

# Index

## A

Abdelshafi, Ibrahim, 102–103

Accountability, 159

Adaptation

empiricism and, 17

formal opportunities for, 136–137

purpose of, 116

types of, 101–102

Adobe Premiere Pro, 93–96

Agility

defined, 30

projects for, 5–6

scrum and, 160–161

tooling infrastructure for,

178–181

training, 169

Airbus A380, 12

Anxiety, 113

Artifacts, 146–150

## B

Backlog requirements

charting of, 23–24

defined, 18

development of, 18–22

functionality, 91

Baseline

defined, 127

formula for, 67

product backlog and, 68

BBC, 93

Benefit identification,

109–110

Best practices, 26–29

Blocking issues, 173

Built-in instability, 27

Burndown

charts, 127, 180

forecasts, 64–66

slope, 66–67

## C

CAD/CAM systems. *See* Computer-aided design/computer-aided manufacturing (CAD/CAM) systems

Capability level, 56  
     characterization of, 56  
     environment of, 75–76, 78–79  
     functionality increments, 86–90  
     management at, 76–77, 80–85  
     ready-to-use increments, 91–96  
     terms used in, 77–78  
     training in, 77–78  
     transparency at, 86  
 Carbonite, 104–105  
 Change. *See* Transformation  
 CHAOS Report, 3–7  
 Charles Schwab, 74  
 Chief executive officer (CXO)  
     communication forms, 169  
     knowledge of, 162  
     leadership of, 164–165  
     metric analysis by, 170–172  
     Scrum principles and, 157–158  
     Scrum master role, 163–164  
 Chrysler, 103  
 Colocated teams, 27–28, 39  
 Communication  
     activities, 112  
     anxiety issues, 113  
     challenges, 178–179  
     daily commitment to, 176–177  
     resistance issues, 113  
     Scrum visibility, 169  
     tactic creation/execution,  
         113–114  
 Computer-aided design/computer-  
     aided manufacturing (CAD/  
     CAM) systems, 12  
 Control  
     empiricism support for, 25  
     risk, 71  
     subtle, 28

Costs  
     acceptable, 3  
     assessments, 81  
     extrapolated, 36  
     forecasts, 22–23, 76–77  
     ownership, 83–85  
     quality reduction and, 97  
     ROI and, 82, 83–84  
     Scrum team, 72  
     Sentinels, 6  
     sprint, 64, 68–69  
     sprints, 64  
     studio ownership, 84–86  
 Costs technical, 98–99  
 Cross-functional teams  
     characterization of, 27–28  
     predictive management and, 46–47  
 Curaspan, 38  
 CXO. *See* Chief executive officer (CXO)

## D

Daily scrum meeting  
     defined, 127  
     masters role at, 145  
     purpose of, 59, 144  
     sprint review and, 144–145  
 Davi, Steve, 120–121  
 Dead systems, 172  
 Debt, 97–99  
 Development process  
     cost of, 84  
     dimensions of, 11  
     enhancement of, 29  
     failures, root cause of, 9–12  
     overlapping phases, 28  
     Scrum vs., 171  
     typical problems in, 7–9  
     uncertainty in, 53–54

- 
- Development teams
    - best practices for, 26–29
    - colocated, 27–28
    - composition of, 29
    - control of, 28
    - coordination of, 176–177
    - cross-functional, 27–28, 46–47
    - daily scrum and, 144
    - done definition of, 150
    - empirical process and, 18–21
    - formation example, 36–38
    - knowledge generation in, 28–29
    - membership of, 127, 138
    - message creation example, 38–40
    - responsibilities of, 138–139
    - scrum master and, 140
    - self-organization of, 27, 45–46
    - size of, 139
    - sprint and, 143–144
    - training of, 169
  - Digital Equipment Corporation, 119
  - Dynamic flow, 28
  - E**
  - E-Trade, 74
  - Early testing, 180
  - Ebbighausen, Harold, 122
  - Emergence, 128
  - Empiricism
    - agility and, 30
    - best practices stemming from, 26–29
    - charting, 23–25
    - defined, 128
    - ideas list for, 18–19
    - iteration of, 19–21
    - planned process vs., 158–159
    - plans and, 49–50
    - processes supported by, 25–26
    - PWC approach to, 29–30
    - requirements for, 17–19
    - sales organizations and, 34
    - self-organization in, 45–46
    - success requirements for, 17–18
    - venture capitalism and, 51
    - waterfall problems and, 22–23
  - Employees. *See also* Development teams; Scrum teams
    - morale, 9
    - potential, 38
    - productivity of, 29
    - respect for, 27
  - Empowerment, 159
  - Enterprise and Scrum, 101
  - Enterprise level, 56
    - Carbonite example, 104–105
    - characterization of, 56
    - modifications, 104–105
    - persistent change in, 103–104
    - transient change in, 101–103
  - Enterprise transformation project. *See also* Transformation
    - expansion in, 117
    - expansion of, 114–115
    - gains, 116–117
    - impact of, 115–118
    - infiltration in, 116–117
    - initiation of, 109–112
    - major activities of, 108–109
    - path to, 107–108
    - preparation for, 108–109
    - strategy formulation, 111–112
    - team formation, 110
    - vision formulation, 111–112

Entrepreneurial agility, 30

Extrapolation, 69

## F

F-Secure, 50–51

False confidence, 160

Federal Bureau of Investigation (FBI),  
4–6

Fidelity Investments, 74

Flowers, Jeff, 104–105

Ford Motor Company, 103

Forecasts

basis of, 24–25

costs, 71

defined, 128

empiricism and, 58

extrapolating, 69

incorrect, 25

limitations of, 50

practices for, 148

product backlog, 143

sample, 66

sprint, 59–60, 65, 73

Forrester Report, 3

Frequency, 19

Friend, David, 104

Function point, 128

Functionality

development of, 43–44

increment of, 86–90

maintenance of, 85

sprinting, 64

## G

General Motors, 103

Green, Peter, 94, 95–96

## H

Heppelmann, Jim, 15

## I

Impediments

characterizing, 173–174

exposing, 173

organizational examples, 174

Increments

defined, 128

evaluation phase, 21

functionality, 86–90

ready-to-use, 91–96

sprint and, 148–149

transparency in, 51–52

Information radiators, 169

Inspection, 17, 136

Instability, 27

Iron Mountain Digital, 39–40, 122

Iteration

defined, 19, 128

implementation of, 20–21

Iterative incremental

defined, 20

process of, 22, 128

## J

Just-in-time requirements, 180

## K

Ken and Rally Corporation, 101

Knowledge

CXOs, 162

developers skills, 64

generation, 28–29

Kotter, John P., 103–104

Kronos, 52

## L

Leading Change (Kotter), 103

Learning

dimensions of, 28  
 multilevel, 28  
 provision of, 71  
 Scrum Foundations course, 77–78  
 software studio for, 75–76  
 transfer of, 28–29  
 LiveVault, 39–40  
 Lockheed Martin, 5  
 Luppino, Paul, 39  
**M**  
 Maintainability, 85  
 Maintenance costs, 84  
 Management. *See also* Chief executive officer (CXO)  
     burndown charts, 64–68  
     certainty issues for, 53–54  
     empirical, 25, 49–51  
     employment empowerment by, 52–53  
     product backlog, 179  
     role reevaluation, 115  
     Scrum studio, 76–77  
     self-organization implementation by, 45–46  
     traditional communication by, 178–179  
     transparency demands by, 51–52  
 Manifesto for Agile Software Development, 161  
 Market metrics, 82  
 Market volatility, 70  
 Marks and Spencer, 29  
 Martin, Chris, 150  
 McKenna, Jeff, 150  
 Message creation, 38–40  
 Metrics  
     CXO analysis of, 170–172

markets, 82  
 process, 171  
 productivity, 81  
 project, 171–172  
 quality, 82  
 transparency, 86  
 value, 83  
 Microsoft, 39–40  
 Morale, 9  
 Moussad, Sylvain, 46  
 Multifunctional learning, 28  
 Multilevel learning, 28  
**N**  
 Nonaka, Ikujiro, 26  
**O**  
 Opacity, 87–88  
 Operations costs, 84  
 Oracle, 103  
 Organizations  
     adaptation, 101–102  
     agility in, 30  
     architecture, 175–176  
     decision process in, 53  
     development work in, 44–45  
     empiricism in, 34–35  
     flexibility in, 53  
     impediments of, 159  
     infrastructure tooling by, 178–181  
     learning, 75–76  
     ROI, 84–85  
     scrum impediments, 174  
     scrum master and, 140, 163–164  
     scrummy, 162–163  
     struggling, 7–9  
     value for, 3, 82

Our Iceberg Is Melting (Kotter),  
103–104, 111  
Ownership costs, 84

**P**

Parametric Technology Corporation  
(PTC)  
description of, 12  
management team, 13–15  
self-organization at, 46  
waterfall process at, 13  
The Playbook for Achieving Enterprise  
Agility, 101  
PCW. See PricewaterhouseCoopers  
(PWC)  
Pilot study  
defined, 35  
preparation for, 34, 166–167  
process for, 33–35  
projects, 167–168  
Pilot study model  
evaluation, 42–43  
message creation, 38–40  
overview of, 35–36  
planning steps, 41–42  
process improvement, 44–45  
product improvement, 43–44  
project determination,  
40–41  
team formation in, 36–38  
Planning  
release, 177, 180–181  
software studio, 79  
sprint, 124–126  
time issues, 8  
Plans  
creation of, 49  
F-Secure example, 50–51

modification of, 50  
Predictive development projects  
empiricism support for, 25–26  
management of, 47  
plan creation and, 45–46  
Predictive process. See Waterfall  
Premier Pro  
CS3, 94  
CS4, 94–95  
CS5, 96  
PricewaterhouseCoopers (PWC),  
29–30  
Primavera, 53–54, 102–103  
Pro re nata (PRN), 55–56,  
64, 128  
Process metrics, 171  
Product backlog  
baseline and, 68  
conversion of, 143  
defined, 128  
done definition for, 149–150  
grooming, 148  
management of, 179  
ordering of, 147  
Product owners  
defined, 129  
development role, 57  
direction from, 159–160  
done definition of, 150  
monitoring by, 148  
responsibilities of, 137–138  
scum master and, 139–140  
sprint and, 59, 143, 145  
training of, 168–169  
Productivity  
best practices, 29  
defined, 129  
metric, 80–82

**Projects**

- charting, 23–25
- managers role, 45
- metrics, 171–172
- plans, 9–10
- PRN approach, 55–56
- reporting of, 179–180

**Q****Quality**

- customer pressure and, 172
- defined, 129
- deterioration of, 8–9
- metric, 80–82
- reduction, 96–99
- software, 85
- sprinting and, 96–97

**R**

- Raytheon, 15
- Re-factoring, 180–181
- Release dates, 7–8
- Release planning, 177, 180–181
- Replanning, 64
- Requirements
  - backlog of, 18–19
  - changes in, 9
  - defined, 129
- Resistance, 113
- Return on investment (ROI), 81, 84
- Risks
  - agility and, 30
  - control of, 71
  - forecasting, 66
  - iterations and, 19, 26
  - traditional software, 4
- Rollout teams, 123–125
- Rubin, Rob, 104–105

**S**

- Sales organizations, 34
- Scaling scrum
  - communication challenges of, 178–179
  - organizational, 175–176
  - overview, 174
  - release planning, 177
  - tracking, 177
- Schatz, Bob, 102
- Schwaber, Ken, 135, 150
- Scrum. *See also* Daily scrum meeting
  - action graph, 61
  - agility and, 160–161
  - artifacts, 146–150
  - attributes, 156–157
  - best practices-based on, 27–29
  - contributors, 150
  - defined, 17
  - development of, 26–27
  - empirical process model for, 158
  - events, 140–146
  - example of, 74
  - framework, 135
  - history of, 151–151
  - impact achievement, 169–170
  - implementing, 119
  - information provided by, 64–65
  - Iron Mountain Digital application, 39–40
  - metric analysis, 170–172
  - nonnegotiable adoption elements, 105–106
  - organizational expansion of, 168–169
  - organizational impediments to, 173–174
  - overview of, 135, 156–161
  - philosophy of, 178, 180

Scrum (*continued*)

- premise of, 160
- preparation for, 162–165
- principles, 157–160
- projects, 5–6, 55
- purpose of, 135
- responsibilities of, 159
- roll out, 103–104
- stealth, 63–64
- theory, 136–137
- tradeoff, 159
- traditional development vs.,  
171
- training, 77–78
- transformation to, 102
- yield rate from, 12

## Scrum adoption playbook

- achieving impact play, 169–170
- assessment play, 166
- change steps in, 165
- expanded play, 172
- metric assessment play, 170–172
- organizational expansion play,  
168–169
- overview, 166
- pilot project play, 166–168
- win play, 172

## Scrum master

- development team and, 140
- organizational, 163–164
- product owner and, 139–140
- responsibilities of, 129, 139–140
- role of, 57
- sprint and, 145
- sprint review by, 59
- studio role, 76
- training of, 168
- transformation role, 123

## Scrum studio

- analogy for, 91
- change at, 80
- conundrum of, 80
- dashboards, 83–84
- defined, 75
- development tools, 79–80
- as learning project, 75–76
- manager for, 76–77
- opinions survey, 81
- ownership costs, 84
- productivity metrics, 81
- quality metrics, 82
- ROI, 82, 83–84
- standardized planning at, 80
- terms of use, 78
- transparency metrics, 86
- value metrics, 83
- work facilities, 79

Scrum teams. *See also* Development

- teams; Transformation teams
- components of, 129,  
137–140
- cooperation among, 147
- coordination of, 176–177
- done definition of, 149–150
- focus of, 180
- formation of, 58, 110
- hierarchy, 159
- product development example,  
96–99
- roles in, 57
- rules for, 175
- sprint review by, 59–60
- sprinting by, 58–60
- training of, 77–78
- typical work of, 91–93
- volatility of, 70–72

- 
- Scrumming
    - defined, 119
    - Iron Mountain example, 122
    - organization, 162–163
    - SeaChange example, 119–122
    - software process, 162–163
  - SeaChange International, 119–122
  - Self-organization
    - defined, 129
    - demands of, 53
    - management implementation of, 45–46
    - team implementation of, 27
  - Sentinel Project
    - development of, 4–6
    - process of, 7–9
    - staffing for, 6
  - Shepherd, Brian, 14
  - Smith, Mike, 150
  - Software projects
    - case study of, 4–6
    - CHAOS report on, 3
    - development, 11, 129
    - failures, 4, 9
    - limitations of, 3–4
    - predictive process of, 7, 12
  - Sprint
    - backlog, 130, 148–149
    - burndown forecasts, 64–66
    - canceling, 141–142
    - continuation of, 60–61
    - costs of, 64
    - defined, 130
    - development team and, 143
    - early testing, 180
    - extrapolation of, 69
    - goal, 130, 144
    - infrastructure in, 181
    - length of, 69–74, 141
    - longer, 71
    - needs coordination, 177
    - preparation, 124
    - product owner and, 143
    - quality and, 96
    - retrospective, 60, 146
    - retrospective meeting, 131
    - rollout teams for, 125
    - scrum master and, 145
    - shorter, 70–72
    - starting estimates, 68–69
    - transformation team and, 124–125
    - work tracking and, 65
  - Sprint planning
    - art of, 181
    - length of, 124–125
    - meetings for, 130–131, 142–144
    - value and, 58–59
  - Sprint review meeting
    - conducting, 59–60
    - defined, 131
    - elements of, 145
    - timing of, 125
  - Stability velocity, 71
  - Stacey graph, 10–11
  - Standish Group report
    - burndown estimates by, 67–68
    - early measures of, 12
    - findings of, 3–7
  - Starr, David, 150
  - Stealth scrum, 63–64
  - Strategy
    - communication of, 112–115
    - formulation, 111–112
  - Sustainability, 85
  - Sutherland, Jeff, 150

**T**

Takeuchi, Hirotaka, 26

TeamPlay, 102

Teams. *See* Development teams;  
Scrum teams; Transformation  
teams

Technical debt, 97–99

Technology

influences, 3

knowledge of, 11

reliability of, 9–10

volatile, 70–71

Testing

early, 180

function of, 99

insufficient, 13

The Tonight Show, 84

Tracking, 177

Traditional manufacturers, 10–11

Transformation

accommodations for, 8

anchoring, 117–118

difficulty of, 164–165

lead agent for, 164

persistent/profound, 103–104

product backlog, 122

teams for, 110

transient/profound, 101–103

Transformation teams

activities, 114–115

backlog development by,  
114–115

membership, 123

rollout by, 123–124

sprint phase role, 124–125

strategy role, 111–112

Transparency, 131

increment and, 51–52

increments and, 20

metrics of, 86

neutrality of, 52

opacity vs., 87–88

requirements of, 18, 136

skills building, 91

technical debt, 97–99

3M, 28

Trend line, 131

**U**

Urgency, 109

**V**

Value, 3, 83

Velocity, 131

Venture capitalists, 51

Verizon, 120

Vision

communication of, 112–115

defined, 131–132

formulation, 111–112

Volatility, 70–72

**W**

Wachutka, Jane, 13

Warner, Steve, 93, 95

Waterfall. *See also* Predictive

development projects

bases of, 11–12

case study of, 12–15

defined, 9, 132

inappropriate use of, 12

model for, 10–11

problems of, 22–23

project planning and, 9–11







