INDEX

A
Accountability
  creation of, 189–190
  at stage-gate, 63–66
  steering committee, 156–158
  in value delivery, 53–54
Accuracy range, 127, 134
Assess stage
  approach to, 22–23
  estimates, 134–136
  options in, 48–49
  problems in, 23
Asset performance
  problems with, 112
  project definition and, 113–115
Assets
  better performing, 113
  expected costs of, 114
  higher quality, 97
Authorization, 181
  decisions and, 123
  project definition and, 109, 124

B
Base case, 49, 61, 203
Boundary conditions
  establishment of, 43–44, 63
  meeting, 43
  objectives and, 80
  strategies and, 82
Business
  Knowledge of, 71
  objectives, 79
  risks, 169–170
  stage-gate questions for, 179–180
Business case
  contents of, 182–183
  definition of, 29
  money and, 128
  ownership of, 60–63
  robust, project sponsors and, 66–67
  uncertainty in, 85–86

C
Capital costs estimates
  accuracy of, 127–128, 199
  commitments based on, 134–136
  cone of uncertainty in, 129–133
  in decision making, 129–136
  definition of, 129
  investment analysis and, 133–134
  project definition and, 136–140
  understanding of, 128
Capital investment
decisions, 176–177

Capital projects
complexity of, 21–22
definition of, 3
failure of, 3–4
spending, control of, 29
value from, 6–7

Cone of uncertainty
definition of, 130
development of, 132–133
narrowing of, 131–132

Contingency
cost increases and, 143
project controls in, 142
project definitions and, 138–140
risks based, 199
rules for, 140–145
scope changes in, 142–143
setting, 141–142

Contractors, 100–101, 103–104

Core project team functions, 99

Costs
actual, tracking of, 142
fast schedules, 118–121
increases in, 143
project definition, 116–117, 123–124

Current condition, 41–42

Define stage, 23, 25, 30, 103, 170, 178, 180, 181, 204
challenging aspects of, 24–25

E
Escalation process, 157–158
Estimate accuracy, 123–124, 127–130, 133, 136

Execute stage, 20
Execution, 142, 166–167, 170–171, 183, 204

Executives
Assess stage and, 23–25
boundary conditions and, 43–44
capital costs estimates reviewed by, 199
cooperation among, 104–105
decisions by, 28
definition stage and, 24–25
financial decisions by, 179–180
framing by, 34
givens and, 43–44
investment analysis by, 124
sponsoring versus supporting 27–28
market analysis by, 40–41
negative reactions from, 17–18
objective alignment and, 81–82
portfolios, 176
project definition and, 115–116, 198–199
project frames and, 197
project team and, 198
risk management role, 164
seniority of, 86
stage-gate role, 201
stopping projects by, 178
support from, 93
trade-off decisions by, 88
External project risks, 11–12

F
Front-End Loading (FEL), 5
Functional integration, 97–98

G
Givens, 43–44
Goals
   capital investment, 19
   importance of, 19–20
   meeting, 17
   objectives and, 176
Governance structures, 28–29

H
High-performing project teams
   contributions of, 94–96
   elements of, 94
   executive support from, 93

I
Independent Project Analysis, Inc.
   (IPA)
   database, 73, 112
   project team model, 94
   role of, 5
Investment analysis
   accuracy in, 124
   in capital cost estimates, 133–134
   final, 180
   inputs to, 20
Investment committees
   decisions by, 190
   deliverable expectations of, 190–191
   leadership of, 156
   project assurance and, 189
   stage-gate decisions, 183–187, 191
Investments
   executives’ role, 176, 196
   performance evaluation and, 64
   positive NPV, 7
   value from, 81

J
Joint venture partner, 188, 190

K
Known unknowns, 171

M
Management
   basic concepts of, 72–73
   contingency analysis by, 141
   human nature and, 185–187
   relationships of, 67–68
   seniority of, 86
   on steering committees, 153
   strong, 197–198
Management reserve, 143
Market analysis, 40–41
Market share, 6, 44, 46, 80–81, 104, 119, 165
Merrow, Edward W., 5
Money
  business case and, 128
  contingency and, 138
  financial momentum and, 12–13
  management reserve as, 143
  project definition and, 116–118, 123–124
  project sponsors and, 80
  risk management and, 165
  spending resistance, 18, 45
  stage-gates and, 20–23, 175–179
Monte Carlo simulation, 139

N
Net present value (NPV)
  definition of, 6
  erosion, stage-gate percentage, 11
  example of, 6–7

O
Objectives, 79
  alignment of, 81–82
  business, 79
  clear, 196–197
  communication of, 84–87
  comprehensive, 80–81
  core, 155–156, 161, 165–168, 172, 196–197
  development of, 79–84
  examples of, 80
  explanation of, 86
  function of, 115–116, 196
  overview of, 77–78
  prioritizing of, 87–89, 89
  project, 79
  strategic, 82–84
  types of, 79, sources of, 79
Opportunity
  Assess stage, 23–24, 175
  company-specific, 41–42
  creation of, 38–42
  definition of, 41–42
  executive control and, 29
  limits of, 43, 57
  project frame and, 33–34, 46–47, 195
  project sponsors and, 53–54, 56
  stakeholders, 44
  statement, example, 39
  value drivers and, 45
Outsourcing, 100–102
Overruns. See also Underruns
  balancing, 124
  benefits of, 143–145
  contingency and, 141–142
  loss and, 112–113
  reducing risks of, 143
  value erosion and, 8–9
Owner project teams
  investing in, 96–97
  outsourcing of, 100–102

P
Performance gap, 48
Portfolios, 176, 184
Project assurance
  conditions for, 188
  definition of, 187
  example of, 188–189
investment committee and, 189
target of, 187–188
Project controls, 142
Project definition. See also Strong project definition; Weak project definition
amount needed, 122–124
basic concept of, 109–110
capital costs estimates and, 136–137
completion of, 111
compromising, 122
costs of, 116–117
expected value and, 185
function of, 110–111
quality of, 109
risk management and, 171–172
shortening, 121
strong, 171–172, 198–199
weak, 109, 113, 115–116, 121, 137, 187, 198
Project delivery process, 175, 177–178
Project frames. See also specific stages of
for alignment, 45–49
analysis in, 44
boundary conditions/givens in, 43–44
communication facilitation in, 45–46
contents of, 34–35
current conditions in, 41–42
decision criteria in, 44–45
definition of, 33
development of, 37–45
for endorsements, 45–49
function of, 33–34
market analysis, 40–41
opportunities in, 38–42, 46–47
project definition in, 110–111
questions for, 38
stakeholder analysis in, 44
strong, 195–196
target condition in, 42–45, 47–48
time for, 47
value drivers in, 44–45
value of, 37
weakness in, 39–40
Project governance, 28–30, 57
Project life cycle, 12, 13, 18, 24, 49, 77, 153, 157, 181, 205
Project objectives, 73, 79, 85–86, 89, 205
Project sponsors
accountability, 53–56, 63–66, 189–190
assignment of, 59
behavior of, 66–67
business case ownership by, 60–63
characteristics of, 56–58
continuity of, 73
credibility of, 70–71
human nature and, 185–187
mandate for, 63
recruitment of, 53
relationships of, 57, 67–68
role of, 53, 57–58
selection of, 69–73
steering committees and, 156–158
Project teams. See also High-performing project teams;
Owner project teams
experienced, 102–103
forming of, 24
functionally integrated, 97–100
owner, 96–97, 100–102
preparation of, 111–112
shortage in, 102–104
strong, 197–198
Projects
definition of, 102
failure of, 3–4
governance structures, 28–29
key document for, 29–30
sponsoring, 27
supporting, 27–28
Risk management
best practices, 166–167
case study of, 162–163
communication and, 161–162
definition of, 161
independent input for, 187
methods for, 164–166
options for, 165–166
project definition and, 171–172
robust process for, 200
Risk registers, 167–168
Risks
analysis of, 44
business, 169–170
contingency based on, 199
external project, 11–12
market, 11–12
response to, 169–171
scrutinizing of, 167–168
taking, 121
underestimation of, 168–169
S
Schedule-driven projects, 118–121, 122
Scope changes, 142–143
Select stage, 20, 49
Seniority, 70–71
Single point of accountability, 27, 55, 196
Stage-gate process
assets created by, 11–12
business questions for, 179–180
capital investment decisions in, 176–177
corporate requirements for, 191
cost estimates in, 130
decision choices in, 181–182
deliverables, exceptions to, 190–191
eyear stages, 12–13, 180–181
executive use of, 27–30, 176, 195
financial commitment in, 177
gate-specific purpose in, 177–179
necessity of, 19–20
option selection in, 49
overview of, 175–176
problems in, 30
project delivery and, 175
rules for, 183–190
sequence of, 10–11
stages of, 20
steering committee role in, 156
strong, 200–201
Stakeholder analysis, 35, 44, 46
Stakeholders, 44, 149
Steering committees
authority in, 151–152
building, 150–152
core functions of, 152–153
decision making in, 155–156
disagreements on, 157–158
effective, building, 200
function of, 150
investment committee on, 156
meeting frequency of, 154–155
members of, 152–154
overview of, 149–150
personality issues with, 150–151
sponsor accountability
and, 156–15
Strategic objectives, 82–84
Strategies
communication of, 95
objectives and, 81–82
project, 186
risk management, 165–166
for staff shortages, 102–104
steering committees and, 155
Strong project definition
assets produced by, 112–115
capital costs estimates
and, 136–137
contingency requirements
in, 138–140
fast schedule vs., 118–121
payoffs, 117
purpose of, 109
time needed for, 119
value preservation by, 112
Subject matter experts, 154
Sunk costs, 13, 117, 123, 178, 206

T
Target conditions
analysis of, 43
definition of, 42
development of, 47–48
Time
as commodity, 118–119
project definition, 123–124
for strong project definition, 119
Total installed cost, 118
Trade-offs
need for, 87
process of, 88
steering committee, 150

U
Uncertainty analysis, 44
Underruns. See also Overruns
contingency and, 141–142
effects of, 144
Unknown unknowns, 171

V
Value
creation, 6–7, 36–37
delivery of, 10–13
drivers, 44–45, 45
Value (Continued)
  expected, 7, 185
  project frame and, 37
  risk taking and, 121
  unlocking of, 35–37
Value erosion
  averages of, 9–10
  categories of, 8–9
  responsibility for, 10
  sources of, 8–10
  trajectory of, 12–13
Value Improving Practices (VIPs), 5
Variable production costs, 78, 113–114, 206
Vision, 56, 95, 198
W
Weak gates, 30
Weak project definition
  contingency requirements
    in, 138–149
  costs of, 116–118
  economic value of, 120–121
  production value of, 114