjustment of projects, 225–227
 - and research vs. development, 210–211
 - secrecy agreements, 219
 - sources of ideas in, 220–223
 - tracking project performance, 228
 - R&D ratio, 211–212
 - Readjustment of R&D projects, 225–227
 - Recessions, impact of, 25–26
 - Reporting, 4, 16, 19–22
 - Research. *See also* R&D projects
 - in decision-making process, 230–231
 - development vs., 210–211
 - Return on investment (ROI), 54
 - Robertson, Grant, 8
 - Root-cause analysis (RCA), 252–255
 - Routine decision making, 264
 - Royer, Isabelle, 138–139
 - Rule of inversion, 42
- S**
- Sales, R&D and, 211
 - Scope changes, 99

Scope creep, 248
 Scorecards, 90–93
 Secrecy, in problem solving, 241
 Secrecy agreements, 219
 Self-serving decision makers, 273
 Shutting down projects, 138–139
 Small projects, 5
 SMART rule (for KPIs), 88
 Smart technologies, 7–8, 12
 Snyder, N. T., 100
 Social media, 10
 Software and apps, 11, 116
 Specialized PMOs, 298–299
 Sponsors, 49–50, 127, 150, 175, 300
 Staffing, PMO, 303, 306
 Stakeholders:
 disagreements among, 151–152
 KPI agreement among, 84
 metric mania in, 101
 metrics for, 78, 79
 Stakeholder management, 13–16, 148, 150, 160
 Stakeholder mapping, 156–157
 Standardized methodologies, 112–114
 Status information, 16, 19
 Status reports, 2, 19–20. *See also* Dashboards
 Strategic assumptions, 122
 Strategic dashboards, 92
 Strategic intelligence (SI), 93
 Strategic planning, 165–179
 and benefits of PM, 172–173, 176–179
 from executive perspective, 167
 generic framework for, 169–172
 and myths about use of PM, 173–176
 for PM maturity, 286–287
 from PM perspective, 167–168
 R&D's role in, 200–202
 reasons for failure of, 166–167
 Strategic PMOs, 299
 Strategic values, 62
 Success, 37
 components of, 45–46
 and constraints, 40–41, 45–46
 definitions of, 46–47, 169
 new criteria for, 32
 and rule of inversion, 42
 value criterion for, 53
 SWOT analysis, 274

T

Tactical dashboards, 92
 Targets, 118–119, 130–131

Team idea-mapping, 258
 Technologies, 7–12, 16
 Termination of projects, 227–228
 Trade-offs, 40, 44–45, 62–64, 251–252
 Traditional PMOs, 12–13, 296–297
 Traditional project offices (POs), 295–296
 Transformational leadership, 179–183

U

Unified Project Management Methodology (UPMM™), 110–112

V

Value, 185, 192–193
 and benefits realization management, 184–193
 categories of, 61–62
 innovation/creativity and, 261
 modeling, 56–57
 selecting attributes of, 72
 views of, 54–56

Value analysis phase, 189

Value-driven project management, 53–76
 complexities with value metrics, 73–76
 creating value metrics, 64–71
 current view of value, 54–56
 dashboard display of value metrics, 71
 and leadership for PM 2.0, 58–62
 selecting value attributes, 72
 trade-offs, 62–64
 value metrics needed, 64
 value modeling, 56–57

Value measurement methodology (VMM), 76

Value metrics, 64
 complexities with, 73–76
 creating, 64–71
 on dashboards, 71
 selecting attributes of, 72

Virtual teams, 99–100

VUCA (volatile-uncertain-complex-ambiguous) situations, 9

W

Web 2.0, 8, 9, 11–12, 78
 Wsocki, Robert, 56

Y

Yammer, 10

Z

0/100, 17