MASTERING PROFESSIONAL SCRUM

A PRACTITIONER'S GUIDE TO OVERCOMING CHALLENGES AND MAXIMIZING THE BENEFITS OF AGILITY

STEPHANIE OCKERMAN
SIMON REINDL

Forewords by KEN SCHWABER & DAVE WEST

The Professional Scrum Series by Scrum.org

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Stephanie Ockerman

Simon Reindl

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To the people who show up every day and do the hard work to create more inclusive, kind, and resilient organizations, communities, and societies. And to all of the women and allies who have empowered, inspired, and enabled me on my own leadership journey.

—Stephanie

To my wonderful family, without whose patience this would not have been possible. To my amazing, supportive, and loving wife, Sarah, and my two awesome children, Ella and George. Thank you for the joy and laughter and fresh perspective you bring to my world.

—Simon

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Foreword by Ken Schwaber

I created Scrum to improve the way in which I and others develop software. Scrum has been refined over the last 27 years, mostly through the creation, publishing, and gentle refinement of the Scrum Guide. Jeff Sutherland (the coauthor of Scrum) and I posted Scrum, as precisely defined in the Scrum Guide, online so people can suggest improvements. Over the years, we have refined Scrum based on these comments, making Scrum easier to use and understand.

When I first used the phrase "Scrum Master," many people became confused. Nobody was mastering Scrum; we were all learning how to use it and how to augment it with practices and tools so as to improve outcomes and to help team members use Scrum with proper values, practices, artifacts ("Done" Increments), and roles—all working together to achieve Scrum's goals.

The Scrum Master's job is to help the organization and the Scrum Team use Scrum properly to improve their ability to deliver value. The Scrum Master has to help the team members and people who are affected by Scrum (human resources, finance, etc.) understand how they can operate optimally. Anyone on the Scrum Team can improve their Scrum *mastery*; they can become better at using Scrum and empiricism to achieve better results, to deliver more value, in complex domains. Anyone can become *more professional*.

A professional is someone who works for money and follows the rules established for the profession. Professionals act and work according to standards, where they exist (e.g., adhering to the rules set forth in the Scrum Guide). They also embrace and embody a set of ethical principles established by their profession (e.g., the Scrum values of Focus, Commitment, Openness, Respect, and Courage).

Sometimes the Scrum professional may be torn between two alternatives. In these circumstances, the Agile Manifesto provides higher-level guidance:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Scrum professionals do not redefine Scrum itself or "tailor" it to their organizations; Scrum is Scrum. To create Increments of valuable Product and reach the desired outcomes, they *do* add supporting and ancillary practices, including DevOps, Kanban, and testing, reconciliation, and communication practices. Practices that distinguish Scrum from other approaches to complex work include the following:

1. The team organizes work in *short cycles*.
2. Management *doesn't interrupt* the team during a work cycle.
3. The team reports to *the client*, not to the manager.
4. The team estimates *how much time and effort* that work will take.
5. The team decides *how much* work it can do in an iteration.
6. The team decides *how* to do the iteration's work.
7. The team *measures its own performance*.
8. The team defines work goals *before* each cycle starts.

9. The team defines work and desired outcomes through a progressively refined description of outcomes (called the Product Backlog).
10. The team works to systematically and continuously improve and to remove impediments.

Our job as Scrum professionals is to continually improve our ability to use Scrum to deliver products and services that help customers achieve valuable outcomes. This book will help you to improve your ability to apply Scrum. Its authors share their experiences and advice, gathered from helping many clients and students learn and apply Scrum in their organizations. I hope that it helps you in your own professional journey.

Scrum on!

—Ken Schwaber, co-creator of Scrum and founder of Scrum.org

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Foreword by Dave West

What is Professional Scrum?

There is no question that the world of work is becoming more complex. It's not that simple work is going away, but rather that much of this work will be replaced by automation, algorithms, and robotics. Complex work is best defined as work that is unknown—not just in terms of how we do it, but also in regard to the outcomes and impacts of that work. Even when we have a clear outcome in mind, it is only after we have delivered something that we appreciate that the impact of the change may be different from the one we intended.

Scrum was developed to help us chart our way through a complex world. The framework is simple yet powerful, providing a way to bring order and structure to complexity through discovery and learning. But to be effective with Scrum requires something more than just following the mechanics of the framework: It requires a professional attitude.

Ken Schwaber, the co-creator of Scrum, describes a *professional* as someone who works for money and follows established rules for the profession. He also adds that to be a professional means embracing a set of ethical standards. These standards both unify members of a profession and define that profession to the outside world, as does the Hippocratic Oath for the medical profession.

Building upon that model of professionalism, four additional elements are key to achieving professionalism using the Scrum Framework:

- **Discipline.** To be effective with Scrum requires discipline. You have to deliver to gain learning; you have to do the mechanics of Scrum; you have to challenge your preconceived ideas about your skills, role, and understanding of the problem; and you have to work in a transparent and structured way. Discipline is hard and may at times seem unfair as your work exposes problem after problem and your efforts seem in vain.
- **Behaviors.** The Scrum Values were introduced in the Scrum Guide in 2016 in response to the need for a supporting culture that would enable Scrum to be successful. The Scrum Values describe five simple ideas that when practiced encourage an agile culture: Courage, Focus, Commitment, Respect, and Openness describe behaviors that both Scrum Teams and the organizations they work within should exhibit.
- **Value.** Scrum Teams work on problems that, when solved, deliver value to customers and stakeholders. Teams work for a customer who rewards them for that work. But the relationship is complex, because the problems are complex: Customers might not know what they want, or the economics of the solution might be unclear, or the quality and safety of the solution may be unknown. The job of a Professional Scrum Team is, to the best of their ability, to do the right thing for all these parties by delivering a solution that best meets their customers' needs within the constraints that have been placed on them. That requires transparency, respect for each other and for customers, and a healthy dose of curiosity to uncover the truth.
- **Helping others.** Scrum is a team sport, but one where each team is small. In consequence, the team is often the underdog trying to solve problems that it barely has the skills and experience to solve. To be effective, Professional Scrum Teams must work with other members of their community to learn

new skills and share experiences. Helping to scale the agility of the community is not completely altruistic, because the helpers often learn valuable things that they can bring back to help their own teams. Professional Scrum encourages people to form professional networks in which ideas and experiences that help teams can be exchanged.

Merely describing Professional Scrum does very little to help you realize those ideas in your organization or on your product. That is where Stephanie and Simon's book comes in: It is a support book for Professional Scrum. It takes the Core Scrum Framework and puts it in the context of professionalism, describing why many of these ideas make sense and how they have evolved from different disciplines and concepts. Whether you read it from cover to cover or dip into a particular section for specific guidance, it provides practical advice for how you can master Scrum and become more professional. And that journey is long and never ends.

Good luck, and enjoy the ride.

—Dave West, CEO and Product Owner Scrum.org

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Introduction

We live in a world in which the only certainty is uncertainty. As the world becomes more interconnected and interdependent, it also becomes more complex. And it's changing rapidly: New customers and competitors can appear, evolve, and disappear before we have a chance to respond. Technology is constantly changing, new political realities can create new regulatory and legal requirements to meet, and malicious hackers seem to learn faster than our ability to thwart them.

In response to this uncertainty, we accept the fact that we cannot predict the future. The best we can do is to act intentionally, taking small steps forward, embracing uncertainty, embracing empiricism, and using feedback loops to learn. This is the heart of agility and the foundation of Scrum: planning in small increments, delivering a working Product Increment, inspecting the result, and adapting, repeatedly and with complete transparency. But for agility to work, it must be pursued with professionalism.

Evidence of a lack of professionalism is everywhere: from the order that arrives with the wrong items, to the phone app that won't work, to the reports of security breaches that expose our private information to unauthorized parties. It manifests itself in projects that spiral out of control, costing millions of dollars while delivering nothing of value. It also manifests itself in personal terms: valuable working years wasted without developing new skills or opening up new opportunities. It undermines trust and damages working relationships. Anyone who has worked in product development has experienced at least some of its symptoms:

- Lack of transparency with respect to progress, quality, and outcomes
- Promising false certainty and avoiding open and honest conversations about complexity and risk
- Cutting quality to save money or time
- Avoiding accountability
- Delivering products that do not achieve acceptable quality so as to hit a delivery date
- Ignoring new information and carrying on with the plan

Scrum Provides a Way Forward, If Pursued with Professionalism

Scrum is an empirical approach to delivering products in a complex and uncertain world. While Scrum is widely adopted, a lot of it is not very professional. As Scrum co-founder Ken Schwaber observes, “Scrum is simple to understand, yet difficult to master.”[1] Among the various teams and organizations that are actually doing Scrum, many are simply going through the motions. We call this “mechanical Scrum.” Such teams use Scrum terminology without understanding the intent behind it or exhibiting the discipline that Scrum requires.

This book aims to dispel the myths, correct misunderstandings, and help organizations to use Scrum to deliver high-quality products and experiences for their customers. In short, it aims to help organizations apply Scrum while achieving professionalism.

1. www.scrumguides.com

Who Should Read this Book

This book is intended for people who have a working knowledge of Scrum, who may be doing many things right but want to improve. You may be a Scrum Master, but you could also be a Development Team member or a Product Owner. The important thing is that you want to, and need to, improve. If you want to learn about Scrum, we suggest you start with the Scrum Guide, a class about Scrum, or one of the many excellent introductory books on the subject.[2]

How This Book Is Organized

Our intent in writing this book was to provide you with a virtual Scrum Coach to assist you on your journey, helping you face challenges with transparency and courage, and introducing you to new approaches that will help you to master Scrum, exhibit professionalism, and enable business agility. We don't have all the answers, but we will provide tools that you can use to find your own answers to your unique challenges.

To simplify the journey toward Scrum mastery, we have designed an approach for Professional Scrum that synthesizes what we have learned and provides a compass to help you navigate during your own journey. This approach is based on our experience as practitioners, Professional Scrum Trainers, and our learnings from the wider Scrum.org community. Where you start on your journey is up to you.

Each chapter focuses on a particular set of challenges:

- **Chapter 1: Continuously Improving Your Scrum Practice** provides a way of taking stock of your current practices, supported by the self-assessment in Appendix A, with an eye toward identifying areas for improvement.

2. To find a class, see https://www.scrum.org/courses. If you're looking for a concise book about Scrum, we recommend *Scrum: A Pocket Guide* by Gunther Verheyen (Van Haren Publishing, 2013).

- **Chapter 2: Creating a Strong Team Foundation** helps you understand how your team works together, identify areas for improvement, and use appropriate techniques to improve the team's composition and way of working.
- **Chapter 3: Delivering "Done" Product Increments** explains why "Done" is the most critical concept in Scrum and why "undone" work is a sign that something is terribly wrong and needs to be fixed.
- **Chapter 4: Improving Value Delivered** focuses on measuring the value delivered by your "Done" Product Increment and provides practices to improve the value you deliver over time.
- **Chapter 5: Improving Planning** helps you improve the way that you decide what work you're going to do and focus on delivering high-value Product Increments while eliminating "undone" work.
- **Chapter 6: Helping Scrum Teams Develop and Improve** reveals the barriers that a team might face in delivering "Done" Product Increments and suggests strategies to overcome them.
- **Chapter 7: Leveraging the Organization to Improve** considers how organizational impediments can limit a team's ability to deliver and addresses what you can do to overcome those obstacles.
- **Chapter 8: Conclusion and What's Next** provides a look back at the journey you've been on in this book and suggests some ways to continue your journey.
- **Appendix A: A Self-Assessment for Understanding Where You Are** provides a means for assessing your current Scrum practices.
- **Appendix B: Common Misconceptions About Scrum** describes and corrects common misunderstandings about what Scrum is and what it isn't.

Call to Action

As you continue forward, we encourage you to start some powerful and productive conversations, which will help you get the most out of this book. First, you should reflect on where you are now and where you want to go.

Remember to ask for different perspectives while identifying common goals. Here are some questions to get you started:

1. What does business agility mean to our organization? How does that relate to our mission? What benefits do we expect to see as an organization? What will it look like when we achieve our vision for agility? How will it feel different?
2. What does business agility mean to our team? What benefits do we expect to see? Which data can we use to understand agility at the team level and product level?
3. How does business agility relate to the product vision?
4. How soon can we get a return on investment (ROI)? What more do we want?
5. How much flexibility and control does our business have in making investment decisions? What more is needed?
6. How quickly can we take advantage of opportunities and respond to risks? What more do we want?
7. How do we demonstrate professionalism as a team? How do the organization’s values and behaviors relate to professionalism?
8. What are some examples of unprofessional behavior that we have seen (or participated in) within our organization?

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We had a lot of help and support in writing this book. First, we must thank Dave West, Kurt Bittner, and Ken Schwaber for their trust, support, encouragement, and perspective on what felt like an almost impossible challenge—writing a book that illuminates the power of Scrum, providing practical guidance, and moving people toward discovering their own Scrum mastery journey. Kurt Bittner performed the magic necessary to help us express our ideas more simply and effectively. Of course, we have to thank Ken Schwaber and Jeff Sutherland for creating Scrum itself, which has given us paths to fulfilling work that aligns with our values and purpose.

We have so much gratitude for the Professional Scrum Trainer community, whose members have supported us in our growth as product delivery practitioners, Professional Scrum Trainers, and entrepreneurs. Their generosity in sharing knowledge and experience, their commitment to learning and growth, and their willingness to show up fully make us grateful to be part of this community every single day.

Many individuals have inspired and challenged us in our personal Scrum mastery journeys. Our deepest gratitude goes to Todd Greene, Richard Hundhausen, Stacy Martin, Don McGreal, Steve Porter, Ryan Ripley, Steve Trapps, and many, many more.

—Simon and Stephanie

About the Authors

Stephanie Ockerman is the founder of Agile Socks LLC, an agile training and coaching business whose mission is to help people build amazing things together, so we can all thrive in an unpredictable and complex world. She brings more than 15 years of experience supporting teams and organizations in delivering valuable products and services, as a Scrum Master, as a trainer, as a coach, and as an organizational change agent. She also enjoys writing, speaking, photography, and traveling the world. You can read her blog and see what she is up to at AgileSocks.com.

Simon Reindl is focused on enabling individuals, teams, and organizations to optimize the delivery of value in a humane way. He has more than 25 years of experience developing and supporting products in a range of roles and a variety of industries around the world. Simon has worked in all of the Scrum roles and has supported organizations from start-ups to multinational corporations in harnessing empiricism. Simon was the first Professional Scrum

Trainer in the United Kingdom. He has trained thousands of people around the world, in government departments, private companies, and universities. When not running his company Advanced Product Delivery, he enjoys time with his family and scuba diving.

Both Stephanie and Simon are certified Professional Scrum Trainers (PSTs) and Stewards for the Professional Scrum Master (PSM) course taught around the world.

4 Improving Value Delivered

Producing a "Done" Product Increment isn't the end of the journey—it's merely the start of the learning journey to deliver more value. A Scrum Team now has the capability to measure the value they deliver and to use empiricism to improve the value that customers experience.

What Is Value?

The term *value* is used many times in the Scrum Guide. The first time this term is used is in the definition of Scrum: "delivering products of the highest possible value." It is an interesting experiment to ask people how they define "value." It is actually difficult to define what value means without using the words "value" or "valuable." Value is, ultimately, determined by customer experiences.

These questions can help you determine whether you are delivering value:

- Are your customers happy? Do you help them achieve outcomes that they find important?
- Is that happiness reflected in ways that can be profitably monetized?

- Are you adding or shedding customers?
- How quickly can you deliver a new idea to a customer and measure the result?
- Are your employees happy?

Not-for-profit and social enterprises don't have concerns about profitably monetizing customer outcomes. Even so, they are still concerned with customer outcomes—although they may use names like "citizens" or "clients" instead of "customers." Some for-profit enterprises are also mission-driven, but missions can be described in terms of achieving a set of outcomes for a group of people, as in the following examples:

- Increasing local employment
- Improving the well-being of a community
- Reducing negative ecological or environmental impacts

Noted management consultant, educator, and author Peter Drucker observed, "If you can't measure it, you can't improve it." The same is true of value: Producing and delivering "Done" Product Increments is not enough; you have to measure the value you are delivering to improve it.

Delivering Faster Is a Good Start, But Not Enough

While many organizations turn to Scrum to "deliver faster," once they start delivering to customers and measuring the results, they discover that the real benefit of Scrum is getting feedback sooner to drive faster improvement. In fact, if faster delivery alone could solve the problems that organizations face in meeting customer needs, a traditional approach with many very small releases would suffice.

The problem is that, to paraphrase John Wanamaker, more than half of our ideas deliver no value; we just don't know which half.[1] To improve your ability

1. John Wanamaker (1838–1922), a wealthy department store owner, famously observed that "Half the money I spend on advertising is wasted; the trouble is, I don't know which half."

to deliver value, you have to not only improve the speed at which you deliver value, but also measure what you deliver to determine its value, and you must use that feedback to improve the value you deliver in the next release.

Studies have shown that 65 percent of features are rarely or never used (see Figure 4-1).[2] In a similar vein, a 2017 article in the *Harvard Business Review* stated that "the vast majority of [new ideas] fail in experiments, and even experts often misjudge which ones will pay off. At Google and Bing, only about 10% to 20% of experiments generate positive results. At Microsoft as a whole, one-third prove effective, one-third have neutral results, and one-third have negative results."[3]

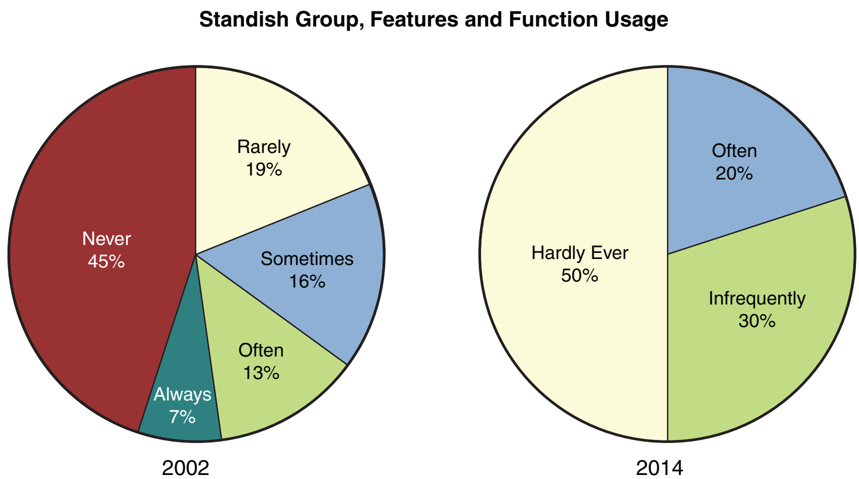

Figure 4-1 Most features are rarely or never used.

Value is easy to understand when measured in terms of revenue, income, and direct costs, but not all value is monetary in nature. Market share growth rate, diversity of the customer base, customer satisfaction, employee satisfaction, and employee turnover rate are also important measures of value. Likewise, ease of use and ease of product adoption can be important measures that inform product improvements.

2. *The Professional Product Owner: Leveraging Scrum as a Competitive Advantage* by Don McGreal and Ralph Jocham (Addison-Wesley, 2018), part of the Professional Scrum Series from Scrum.org.
3. https://hbr.org/2017/09/the-surprising-power-of-online-experiments

Product Value and the Scrum Team

In Scrum, the Product Owner is accountable for maximizing the outcomes that the product will deliver to customers, thereby maximizing the value realized by the organization.

This focus on value and outcomes represents a change for organizations in which output has historically been the measure of success. Output measures things that are produced or consumed, such as features delivered or story points. Output is easy to measure, but it is of only secondary importance: The number of features delivered is irrelevant if none of those features improves the lives or capabilities of the customer. Features delivered matters only in consideration of profitability or time-to-market, but if they produced nothing of value then they are simply waste.

In Practice: Measuring Progress and Success

When people talk about "status" or "progress," listen for the mindset driving the discussion. If it is just about percent complete, number of features built, or red/yellow/green status, ask some powerful questions that bring focus to the value of the product:

- Could we achieve all of these measures and still be unsuccessful?
- How are we validating assumptions about the user needs or the market demand?
- What are we learning about value? How is this guiding our product decisions?
- What has changed with our users or our competitive environment since we began this initiative?

Too often, "percent complete" and similar discussions hide an assumption that everything on the "wish list" is important and valuable. The aforementioned studies prove that they are not. Instead of worrying about whether everything will get done, focus discussions on how you can more quickly test assumptions about value to reduce waste and increase the value that you deliver.

The Scrum Team determines its process within the Scrum Framework. This process includes defining value, delivering value, and measuring value.

Although the Product Owner remains accountable, it is likely that a Product Owner needs help. The Product Owner needs input from stakeholders, including customers, users, and Development Team members. The Product Owner also depends on the Development Team to actually deliver value, so it's important that those team members understand the outcomes that customers seek to better inform decisions.[4]

The Product Backlog creates transparency into the relative importance of the work that the Product Owner believes will maximize value delivered. When it's used most effectively, it forms the foundation for a dialogue with the rest of the Scrum Team as well as stakeholders, about what is valuable.

Using the Product Vision to Enliven Team Purpose, Focus, and Identity

The Product Vision expresses the *raison d'etre* of the product—who it is for, and what it hopes to do for them. It is important when defining and funding the product, but it also has value in bringing purpose and focus to the Scrum Team and helping them form their identity. Returning to this vision periodically is a useful way to remind everyone on the team why the team exists.[5] Various related techniques help the team shape and reinforce their identity:

- *Product value*. A clear understanding of value helps a team understand the why behind their work and how to validate whether their work is contributing value. Knowing the value in a tangible way (e.g., revenue,

4. For a much deeper dive into defining products and how to better understand what customers will find valuable, we recommend Scrum.org's Professional Scrum Product Owner class: https://www.scrum.org/courses/professional-scrum-product-owner-training. If you can't make it to a class, or even if you can, we also recommend *The Professional Scrum Product Owner* by McGreal and Jocham, part of Scrum.org's Professional Scrum Series.
5. For more information on creating a strong product vision, see *The Professional Product Owner: Leveraging Scrum as a Competitive Advantage* by McGreal and Jocham.

market share, customer satisfaction) goes a long way toward instilling a sense of purpose.

- *Personas*. Personas help a team understand users and customers better, so as to develop empathy for them. This ultimately helps team members see the purpose in their work and create better solutions. Some teams post their persona descriptions around their work environment as a continual reminder of the people they are working to help.[6]
- *Product Roadmap*. A Product Roadmap is a visual representation of the high-level plan intended to help a team see the direction of the product over time. The more a roadmap focuses on business objectives and business value, the more it provides a solid purpose.

In Practice: Enlivening the Product Vision

It is easy for the Product Vision to be defined early in a product's life cycle, but then become forgotten in the pursuit of individual releases. Products change over time, and they can do so either mindfully or accidentally. Feature creep and other forms of harmful scope expansion are often caused by the lack of focus that results from a confused or unfocused Product Vision. Consider these ways to keep the Product Vision keenly tuned:

1. *Involve a broader community.* Your stakeholders and your Development Team likely have valuable perspectives and ideas. And by including others, you help them feel heard, which is likely to increase their commitment to and understanding of the Product Vision. Using the Product Vision to engage in periodic discussions of who the product should serve and what it should do for them is a good way to evolve it in mindful, and not accidental ways.
2. *Evolve it based on new information.* The initial Product Vision is a starting point, based on assumptions and guesses, many of which will be correct but some of which will prove wrong. You will need to inspect, adapt, and evolve the Product Vision based on new information.

6. For more information on personas, see http://gamestorming.com/empathy-mapping/ and https://www.romanpichler.com/blog/10-tips-agile-personas/.

3. *Keep it focused.* Successful products have a clear focus; the teams building them know who they are serving and how. Poor products try to do a little something for everyone, but not very much for anyone.
4. *Constantly reinforce it.* In the words of Professional Scrum Trainer Don McGreal, "Be annoying about it." Product Owners should look for opportunities to reinforce the Product Vision, as well as validate alignment to the Product Vision. Product Owners can bring the physical manifestation of the Product Vision to Sprint Reviews or other discussions with stakeholders and the Development Team (e.g., the Product Box[7] or a poster of the elevator pitch).[8]

MEASURING VALUE

Scrum Teams can measure the value they deliver in a variety of ways, and different kinds of value will need to be measured in different ways, ranging from very general about the product as a whole to highly specific about certain PBIs. In reality, you will probably need all of the following kinds of measures at different times:

General measures of customer happiness:

- Net Promoter Score
- Revenue or profitability per customer
- Repeat customer business
- Reduction in total cost of ownership
- Improved conversion rates
- Growth in number of customers or users
- Customer referrals

7. For more on the Product Box technique, see https://www.innovationgames.com/product-box/.
8. For examples of elevator pitches, see https://strategypeak.com/elevator-pitch-examples/.

Achievement of business goals:

- Market share
- Aggregate revenue or profit
- Cost to obtain a new customer
- Reduction in cycle time, reductions in inventory on hand, cost savings, or increases in market share

Specific measures of customer results:

- Time saved for the customer to achieve a goal
- Frequency of feature usage
- Duration of feature usage
- Number of customers or users using a feature
- Transaction completion/abandon rates

In Practice: Using Several Measures to Diagnose Product Problems

The preceding lists are not exhaustive, but rather illustrate that different kinds of measures can be used to quantify value in different ways. In most cases, one measure will trigger questions that require other measures to explain. For example, a general decline in the Net Promoter Score or customer referrals suggests that customers have become less happy with the product. When you start measuring what users are actually doing with the product, you might find that some new feature that you introduced has made the product harder to use, leading to the general dissatisfaction that you measured earlier.

Scrum Teams can improve their measures of value in a variety of ways:

- *Involve others*. Just as with a Product Vision, your stakeholders and your Development Team likely have valuable perspectives and ideas. Also, by including others, you help them feel heard, which is likely to increase their commitment to and understanding of product value.
- *Make measures visible*. Measures should be transparent to all stakeholders and the Development Team. Consider creating a dashboard of value metrics for the product.

- *Talk about measures and results in Sprint Reviews.* As features and functions are being demonstrated to attendees, speak to the value expected and how it will be known if it is achieved.
- *Relate measures and results back to business goals.* This comes back to creating alignment and helps provide the rationale for how you are defining value. And if business goals change, then that can be a good indicator that you need to inspect and possibly adapt your value definitions and measures.

FOCUSING PBIs ON USER OUTCOMES

Understanding user needs and desires is key to understanding what is valuable and why. Scrum Teams can apply a number of techniques to understand users better. In particular, two techniques often combined to help Scrum Teams better understand and focus on users are personas/outcomes and User Stories.

Personas and Outcomes

A *persona* is a fictional character created to represent a user or customer type that might use a product in a similar way. Personas are often created through market research data and customer interviews. They bring the person to life (so to speak) by painting a picture with information related to demographics, lifestyle, goals, and reasons for using the product. Using personas helps the Scrum Team achieve focus by helping them get very specific about who they are targeting with a particular PBI.

An *outcome* is some condition or goal that a person matching the persona would like to achieve. Understanding these goals helps a Scrum Team achieve focus by clearly articulating what the user or customer would like to achieve.

Using personas and outcomes has the following principal benefits:

- Help the people building the products empathize more with the users and their needs
- Help identify user pain points and creative solutions
- Help create focus while still being able to see the whole

Personas and outcomes are antidotes to features that don't have clear objectives or a clear target audience. Personas also help avoid vague discussions about "the user," because no product has a single homogenous kind of user; instead, people use the same product in very different ways to achieve very different outcomes.

In Practice: Using Impact Maps to Gain Better Product Insights

Impact mapping can be a useful technique for connecting PBIs back to the goals they are intended to meet.[9] You can use a modified impact map to connect the business goal you are trying to achieve to the *personas* that you will serve, the *outcomes* you hope to help them achieve, the *impacts* to your organization if you meet that outcome, and the *PBIs* that you will deliver in the product to achieve those outcomes (see Figure 4-2).

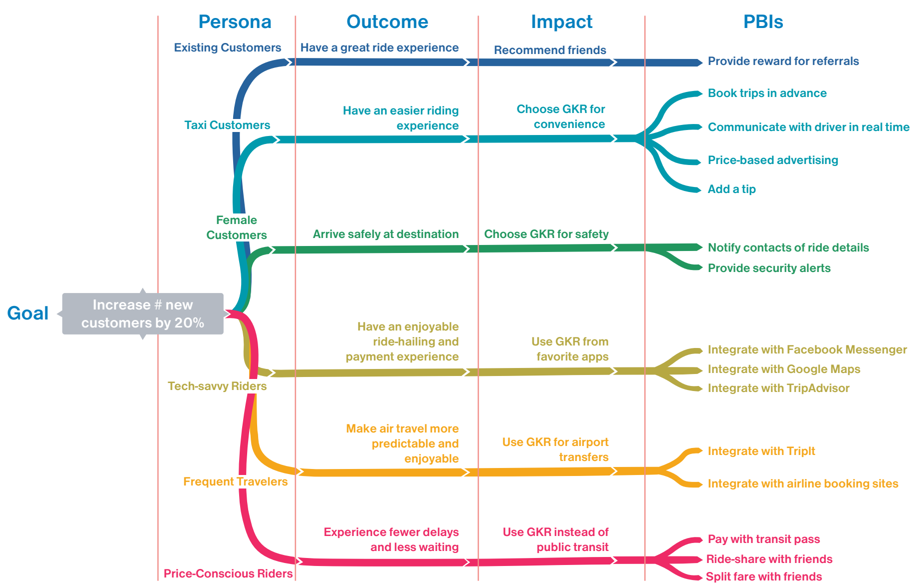

Figure 4-2 An extended impact map helps connect PBIs back to goals.

9. For a description of a useful extension of impact mapping, see https://www.scrum.org/resources/blog/extending-impact-mapping-gain-better-product-insights.

In the example in Figure 4-2, the organization—a company that is entering the ride-sharing service market—would like to increase the number of new customers by 20 percent. To do so, it needs to appeal to many different kinds of potential riders, each represented by a different *persona*. Each persona has different *outcomes* that it would like to achieve. The company believes that by satisfying specific outcomes, it will achieve certain *impacts*, or results for the company, and it believes that delivering certain PBIs will help the company do that.

Impact maps can be used in a variety of ways. In the context of Product Backlog refinement, they help the Scrum Team think about how each PBI will provide some outcome. Impact maps also help the Product Owner envision who the product serves, what those different kinds of users or stakeholders would like to achieve by using the product, and how the organization will benefit from helping customers achieve specific outcomes.

In Practice: Expressing PBIs as Hypotheses or Experiments

Hypothesis-Driven Development (HDD) is a way of expressing PBIs in a way that makes the persona, outcome, measurement, and expected result explicit.[10] The discipline of HDD helps Scrum Teams to frame hypotheses and experiments and to be mindful about how they will know whether a hypothesis (or assumption) is true. This encourages everyone to think about not only what they are trying to accomplish, but also how they will measure it.[11] Figure 4-3 provides an example of one way to express a hypothesis.

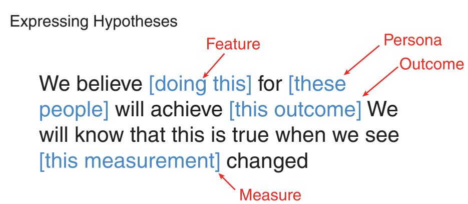

Figure 4-3 Explicitly expressing hypotheses can help teams uncover unstated assumptions.

10. Scrum.org's Professional Scrum with User Experience Course (https://www.scrum.org/courses/professional-scrum-user-experience-training) teaches how to integrate modern UX practices with Scrum, based on the book *Lean UX* by Jeff Gothelf and Josh Seiden (O'Reilly Media, 2016).
11. For more on Scrum and HDD, see https://www.scrum.org/resources/blog/scrum-and-hypothesis-driven-development.

User Stories

User Stories are both widely used and widely misused. Their original intent was to serve as a *placeholder* or token for a conversation about how someone would use the product to achieve some outcome. When they stray from that reminder to have a conversation and become a format for documenting PBIs, they can become utter nonsense, particularly when used to express technical requirements or constraints. To keep this from happening, focus on the 3 Cs of User Stories:[12]

- The *Card*, which is simply a reminder to have Conversations. It should have a simple, minimal format that fits on an index card (or a sticky note) and may consist of nothing more than "Talk to Mary about how accounts are settled at the end of a billing period."
- The *Conversation*, which is the actual discussion about the topic mentioned on the card.
- The *Confirmation*, which are the actual tests that prove it works.[13]

In Practice: Common Product Backlog Item Pitfalls

Regardless of the format that your PBIs take (personas and outcomes, User Stories, or something else), beware of these common traps:

1. *Assuming that PBIs must follow a set format.* The commonly used format for User Stories is not the original format, nor is it required. It may be helpful for your Scrum Team to use a format, but they don't have to fight to fit a PBI into that format. Write what makes sense. After all, the Card is just a reminder to have a Conversation.
2. *Not being clear on the user or customer the PBI benefits.* If you are writing over and over again, "As a user" at the beginning of a User Story, you are not helping create focus and understanding of the user for whom you are designing a feature or function. As noted in #1, you don't have to always use this format, but you should have a shared understanding of the users and customers for your product.

12. https://www.agilealliance.org/glossary/user-stories/
13. If you want to apply User Stories as an effective Product Backlog refinement technique, we recommend Mike Cohn's book *User Stories Applied* (Addison-Wesley Professional, 2004).

3. *Not clarifying the value.* Often PBIs will state a desired feature, function, or capability, but precisely why that item is desired is not clear. When there isn't a shared understanding of why you are building something, it is possible that alternative solutions to the problem will not be discussed. This misses an opportunity to maximize value.
4. *Treating the PBI as a contract.* The Product Backlog is not just the "agile version" of a traditional software requirements document. PBIs are open to change. Consider the User Story technique: It is meant to represent a customer's needs, not just document them. User Stories are to be elaborated, even during the work of building it.
5. *Including implementation details.* PBIs should be focused on the "what" rather than the "how." If you make implementation decisions too early, you may limit your options. You may also create waste by detailing things that are likely to change when implementation actually occurs.

Improving Value Delivered During the Sprint

As the Development Team works on PBIs during a Sprint, their understanding of the value that the PBIs will deliver continues to improve as they learn more, through conversations, through stakeholder feedback, and even from real customers or users if the team is releasing a product during the Sprint. (Yes, this is possible!)[14] A PBI is never "locked down" or "finalized" until it is actually "Done." This includes the details of both what is being built and how it is being built. If members of a Development Team are collaborating with one another, as well as with the Product Owner, they can constantly ask questions related to value and let this drive their decision-making process. For example:

- A Scrum Team chooses to split a PBI to focus on the most valuable acceptance criteria for the user functionality required now, which allows the lower-value piece to be reprioritized at a later time based on a consideration of other desired functions.
- When seeing a new capability implemented in the product, the Product Owner provides guidance on how to make it more prominent to the target users.

14. For a deeper perspective on releasing during a Sprint, see https://www.scrum.org/resources/blog/myth-3-scrum-releases-are-done-only-end-sprint.

- The Development Team sees alternative ways to increase user conversion, which is the stated value of the PBI they are building. They bring these options to the Product Owner, and they negotiate a change to the scope to better meet the business need while still delivering a "Done" Increment in the Sprint.

Inspecting and Adapting Based on Feedback

Once you've released the product or demonstrated the product to stakeholders, you will have empirical data that you can use to confirm (or reject) your hypotheses. One data point in time usually doesn't tell you much, but trends over time will show you whether you are getting better or worse in a particular dimension. And, remember, you may need different measures to really understand what is going on.

For example, you might have very happy customers who love your product, but no measures of their happiness will tell you why people don't buy your product. If you want to expand your market share, you will need to measure more than the *current value* delivered by the product—that is, you will also need to understand which factors prevent you from realizing the full market potential of your product.[15]

As you are analyzing the value trends, consider what changes you released and when and how they may have impacted value. Consider what factors are beyond your control (e.g., a big decline in the stock market could impact users' decisions even though you've implemented new features you expected to increase sales).

Learning as Value

Sometimes the value lies in the learning. This process may or may not be data-driven, but it can be helpful to be explicit about learning as the value.

15. Scrum.org has developed a framework for understanding how to measure value and improve your ability to deliver value called Evidence-Based Management. The two dimensions of value are Current Value, referring to the value realized by current customers of your product, and Unrealized Value, meaning the potential value that you could deliver to all potential customers, but do not deliver today. For more information, see https://www.scrum.org/resources/evidence-based-management.

For example, a Scrum Team may want to learn which of two technology services will be easy both to implement and to enhance, while also meeting the business needs. In another example, a Scrum Team might want to learn which user experience is most likely to lead to a purchase.

Effective Sprint Reviews Include Value Realized

Recall that the outcome of a Sprint Review is adaptation of the Product Backlog. In addition to stakeholder feedback on the Product Increment and overall market trends, actual value data and trends give you even more empirical data to guide Product Backlog decisions.

Make your actual value measures transparent. Get input on what stakeholders see in the trends and how they think it should inform adaptation.

Gathering Stakeholder Feedback

How you approach gathering input from stakeholders will depend on many factors, including, but not limited to, the complexity of your product, the number of stakeholders you have, the diversity of stakeholder types and their needs, and where your stakeholders are located. You often need to pay special attention to stakeholders to gather the most valuable information from them. While they are usually quite expert in some area of interest, you might need to steer their attention toward the things about which you need feedback. Keep in mind that Sprint Reviews are not the only time Product Owners can get input from and collaborate with stakeholders. You will get more from stakeholder collaboration sessions in general, and Sprint Reviews in particular, if you can focus stakeholders' participation in the following ways:

- *Be explicit about what you are reviewing and what feedback you are looking for.* Having a simple but explicit agenda for feedback sessions helps everyone focus.
- *Make feedback sessions active, and encourage participation*. People thrive on activity. Conversely, sitting passively, listening to someone drone on about features, functions, and capabilities, is often boring for participants. Organizing sessions in ways that force people to move will keep them more

engaged, which in turn often saves time. Also, people are more likely to feel heard if they physically participated in an activity.

- *Enable stakeholders to collaborate with each other.* Stakeholders can learn from each other. Not everyone shares the same perspective, and sometimes this results in conflicts that could be resolved if stakeholders understand each other's perspectives.
- *Make collaboration visible.* It is easier to discuss a wide range of ideas when we can see them in a physical space and easily add, update, and move information. In addition, this approach creates transparency into what we are trying to accomplish and what we learned together by the end. It is also helpful to have that vision and definition of value visible to keep things focused.
- *Break into smaller groups during a session.* Smaller groups of people interested in particular topics are usually more effective than large group discussions. Allow time for them to have smaller group discussions and bring their results back to the group.
- *Introduce techniques that encourage relative value comparisons.* It is easy to get bogged down in details, especially when discussing which PBIs are more valuable than others. By comparing value relatively (i.e., Item X is more valuable than Item Y but less valuable than Item Z), we can get enough information quickly.[16]

Summary

Scrum is not designed to help you build and release more "stuff." Instead, Scrum helps you maximize the value you create for your customers, and therefore for your organization, by frequently delivering a product, measuring the results, and then learning and adapting so as to wring more value out of the product.

In this chapter, we explored how empiricism, an agile mindset, and teamwork guide you in fiercely tackling difficult product value questions. You must have

16. For specific facilitation techniques to gather input about relative value to help with Product Backlog ordering, see *The Professional Product Owner* by McGreal and Jocham, p. 213.

transparency into value, and you must engage in frequent enough inspections of the actual value realized that you can keep moving in the best direction. Just like the complexity and unpredictability inherent in building a releasable product, figuring out what to build entails some complexity and unpredictability. Scrum provides the minimal level of empiricism, and the Scrum Team needs to determine their process within the Scrum Framework. This process includes how you enable value emergence, measure actual value, and adapt to new information and the changing environment.

The Product Owner is the single person accountable for optimizing value. An empirical Product Owner will engage and empower others to support them in achieving this goal. A strong Product Owner will foster a product mindset across the organization and paint the bigger picture, creating alignment within the Development Team and among stakeholders on the direction of the product and how value is defined. The Product Owner works collaboratively with the Development Team and stakeholders to enable value emergence iteratively and incrementally, guided by the learning from measuring actual value.

Call to Action

Consider these questions with your team:

- How well is the Product Vision understood by the Development Team and stakeholders?
- Where do you need more transparency into desired outcomes and value assumptions?
- What value measures would help you make more informed decisions about what is in the Product Backlog and its order? How frequently would you need to inspect those data?
- How does the Development Team collaborate with the Product Owner or relevant stakeholders during the Sprint?
- How much feedback and new insights come out of the Sprint Review or other collaborative sessions with stakeholders?

- Do stakeholders focus on value delivery as the key measure of success? What conversations can you have to help shift the focus in the right direction?
- What challenges are hurting the most right now? Identify one or two experiments to help improve understanding and measurement of value. For each experiment, be sure to identify the desired impacts and how you will measure them.

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