



AGILE BY DESIGN

AN IMPLEMENTATION GUIDE TO
ANALYTIC LIFECYCLE
MANAGEMENT

RACHEL ALT-SIMMONS

WILEY

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*An Implementation Guide to Analytic
Lifecycle Management*

Rachel Alt-Simmons

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Published by John Wiley & Sons, Inc., Hoboken, New Jersey.

Published simultaneously in Canada.

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Library of Congress Cataloging-in-Publication Data

Alt-Simmons, Rachel, 1971–

Agile by design : an implementation guide to analytic lifecycle management /
by Rachel Alt-Simmons.

pages cm. – (Wiley & SAS business series)

Includes bibliographical references and index.

ISBN 978-1-118-90566-1 (cloth), ISBN 978-1-119-17715-9 (ePDF), ISBN
978-1-119-17716-6 (epub)

1. Business planning. 2. Organizational change. 3. Organizational effectiveness.

4. Management. I. Title.

HD30.28.A3872 2016

658.4'012-dc23

2015022015

Cover Design: Wiley

Cover Image: © iStock.com / Studio-Pro

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

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Introduction

We live in a data-driven world. The analysis and business use of information is no longer a nice-to-have, but has increasingly become integral to our customer-critical business processes. Not only has data become a differentiator among businesses in terms of profitability but also in viability and longevity. While many organizations have relied on analysis and analytics for years, if not decades, the integration of insight into operational environments has not kept pace.

For some time, we've seen analytics move out of the basement and into the boardroom, as executives increasingly understand and embrace the role that information plays in their business. However, the execution (or operationalization) of that insight has not fully taken hold in the domain of IT. Part of the problem is that analytics groups have largely operated under the radar—their need for business agility and flexibility results in shadow IT organizations. Many analytic teams create and manage their own infrastructure. While this approach may offer some level of agility and flexibility, it doesn't create a sustainable path for growth or scale. In fact, many analytics groups become the victim of their own successes—creating mission critical predictive models or insight that cannot be easily ingested by the organization. Since they've been left out of the process for so long, IT teams tasked with supporting these new analytic projects struggle to keep up with what's needed for the projects; how to implement them; and, ultimately, how to support them longer-term. Business stakeholders are left unsure how to educate their staff or their customers in how analytics change the way they run their businesses.

Increasingly, organizations are finding that they can no longer operate in analytic silos. Business, analytic, and IT groups once at odds find that they are dependent on each other. Beyond addressing the technical and operational aspects, organizations need to address the organizational and cultural rifts that have built up over time—bringing the business, analytic groups, and IT organizations more closely in line.

Frustration and disappointment awaits the analysts who think their algorithms solve all business issues or replace people. While the modelers know how to dig into the data, the business customers know their business and potential implications. If they work collaboratively, the end result can provide a business with a competitive edge or at least stay abreast of the competition. In our years working with and on analytic teams, we know that adding the right amount of structure and rigor to an analytic project will help increase your chances of analytic success! Whether you're analytic pros or "new-bees," we think you'll find some opportunities to improve how you work together across the organization. Agile delivery techniques provide teams with a structured way to coordinate, communicate, and collaborate while embracing creativity and innovation.

The goal of this book is to assist organizations with the journey of integrating analytics with operational people and process infrastructure, allowing analytic teams to focus their time on innovative value-added projects. This allows the teams to wrap their work in the operational discipline essential to embedding analytics within the organization. Our approach is to extend agile delivery methods as a framework for execution, as it allows us to acknowledge the ambiguity inherent in analytic projects.

WHO SHOULD READ THIS BOOK

There's a little something for everyone inside this book:

Analytic teams

At its heart, this book is for you. *Agile by Design* provides a simple and flexible approach by taking the Scrum methodology as an effective way to execute and deliver on large analytic projects. Tools and techniques are offered to help the team showcase the value of their work within the organization; stay organized; and create a sustainable foundation for analytic delivery. At the same time, we want to help you better work with and understand the needs of your business and IT partners.

IT

For those of you who work with analytic teams, this book does not cover any deep technical approaches to analytics—that’s a whole different book! But we do want to show you some ways that technologists and analysts can partner throughout a project and improve project time-to-value.

Business

Okay, business folks, you’re not off the hook. After all, these analytic projects are for you; but maybe all that math is a little intimidating? Don’t worry, there’s no math in this book either: The intent is to help project teams come up with a common language and an engagement model for working together through the analytic project’s duration.

Project Managers

Perhaps you’re a project manager or ScrumMaster who’s been handed the responsibility of managing one of these analytic projects, but the analytic team is resistant to being “managed.” There are lightweight tools and examples that you can use with your teams to encourage engagement and keep the teams on track.

WHAT’S INSIDE

Read it all the way through, or find a chapter that’s interesting to you. Remember, the beauty of agility is that you make it your own. If your team is having a problem with planning or prioritization, start there. If you need some help capturing some user stories, then go right to that chapter.

The book starts with an introduction to some of the changing market dynamics—your customers—that are making analytics more important to organizations across every industry. We reintroduce the topic of analytics to provide a definition for the types of insight and

analysis people are generating. The analytic lifecycle is introduced within a business value chain framework, illustrating the importance of analytics in the broader context of implementation.

With the stage set, we kick it off with a hypothetical analytic project that we'll follow through to the end of the book. Customer-thinking concepts are introduced along with techniques for visioning your project and setting some concrete goals. The team then prioritizes their project against other important work going on at the company by performing some knowledge acquisition. With preliminary approval to begin some scoping work to see how big the project is, the team begins knowledge gathering activities. Working with their business and IT partners, the analysts will define their target variable and perform some initial data profiling and visualization activities to get an idea of the quality of their data.

Traditional and agile project delivery methods as well as an overview of the Agile Manifesto are provided. Using the manifesto as our guideline, we outline a delivery framework for analytics that leverages elements from two popular agile methodologies, Scrum and XP. As our project receives the green light from our executives, we start a formal planning cycle and define some common analytic work activities.

Next, the team uses a story-based approach to gather hypotheses from the business on what they believe to be the root cause of the analytic problem. By capturing hypotheses, the analytic team can start to prove or disprove some of the intuition-based reasoning with data-driven results. In order to gather an initial set of hypotheses, the team facilitates a story workshop to capture as many ideas as they can from the business.

An overview of the Scrum framework our team will be using is provided: This includes the day-to-day rhythm of the project. Roles and responsibilities are defined on the Scrum team, including the role of the business sponsor and product owner, and the responsibility of IT during the engagement. Our team kicks off the first planning cycle for their sprint and starts working. We follow the team through planning, execution, review, and retrospective.

Additionally, we turn to some of the analytic team's quality practices, bringing in several key engineering practices from the

XP methodology that will improve the overall quality of work and delivery. Collaboration and communication is also a focus area, where we provide some ideas for visualizing and communication day-to-day progress with the extended stakeholder group.

Once our model is complete, we prepare for a release. But while the model may be finished, the real work is just beginning. We'll initiate a business implementation planning session to determine how that model will be used by the business. This includes ideas for test-and-learn strategies and starting to create a culture of experimentation.

Finally, we'll deploy our model into the real world. We'll cover some of the different ways that organizations deploy models, how data is scored, and how those scores are used in other business applications.

THE COMPANION WEBSITE

Rome wasn't built in a day, and as such, this book will provide readers with a solid foundation of agile frameworks for analytics and how to use them to manage analytic projects, but there are always more details we don't have room to include! Additional goodies and other deep thoughts about agile analytic methodologies are available the companion website for this book, analyticscrum.com. On the site, you can download additional content and templates, read articles and posts, contribute, and ask questions.

About the Author

Rachel Alt-Simmons is an analytics and technology professional with 20 years of experience developing and integrating business analytic and technology strategies. Having worked across North and South America, she's helped Fortune 500 organizations build and continuously improve their analytic competencies.

She started her career in the mutual fund industry and moved into business intelligence and analytics leadership roles at The Hartford, where she built out an analytic competency center within the Global Wealth Management division.

Following that, she spent two years as research director for the Life and Annuity practice at the industry analyst firm TowerGroup before returning to the insurance industry. Rachel joined Travelers Insurance as part of a strategic leadership team to transform business intelligence and analytic capabilities within the Small Commercial division, and went on to create an enterprise analytic center of excellence.

In her role at SAS, Rachel works with customers across industry verticals to create customer-centric analytic processes, driving alignment between business and technology strategies.

In addition to her work at SAS, Rachel is an adjunct professor and agile coach at Boston University in the Computer Sciences department, teaching Agile Software Development, IT Strategy, and IT Project Management. Rachel is a Certified Lean Master, Six Sigma Black Belt, PMI Agile Certified Practitioner, and Project Management Professional.

A frequent industry speaker, writer, contributor, and thought leader, Rachel currently consults with companies across Canada, the United States, and Latin America on the strategic use of analytics and defining integrated approaches to aligning business and technology strategies.

Contents

Introduction xiii

About the Author xix

Chapter 1 Adjusting to a Customer-Centric Landscape 1

 It's a Whole New World 1

 From Customer-Aware to Customer-Centric 3

 Being Customer-Centric, Operationally Efficient, and
 Analytically Aware 6

 Our Example in Motion 9

 Enabling Innovation 10

Chapter 2 The Analytic Lifecycle 13

 What Are Analytics, Anyway? 13

 Analytics in Your Organization 15

 Case Study Example 17

 Beyond IT: The Business Analytic Value Chain 18

 Analytic Delivery Lifecycle 19

 Stage One—Perform Business Discovery 20

 Stage Two—Perform Data Discovery 21

 Stage Three—Prepare Data 22

 Stage Four—Model Data 23

 Stage Five—Score and Deploy 24

 Stage Six—Evaluate and Improve 25

 Getting Started 25

 Summary 26

Chapter 3 Getting Your Analytic Project off the Ground 27

 A Day in the Life 29

 Visioning 30

 Facilitating Your Visioning Session 32

 Think Like a Customer 33

 Summary 36

Chapter 4 Project Justification and Prioritization 37

 Organizational Value of Analytics 37

 Analytic Demand Management Strategy 38

 Results 40

Project Prioritization Criteria	42
Value-Based Prioritization	43
Financial-Based Prioritization	45
Knowledge Acquisition Spikes	46
Summary	47
Chapter 5 Analytics—the Agile Way	49
Getting Started	49
Understanding Waterfall	51
The Heart of Agile	53
The Agile Manifesto/Declaration of Interdependence	54
Selecting the Right Methodology	57
Scrum	58
eXtreme Programming (XP)	59
Summary	61
Chapter 6 Analytic Planning Hierarchies	63
Analytic Project Example	63
Inputs into Planning Cycles	66
Release Planning	69
Analytic Release Plan	70
Release Train	71
Summary	73
Chapter 7 Our Analytic Scrum Framework	75
Getting Started	75
The Scrum Framework	77
Sprint Planning	78
Sprint Execution	80
Daily Standup	81
How Do We Know When We’re Done?	82
Sprint Review	83
Sprint Retrospective	85
Summary	85
Chapter 8 Analytic Scrum Roles and Responsibilities	87
Product Owner Description	89
Product Owner: A Day in the Life	91
ScrumMaster Description	92
ScrumMaster: A Day in the Life	94
Analytic Development Team Description	95
Additional Roles	97
Summary	98
Chapter 9 Gathering Analytic User Stories	101
Overview	101

User Stories	103
The Card	104
Analytic User Story Examples	105
Technical User Stories	106
The Conversation	107
The Confirmation	107
Tools and Techniques	108
INVEST in Good Stories	109
Epics	111
Summary	112
Chapter 10 Facilitating Your Story Workshop	113
Stakeholder Analysis	113
Managing Stakeholder Influence	116
Agile versus Traditional Stakeholder Management	118
The Story Workshop	118
Workshop Preparation	119
Facilitating Your Workshop	121
Must-Answer Questions	123
Post-Workshop	124
Summary	126
Chapter 11 Collecting Knowledge Through Spikes	127
With Data, Well Begun Is Half Done	127
The Data Spike	129
Data Gathering	131
Visualization and Iterations	135
Defining Your Target Variable	136
Summary	138
Chapter 12 Shaping the Analytic Product Backlog	141
Creating Your Analytic Product Backlog	141
Going DEEP	145
Product Backlog Grooming	146
Defining “Ready”	146
Managing Flow	147
Release Flow Management	148
Sprint Flow Management	148
Summary	149
Chapter 13 The Analytic Sprint: Planning and Execution	151
Committing the Team	151
The Players	153
Sprint Planning	154
Velocity	155

Task Definition	156
The Team's Definition of Done	158
Organizing Work	159
Sprint Zero	160
Sprint Execution	161
Summary	163
Chapter 14 The Analytic Sprint: Review and Retrospective	165
Sprint Review	165
Roles and Responsibilities	168
Sprint Retrospective	168
Sprint Planning (Again)	171
Layering in Complexity	173
Summary	175
Chapter 15 Building in Quality and Simplicity	177
Quality Planning	177
Simple Design	181
Coding Standards	183
Refactoring	184
Collective Code Ownership	185
Technical Debt	186
Testing	187
Verification and Validation	188
Summary	189
Chapter 16 Collaboration and Communication	191
The Team Space	191
Things to Put in the Information Radiator	194
Analytic Velocity	195
Improving Velocity	196
The Kanban or Task Board	197
Considering an Agile Project Management Tool	198
Summary	200
Chapter 17 Business Implementation Planning	203
Are We Done Yet?	203
What's Next?	205
Analytic Release Planning	206
Section 1: What Did We Do, and Why?	206
Section 2: Supporting Information	208
Section 3: Model Highlights	208
Section 4: Conclusions and Recommendations	208
Section 5: Appendix	209