LEARNING MADE EASY

3rd Edition

Agile Project Management

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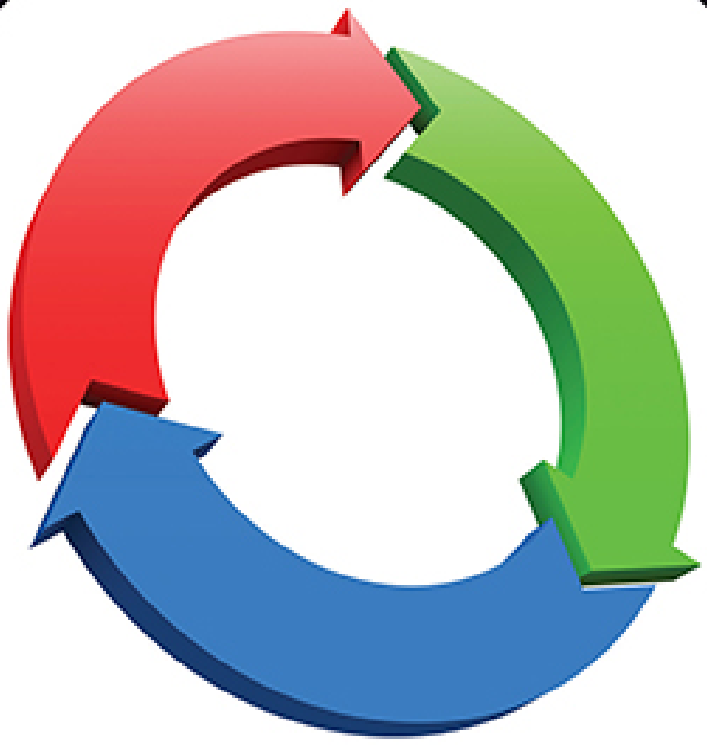

Make performance be progress

Deliver customer value in weeks, not months

Turn agile principles into practice

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Agile Project Management For Dummies®

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Table of Contents

List of Tables

Chapter 15

Chapter 16

Chapter 17

Chapter 20

List of Illustrations

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 8

Chapter 9

Chapter 10

Chapter 11

Chapter 12

Chapter 13

Chapter 14

Chapter 16

Chapter 17

Chapter 18

Chapter 19

Chapter 20

Introduction

Welcome to *Agile Project Management For Dummies,* 3rd Edition. Agile project management has grown to be as common as any management technique for product development — and not only software product development. For nearly two decades, we have trained and coached companies big and small, all over the world, about how to become more nimble, adaptive, and responsive in both the development of their products and their organizations — in other words, how to become more agile. Through this work, we found there was a need to write a digestible guide that anyone, regardless of experience, could understand.

About This Book

Agile Project Management For Dummies, 3rd Edition is more than just an introduction to agile practices and approaches; you also discover the steps to become more agile in mindset and behavior. The material here goes beyond theory and is meant to be a field guide for all experience levels, giving you the tools and information you need to be successful with agile techniques in the trenches of product development.

Foolish Assumptions

This book was written as a reference guide for anyone wanting to learn more about business agility. If you strive to be more agile in responding to customer needs and problems — whether or not you're an organizational leader, a project manager, a member of a product team,

an agile enthusiast, or a product stakeholder — this book will help you on your journey.

Regardless of your experience or level of familiarity, this book provides insights you may find helpful. We hope it brings clarity to any confusion or myths regarding agile product development you may have encountered.

Icons Used in This Book

Throughout this book, you'll find the following icons.

TIP Tips are points to help you along your agile product development journey. Tips can save you time and help you quickly understand a particular topic, so when you see them, take a look!

REMEMBER The Remember icon is a reminder of something you may have seen in past chapters. It also may be a reminder of a commonsense principle that is easily forgotten. These icons can help jog your memory when an important term or concept appears.

WARNING The Warning icon indicates that you want to watch out for a certain action or behavior. Read these to steer clear of big problems!

The Technical Stuff icon indicates information that is interesting but not essential to the text. If you see a Technical Stuff icon, you don't need to read it to understand agile product development, but the information there might just pique your interest.

On the Web means that you can find more information on the book's website at www.dummies.com/go/agileprojectmanagementfd3e.

Beyond the Book

Although this book broadly covers the agile project management spectrum, we can cover only so much in a set number of pages! If you find yourself at the end of this book thinking, "This was an amazing book! Where can I learn more about how to advance my products under an agile approach?" check out Chapter 24 or head over to www.dummies.com for more resources.

We've provided a cheat sheet for tips on assessing your current product development efforts in relation to agile principles as well as free tools for managing projects using agile techniques. To get to the cheat sheet, go to www.dummies.com, and then type *Agile Project Management For Dummies Cheat Sheet* in the Search box. This is also where you'll find any significant updates or changes that occur between editions of this book.

Where to Go from Here

We wrote this book so that you could read it in just about any order. Depending on your role, you may want to pay extra attention to the appropriate sections of the book. For example:

- If you're just starting to learn about product development and agile approaches, start with Chapter 1 and read the book straight through to the end.
- If you're a member of a product team and want to know the basics of agile product development, check out the information in Part 3 (Chapters 9 through 12).
- If you're a project manager transitioning to agile approaches to product development, you may be interested to learn how agile techniques improve the management of time, cost, scope, procurement, quality, and risk. Review Part 4 (Chapters 13 through 17).
- If you know the basics of agile product development and are looking at bringing agile practices to your company or expanding your agile footprint across your organization, Part 5 (Chapters 18 through 20) will provide you with helpful information.

Part 1

Understanding Agility

IN THIS PART ...

Understand why project management has modernized due to the flaws and weaknesses in historical approaches to project management.

Find out why agile methods are becoming more product-focused than project-focused, and become acquainted with the foundation of agile product development: the Agile Manifesto and the 12 Agile Principles.

Discover the advantages that your products, projects, teams, customers, and organization can gain from adopting agile techniques.

Understand the importance of placing the customer's needs first and why agile techniques help to make the customer central to every decision, functionality, and problem.

Chapter 1

Modernizing Project Management

IN THIS CHAPTER

- **» Understanding why project management needs to change**
- **» Seeing how agile project management is becoming agile product management**
- **» Finding out about agile product development**

A*gile* is a descriptor of a mindset approach to project management that focuses on early delivery of business value, continuous improvement of the product being created and the processes used to create the product, scope flexibility, team input, and delivering well-tested products that reflect customer needs.

In this chapter, you find out why agile processes emerged as an approach to software development project management in the mid-1990s and why agile methodologies have caught the attention of project managers, customers who invest in the development of new products and services, and executives whose companies fund product development. While business agility is popular in software product development, agile values, principles, and techniques apply in a multitude of industries and applications — not just software. This chapter also explains the advantages of agile approaches over long-standing project management methodologies.

Project Management Needed a Makeover

A *project* is a planned program of work that requires a definitive amount of time, effort, and planning to complete. Projects have goals and objectives and often must be completed in some fixed period of time and within a certain budget.

Because you're reading this book, you're likely a project manager or someone who initiates projects, works on projects, or is affected by projects in some way.

Agile approaches are a response to the need to modernize project management. To understand how agile approaches are revolutionizing product development, it helps to know a little about the history and purpose of project management and the issues that projects face today.

The origins of modern project management

Projects have been around since ancient times. From the Great Wall of China to the Mayan pyramids at Tikal, from the invention of the printing press to the invention of the Internet, people have accomplished endeavors big and small in projects.

As a formal discipline, project management as we know it has been around only since the middle of the twentieth century. Around the time of World War II, researchers around the world were making major advances in building and programming computers, mostly for the United States military. To complete those projects, they started creating formal project management processes. The first processes were based on step-by-step

manufacturing models the United States military used during World War II.

People in the computing field adopted these step-based manufacturing processes because early computer-related projects relied heavily on hardware, with computers that filled up entire rooms. Software, by contrast, was a smaller part of computer projects. In the 1940s and 1950s, computers might have thousands of physical vacuum tubes but fewer than 30 lines of programming code. The 1940s manufacturing process used on these initial computers is the foundation of the project management methodology known as waterfall.

In 1970, a computer scientist named Winston Royce wrote “Managing the Development of Large Software Systems,” an article for the IEEE that described the phases in the waterfall methodology. The term *waterfall* was coined later, but the phases, even if they are sometimes titled differently, are essentially the same as originally defined by Royce:

1. Requirements
2. Design
3. Development
4. Integration
5. Testing
6. Deployment

On waterfall projects, you move to the next phase only when the prior one is complete — hence the name waterfall.

Pure waterfall project management — completing each step in full before moving to the next step — is actually a misinterpretation of Royce's suggestions. Royce identified that this approach was inherently risky and recommended developing and testing within iterations to create products — suggestions that were overlooked by many organizations that adopted the waterfall methodology.

The waterfall methodology was the most common project management approach in software development until it was surpassed by improved approaches based on agile techniques around 2008.

The problem with the status quo

Computer technology has, of course, changed a great deal since the last century. Many people have a computer on their wrist with more power, memory, and capabilities than the largest, most expensive machine that existed when people first started using waterfall methodologies.

At the same time, the people using computers have changed as well. Instead of creating behemoth machines with minimal programs for a few researchers and the military, people create hardware and software for the general public. In many countries, almost everyone uses a tablet or smartphone, directly or indirectly, every day. Software runs our cars, our appliances, our homes; it provides our daily information and daily entertainment. Even young children use computers —2-year-olds are almost more adept with the iPhone than their parents. The demand for newer, better products is constant.

Somehow, during all this growth of technology, processes were not left behind. Software developers are still using project management methodologies from the 1950s, and all these approaches were derived from manufacturing processes meant for the hardware-heavy computers of the mid-twentieth century.

Today, traditional projects that do succeed often suffer from one problem: *scope bloat,* the introduction of unnecessary product features. Think about the software products you use every day. For example, the word-processing program we're typing on right now has many features and tools. Even though we write with this program every day, we use only some of the features all the time. We use other elements less frequently. And we have never used quite a few tools — and come to think of it, we don't know anyone else who has used them, either. The features that few people use are the result of scope bloat.

Scope bloat appears in all kinds of software, from complex enterprise applications to websites that everyone uses. Figure 1-1 shows data from a Standish Group study that illustrates just how common scope bloat is. In the figure, you can see that 80 percent of requested features are infrequently or never used.

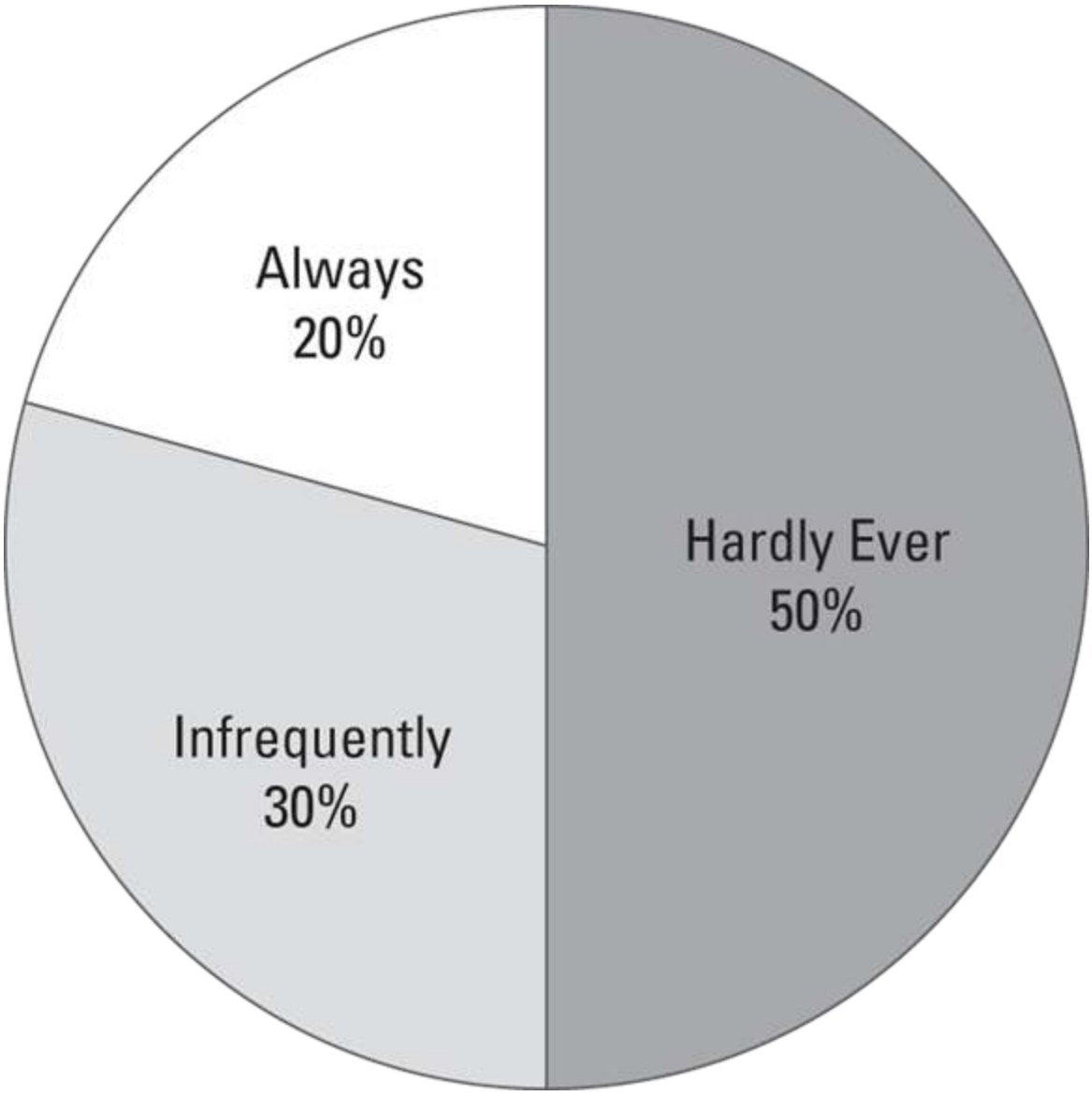

FIGURE 1-1: Actual use of requested software features.

The numbers in Figure 1-1 illustrate an enormous waste of time and money. That waste is a direct result of traditional project management processes that are unable to accommodate change. Project managers and stakeholders know that change is not welcome mid-project, so their best chance of getting a potentially desirable feature is at the start of a project. Therefore, they ask for

- Everything they need
- Everything they think they may need
- Everything they want
- Everything they think they may want

The result is the bloat in features that results in the statistics in Figure 1-1.

SOFTWARE PROJECT SUCCESS AND FAILURE

Stagnation in traditional project management approaches is catching up with the software industry. In 2015, a software statistical company called the Standish Group did a study on the success and failure rates of 10,000 projects in the US. The results of the study showed that

- *29 percent of traditional projects failed outright.* The projects were cancelled before they finished and did not result in any product releases. These projects delivered no value whatsoever.
- *60 percent of traditional projects were challenged.* The projects were completed but had gaps between expected and actual cost, time, quality, or a combination of these elements. The average difference between the expected and actual project results — looking at time, cost, and features not delivered — was well over 100 percent.
- *11 percent of projects succeeded.* The projects were completed and delivered the expected product in the originally expected time and budget.

Of the hundreds of billions of dollars spent on product development in the US alone, billions of dollars were wasted on projects that never deployed a single piece of functionality.

The problems associated with using outdated management and development approaches are not trivial. These problems waste billions of dollars a year. The billions of dollars lost in project failure in 2015 (see the sidebar, "Software project success and failure") could equate to millions of jobs around the world.