

"This is a mind-expanding experience for all of us who strive to provide real value in the solutions that we deliver." — Carmen DeArdo, DevOps Industry Speaker and Fortune 100 Technology Leader

THE ART OF BUSINESS VALUE

MARK SCHWARTZ

FOREWORD BY GENE KIM



The Art of Business Value

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1 cf. Jean-Paul Sartre’s claim that “nothingness lies coiled at the heart of being—like a worm,” in *Being and Nothingness*.

2 cf. Dante, *The Inferno*. It gets worse and worse the deeper you look.

3 Alienation has been covered thoroughly—some might say excessively—in *The Stranger* by Camus and “Bartleby, the Scrivener” by Melville.

FOREWORD

The study of business value seems obvious at first—after all, over the course of our careers, we’ve all seen which activities create value and which ones waste everyone’s time. But what if our grasp of what business value really is, is not quite right to start with? In his new book, *The Art of Business Value*, the indomitable Mark Schwartz shows us that understanding business value is not as simple as it seems.

For me this book is reminiscent of a book that I love and have read several times over, *Zen and the Art of Motorcycle Maintenance: An Inquiry Into Values*, especially the passage in which Robert Pirsig tries to define “quality.” Similarly, Mr. Schwartz points to many things we already know and have learned—but then he makes us pause and reevaluate as he shows us how many things we don’t know, or didn’t adequately question.

A particularly unsettling moment occurred for me when Mr. Schwartz points out that business value is often incorrectly conflated with either customer value or user value—in that moment, the book’s goal of more precisely defining business value suddenly took on much greater significance and urgency. If we run our organizations to create value, are we correctly defining what types of value we strive to create? How do we measure it? And, by the way, whose job is it to define value, anyway?

Irreverent and whimsical, *The Art of Business Value* challenges conventional thinking and questions many of the deeply held beliefs of the Agile community. It forces us to examine carefully the concepts and definitions we thought we understood, which, in the end, allows us to define more precisely what business value is—so that we can create more of it.

Using a wide-ranging, educational, and scholarly exploration that covers nearly a century worth of organization design, business principles, and software delivery, *The Art of Business Value* offers a startling and incredibly rewarding journey for the reader.

Fearless and entertaining, this book is ultimately a quest to examine the concept of business value—a concept that we so often take for granted. It provides tools on how to better understand it and, more importantly, create it.

I found reading this book to be immensely satisfying, and I felt more informed and much smarter after reading it. I genuinely hope that you have as much fun and learn as much as I did as you read *The Art of Business Value*.

Gene Kim

Portland, Oregon

January 2016

Don't for heaven's sake, be afraid of talking nonsense! But you must pay attention to your nonsense. . . . Never stay up on the barren heights of cleverness, but come down into the green valleys of silliness.

Ludwig Wittgenstein, *Culture and Value*

PREFACE

For the last few years, I have been struggling to bring Agile and DevOps practices into a large federal government agency—seemingly the most inhospitable of environments. As a newcomer to government, my first reaction was one of amazement: How was it possible to throw so many obstacles in the way of good practice? How was it possible to inject so much waste into processes that were otherwise headed in the right direction? What was especially striking, though, was that the obstacles and the waste were being injected by some of the most intelligent people I'd ever worked with, and certainly the most committed and well-meaning. It had the feeling of a paradox, set up by some very clever philosopher with two hundred-some-odd years to get the confounding details just right. As an ex-philosophy graduate student, I recognized that there was just one thing to do: approach it with a sense of humor and enjoy the elegance and aesthetic pleasure of an argument well delivered as I figured out its strange internal logic.

I haven't seen this problem just in Washington, DC. Before joining the government, I was the CIO for Intrax Cultural Exchange, a medium-sized, services-oriented, mission-driven company. The personalities of the founders were so strongly stamped on every interaction in the company that the organization seemed to have its own peculiar logic. Before that, I proudly played a role in the dot-com bust of the early 2000s as CEO of a small software startup and a general hanger-on in Silicon Valley. Delivering software product seemed to rely on yet a different kind of logic: Could you make sure your features rolled into a one-sentence pitch? Good talent and good ideas were going unfunded—economic waste—but there was a logic to it if you didn't have to take it too seriously.

In the classic literature of Agile software development, teams produce business value. In the Scrum model, there's someone called a product owner who figures out what is valuable by applying some ROI standard; there are customers waiting to be pleased; self-organizing teams stand ready to shear away the stuff that they somehow know is waste. I'm sometimes amused at how simplistic the notion of business value is. The question the authors take on is how to create lots of this value stuff, whatever it is, as soon as possible—and cause the cultural change that will make it possible. But in the actual situations I have faced, organizations seemed to have strange ideas about what value looked like.

Here's what I realized: the strange notions of value expressed by each of these organizations actually made sense in their contexts. The odd behaviors of the government agency, the closely held company, and the startups competing for venture funding were entirely rational and appropriate to their circumstances. Activities that seemed wasteful were not always so; priorities flowed from what was *really* important, not from some universal standard. The *meaning* of business value—not just the features that would realize it—was different from organization to organization.

What if—humor me for a moment—some of that waste that the government injects into its processes actually adds a kind of business value? What if business value in the startup community means raising capital at higher and higher pre-money valuations, and generating profits is only a distant second as a business goal? It didn't make much difference to us in a Waterfall world—we cared about schedule and cost milestones. But in Agile practice, we only care about the delivery of business value. Which means we care about . . . what?

That was the train of thought that led to this book. The more I explored the topic, the more critical it seemed to become. It seemed to have implications in how Agile teams fit into the enterprise, how

we measure their success, how we go about causing cultural change, how we think about the IT function in a company, how we deal with compliance and bureaucracy, and how we choose and work with a product owner or on-site customer. It was about whether the way we practice Agility aligns with the philosophy behind it. It was about how I should do my job as a CIO.

Humor often requires that we accept the bizarre logic of an unfamiliar world. Consider this exchange from *Through the Looking Glass, and What Alice Found There*:

"I see nobody on the road," said Alice.

"I only wish I had such eyes," the King remarked in a fretful tone.

"To be able to see Nobody! And at that distance too!"

Once you accept that a little girl has gone through a mirror or down a rabbit hole and is having conversations with a Cheshire Cat and a childish king, who seem to be logicians and always find ways to twist her words around, the exchange makes a lot of sense. All I'm saying is that business value is sort of that way, too.

I feel some urgency about this whole thing.

Have you ever been to one of those big Agile conferences and seen all the people wandering around, trying to decide which of the many sessions to attend? "The Armadillo Model: *Dasypus hybridus* and the Snuffing Anti-Pattern,"¹ "50 Shades of Agile,"² "Lessons from Coaching a Cult of Dancing Schizophrenics to Conduct Effective Retrospectives." There are a lot of ideas out there. Sometimes it helps to think about what ties them together—that's right, this business value thing. The *raison de backlog*.

Our abstraction is leaking.³ I don't know about you, but I've found it pretty hard to locate a good product owner. We know we are creating features, but are we creating business value? Sure we are: the product owner says so, and she's from *the business*. Are you frustrated trying to explain to her why spending time to reduce technical debt is more important than adding the mimsy borogoves feature to the Jabberwock, which Marketing says will have an ROI of 321.25 percent? "But refactoring the FixAllYourProblems class to use the Classy Recursion pattern is worth 7.2 Value Points!" I don't have exact stats for you on how many of us have tried unsuccessfully to have this business value conversation, but it's a lot. Anyway, 97.5 percent of readers believe that statistics in books are mostly made up.⁴

In the meantime, the cutting edge of Agile practice today—DevOps and Continuous Delivery—seems to be moving us toward smaller and smaller batch sizes of requirements, perhaps approaching single-piece flow. Or maybe even smaller—some organizations seem to be deploying change sets so small that they're just fractions of features. It starts to feel like a calculus problem—what is the limit of risk as requirements batch sizes approach zero? Our business case is vanishing into infinitesimals with a smile on its face, like the Cheshire Cat.

Then there's the CIO, the executive who's in charge of making sure that IT projects have business value. Or was that the product owner? Well, at least the CIO is in charge of delivering solutions, then. Or was that the Agile team? Have you noticed all the books telling CIOs how to be better CIOs? I have, because I'm a CIO. Mostly they say that the CIO should grab a "seat at the table" (that's the executive table, where the grown-ups sit). Perhaps this makes sense, because the CIO will need a place to sit while the Agile teams are out creating business value. What's a CIO to do in a world where their teams are off plotting business value with the business?

One more thing to point out. As those teams are off deploying sashimi slices of value, where do we think those slices wind up? They immediately become legacy slices of sashimi, and I promise you that that is not a good thing. The boundaries of our systems are blurring with loose coupling and microservices. So ultimately they join that giant agglomeration of IT capabilities that we sometimes call the Enterprise Architecture (EA). I don't mean EA in the sense of a bureaucracy of Visio abusers; I'm talking about that asset, the abstracted total of IT capabilities that allows the business to operate—software, infrastructure, and all that. That giant hairball of stuff that the CIO oversees, that keeps getting new features stuck to it—duct tape, rubber cement, chewing gum, etc. (And a few bits of mixed metaphor, too.)

The hairball has economic value, clearly, since it enables the business. We are just turning the corner on how we think of risk and value in our IT *projects*—should we also be thinking in terms of the value of our hairball? How are we going to care for the hairball, keep it rolling in the right direction, and pretty it up? (Let me introduce a technical term here: “Ick.”)

What I'm saying is that business value is a problem.

So this book is a bit of a meditation on business value and why it matters to us. Or maybe it is more of a detective story. Business value is out there somewhere, even as our deployments become vanishingly small, and we're going to track it down. We'll interrogate the usual suspects, round up some experts, recruit some informants, test out some theories, and, in the end, track it down. Then we'll get it to work for us, if the government says it's authorized to work.

Some things will occur to us as we follow the footprints. Every decision we make in a software development project is ultimately a decision about business value. Feature trade-offs are decisions about business value. Risk management is about business value. Communi-

cation with the enterprise is about business value. Developer morale is about business value—it can affect the company’s costs in hiring and retaining developers, and it can affect the inclination of developers to innovate new value-creating solutions. Agile thinking is explicitly about business value: instead of delivering to schedule milestones, we deliver simply in the way that maximizes business value.

But we’ll also see that “business value” is often implicit, or at least rarely explicit enough for someone to act upon. We’ll recognize that while learning organizations are important to us, the value of learning is often unstated and the learnings themselves are rarely explicitly valued. We’ll pause to consider what the job of IT leadership might be, especially given that more and more responsibilities are being pushed down to the teams. Ultimately, we’ll arrive at an idea of business value that I think is consistent with today’s thinking about organizations. Then we’ll look at how that understanding should influence the way we practice agility. Perhaps we’ll even talk about how to polish up that hairball.

But for now I’ll just follow the advice of Alice’s King of Hearts: “Begin at the beginning,” the King said gravely, “and go on till you come to the end; then stop.”

WHO THIS BOOK IS FOR

I wrote this book for the Agile practitioner community and for the wider IT community.

If you are an Agile practitioner—a developer, tester, or Scrum master—then you face decisions of business value every day. You need to be able to speak the language of business value to communicate with the organization at large. Your success or failure depends on your ability to create business value. (Are you more interested in business value now?)

If you are an IT specialist in operations, infrastructure, security, or just about anything else technical, DevOps is making you part of the Agile delivery effort. While your role was always about business value, it is now more explicitly so. You will feel more a part of the team if you are all aligned behind a common understanding of what it means to deliver value.

If you are a product owner or a representative of the business explicitly charged with delivering business value and responsible for prioritizing features based on business value, I strongly urge you to follow the discussion in this book. You have a hard job. In fact, you are being asked to do something impossible. Let me explain how to turn it into something possible.

If you are an Agile coach, a thought leader, a pundit, or a writer on Agility, I hope that I am saying things that you already feel in your bones. There has been a gap in our literature on the subject of business value, and I hope this book will address it. But even more, I hope that you will find ways to take ideas from this book and turn them into practice: my goal here is more to provoke and discuss, rather than to prescribe.

If you are a CIO, you are undoubtedly confused by the Agile litera-

ture, which has forgotten to mention you. This book is for you.

If you are an investor, you need to sound knowledgeable. It's all here. (And invest in my next startup idea, which will not only be clear on what business value is, but deliver lots and lots of it!)

If you are in management and love to make up rules (*requisitiphilia*), go straight to chapter 4.

If you are anyone else, this book wasn't directly written for you, but if you are curious, go ahead and pick it up. I will try to entertain you and give you some insight into how IT practitioners and Agile delivery teams think. You may have to look up a few of the terms I use, but you will have no trouble finding explanations online or in other books.

- 1 While I was researching this, I learned that there are actually many different types of armadillos, including the screaming hairy armadillo and the greater fairy armadillo. That kind of learning makes all that time in the library worthwhile.
- 2 This one's real. My colleague Josh Seckel presented it at Agile 2015.
- 3 Joel Spolsky, "The Law of Leaky Abstractions," <http://www.joelonsoftware.com/articles/LeakyAbstractions.html>. I just heard about this and knew I'd have to get it into the book somehow.
- 4 Mark Schwartz, *The Art of Business Value* (Portland, OR: IT Revolution, 2016), xvi.

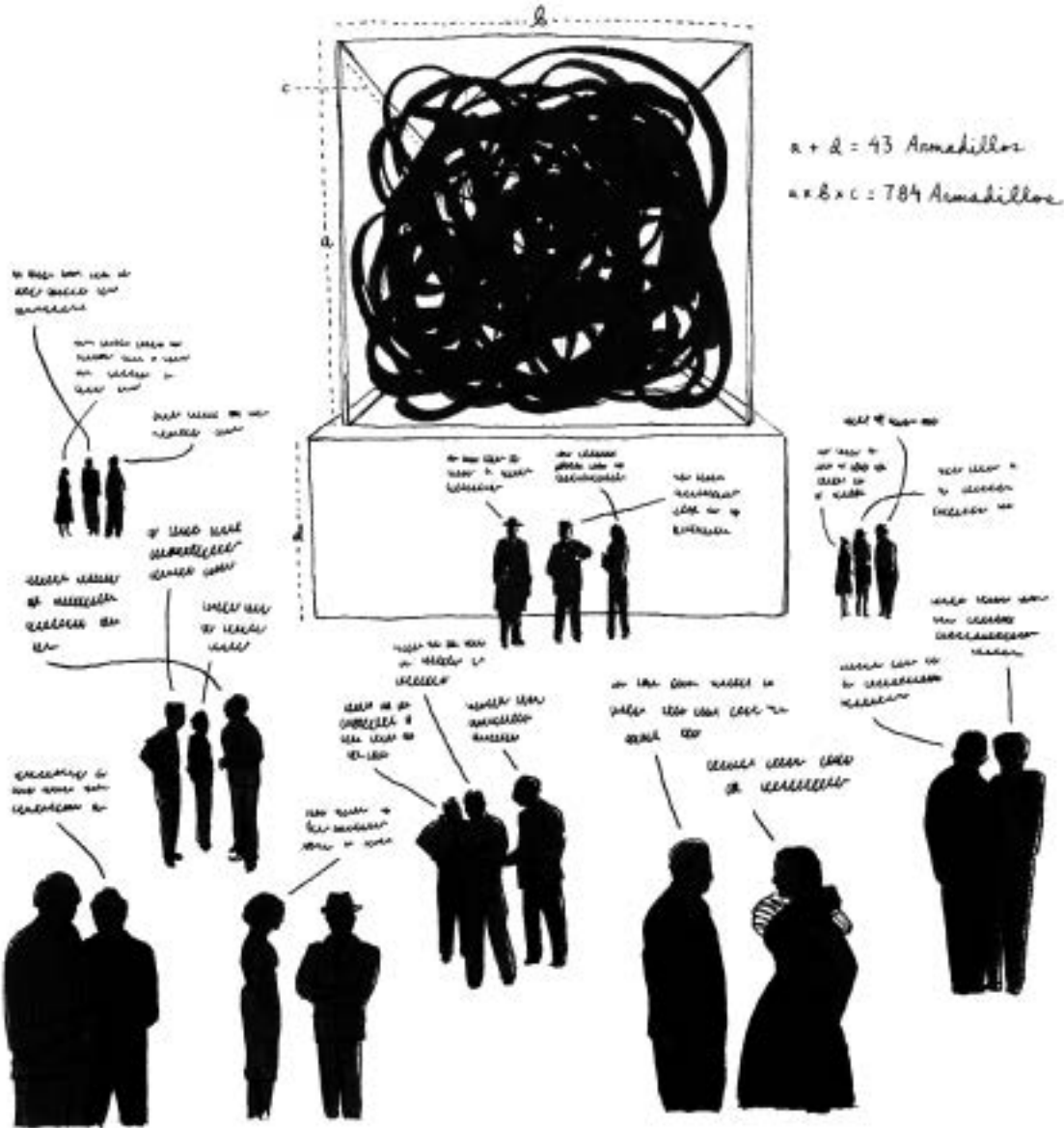
The right understanding of any matter and a misunderstanding of the same matter do not wholly exclude each other.

Franz Kafka, *The Trial*

For I found myself embarrassed with so many doubts and errors that it seemed to me that the effort to instruct myself had no effect other than the increasing discovery of my own ignorance.

René Descartes, *Discourse On Method*

THE PROBLEM



A core principle of Agile and Lean theory is that software development projects should seek to maximize business value. Projects should be judged not on their adherence to cost and schedule milestones, but on their delivery of value to the enterprise. Value should be delivered as quickly as possible—in small increments—and features should be prioritized based on the amount of value they deliver. DevOps, in a sense, is about setting up a value delivery factory—a streamlined, waste-free pipeline through which value can be delivered to the business with a predictably fast cycle time. Rapid feedback from production to development then allows us to optimize that value delivery machine.

The idea of business value was central enough to Agile ways of thinking that it merited a place at the head of the twelve principles attached to the Agile Manifesto: “Our highest priority is to satisfy the customer through early and continuous delivery of *valuable* software.”¹ Several of the signers of the Manifesto later elaborated on this idea in their books. Ken Schwaber, the cocreator of the Scrum framework for Agile development and a signer of the Manifesto, speaks of Scrum’s “insistence on delivering complete increments of business value.”² Kent Beck, the creator of Extreme Programming (XP), pushes the concept a step further by saying that the XP team should *only* do things that add value to the business.³ Another signer of the Manifesto, Jim Highsmith, declares that “Agile projects are not controlled by conformance to plan but by conformance to business value”⁴ and then later makes a similar claim: “In the final analysis, the critical success factor for any method—Agile or otherwise—remains whether or not it helps deliver customer value.”⁵

Strangely, although the idea of business value is so central to the Agile way of thinking, most books on agility sidestep the question of what exactly business value is. Instead, they assume that someone from “*the business*” will determine what is valuable and how that

source of value should be translated into features and priorities. In Scrum practice, this person is the product owner.⁶ The product owner is sometimes described as the visionary who steers the product and sometimes as the steward of business value decisions: the person who maximizes business value by making appropriate prioritization and scope decisions. In either case, the product owner provides the business value context to the team.

Also interesting is the vacillation, shown in the quotes above, about whether the goal of Agile development is the delivery of *business* value or *customer* value. Highsmith, you will notice, switches from one to the other in the course of twenty-six pages. The first principle in the Agile Manifesto is ambiguous—it speaks of satisfying the *customer* by providing *value*. Is business value the same as customer value? Many of the influential Agile thinkers and writers come from product-focused software companies, so it is natural they would think in terms of customers and their needs. Product-focused companies earn their revenues by delivering value to customers, it is true—but is *that* value the same as what we mean by business value?

The word *customer* is ambiguous in this context. If we take it to mean the buyer or user of a company's commercial software product, then the answer is no. While customers might want or value a particular feature, the business might not value giving it to them, for reasons of cost, maintainability, or consistency with the company's brand or competitive positioning. Features that deliver customer value do not necessarily lead to increased revenues, or they can be more expensive to develop than the revenue they drive. On the other hand, we can easily imagine software features that are valuable to the business even if they are *not* directly valuable to the business's customers: for instance, business intelligence reports, accounting functions, and procurement systems for supplies. Or consider a business whose strategy is to deliberately lose the 10 percent of its

customers that are the least profitable—the ones who cost too much to serve and provide little revenue in return. In this case, adding business value may mean deliberately destroying customer value.

Of course, we do not have to take such a literal interpretation of the word *customer*. Perhaps the writers mean to include all of the users of the software, even if they are internal to the company. It seems obvious that a feature cannot be valuable unless it adds value for the person who is using it. That is why Agile approaches emphasize working directly with end users and continually soliciting their feedback. But this broader concept of *user* value still does not quite capture what we mean by business value. In the case of a transformational business initiative, for example, management wants to create fundamental change in the organization's processes, but individual users in the organization may not share that vision or may not be expert in interpreting and applying it. They might have smaller, more "local" priorities than the big-picture transformation that management has in mind. By trying to maximize what users consider to be valuable, the Agile team might simply be perpetuating old ways of doing things rather than contributing to a transformation that the business values.

In speaking to users about what they need from a piece of software, I've found a common pattern: they believe that processes that take them a number of steps should be automated to make their jobs easier. That can be very valuable to the enterprise—or not. The user might not realize that automation might lock in a process that is likely to change and might not factor in the costs of maintaining the software as that business process changes, for example. There can be many reasons why *business* objectives differ from *user* objectives.

Perhaps the authors mean to suggest that the business *as a whole* is the customer of the Agile development team. IT organizations have often been thought of as customer service organizations whose goal

is to satisfy the needs of internal customers. Certainly contract software development shops think in terms of satisfying a business that is their customer. If the organization as a whole is the customer of the Agile team, then the alignment between customer value and business value is exact. But is this model of *the business* as the customer the appropriate model for an Agile organization? I'm not so sure, and chapter 5 will explain why.

I would like to suggest that the conflation of business value, customer value, and user value is outdated and well out of step with current Agile practice. As with requirements in general, we can no longer think of business value as something known and understood in its entirety before the team begins its work. More importantly, we cannot think of business value as something determined outside the team by something called *the business* and then simply presented or “tossed over the wall” to the team in the form of user stories, prioritization, and feedback on product as it is produced. The responsibility for understanding and interpreting business value cannot be placed solely in the hands of a product owner. And if the success of an Agile project is to be determined by the value it delivers, then we have to think of that value in terms of *outcomes*, not completed stories, and measure it as such. Releasing code is not the same thing as delivering business value; to know that we have delivered business value, we must both understand what business value is and be attentive to outcomes.

This might sound like an academic exercise: business value probably sounds about as interesting to Agile practitioners as bookkeeping and accounting—things that MBAs, people inclined to that sort of stuff, study in business school. I assure you that this is a mistake. A good understanding of business value is critical to Agile practice, and I will demonstrate that the question of business value becomes stranger and more revealing the more one examines it. It is critical,

for example, in distinguishing between waste and value-adding work. I will try to show that many of the difficulties we routinely face in adopting and improving software development practices in an organization can be traced to business value and its interpretation.

We must admit that there is something tautological when we say that the goal of Agile software development is to deliver business value. Business value, intuitively, is whatever the business values, and the goal of every person and function in the business is to do what the business values. To say that we want to deliver business value is to say nothing much except that we want to do the right thing, do lots of it, and do it quickly. But this does not help us understand how to select and prioritize features.

In his 2011 blog post “The Elephants in the Agile Room,”⁷ Philippe Kruchten tells of the signers of the Agile Manifesto returning to Snowbird, where the Manifesto was drafted, ten years later to discuss the difficulties they saw in the way Agile had been adopted. The thirteenth “elephant in the room,” according to Kruchten, is that business value is “mentioned everywhere, but not clearly defined, or pushed onto others to resolve.” Perhaps this is also related to the twelfth elephant they listed: “Abdicating responsibility for product success (to others, e.g., product owners).”

The question of business value is the question of purpose, motivation, mission, and direction. It is a question of value and values. If we build an elegant Continuous Delivery pipeline that harmonizes Development and Operations and continually checks its own health by feeding back from production, we have accomplished . . . what, exactly? It depends on what business needs we push through that pipeline, and what business value results from that. DevOps is form without content until we address the question of what goes in to the pipeline and what happens when product emerges at the other end.

It is comforting to think that business value is something well understood by *the business* and encapsulated in an objective metric. To the extent that the Agile literature talks about business value, it often puts it in the context of something called Return on Investment, or ROI. In the Scrum framework, the product owner is often seen as delivering business value by maximizing ROI. According to Mike Cohn, one of the clearest and most prolific writers on Agile practice, “the product owner is responsible for making sure the project earns a good return on the investment made in it.”⁸ Returning to Ken Schwaber’s book, we find that “the product owner’s focus is on return on investment (ROI). The Product Backlog provides the product owner with a powerful tool for directing the project, sprint by sprint, to provide the greatest value and ROI to the organization.”⁹ It is interesting that he says “the greatest value *and* ROI,” implying that those are two different things, though elsewhere he seems to use the terms interchangeably. A group of Agile and Lean thinkers worked together in 2005 to formulate a Declaration of Interdependence, which includes as a foundational principle that “*we increase return on investment* by making continuous flow of value our focus.”¹⁰ The fact that ROI has a name, an acronym, and sometimes a formula makes it sound reassuringly precise. We are probably aware that the product owner is not actually calculating an ROI metric for each user story, but we feel that the standard is at least approximately being applied.

It is curious, once again, that ROI is not defined or explained, though we are told that Agile practice is all about maximizing it. Schwaber leaves us up in the air with a comment that “the product owner is responsible for the ROI of the project, which *usually* means that the product owner chooses to develop functionality that solves critical business problems.”¹¹ *Usually?* What else is ROI, then?

Let’s take a close look at a passage from two excellent Agile thinkers, Craig Larman and Bas Vodde:

The product owner is responsible for maximizing return on investment (ROI) . . . The product owner has profit-and-loss responsibility for the product, assuming it is a commercial product. In the case of an internal application, the product owner is not responsible for ROI in the sense of a commercial product (that will generate revenue), but they are still responsible for maximizing ROI in the sense of choosing—each sprint—the highest-business-value, lowest-cost items.¹²

It feels to me like these authors are struggling. Is it profit and loss the product owner is responsible for, or ROI—or are those the same thing? Does ROI mean something different for internal products than for external products? Is ROI the same thing as “highest-business-value, lowest-cost”? Are we going in circles, defining business value in terms of ROI, which is then defined in terms of business value?

A page later the authors get themselves into deeper trouble. Explaining the practices the product owner must use, they say that “the product owner prioritizes the backlog . . . to maximize ROI (choosing items of high value with low effort) or secondarily, to reduce some major risk.”¹³ Hang on! Is risk part of ROI, or is it a whole separate thing the product owner has to worry about?

I’ve chosen this passage from Larman and Vodde—two authors I respect—to show what I think is the typical vagueness and imprecision with which questions of business value are addressed in Agile literature, even while the authors agree that business value is the most important thing to focus on.

Well then, is ROI the same thing as business value? Does maximizing ROI maximize business value? Are we even sure we understand what ROI is in the first place?

We probably don't. In the financial world, ROI is actually not well defined. Everyone agrees that it is calculated by dividing the return from an investment by the cost of the investment. The difficulty is that the "return" in the equation can be pretty much anything. Return is the good stuff that we get by investing, whatever that might be. The most commonly used numerator for ROI is profit, or earnings (the two terms are equivalent). But making investment choices based on a function of profit, as we will see, can lead to poor decisions.

Why not simply use sales, or revenues? Because we are building a set of features that customers value, shouldn't we measure value by the sales that result? For one thing, focusing only on revenue would ignore any costs that the new features bring to the business. For example, will the new features increase our helpdesk support costs? Do the new features increase our sales of a physical product in such a way that we need to stock more inventory? If so, then revenue only gives us a piece of the value picture. And if the features we are developing are only used by employees internal to the company, perhaps to decrease costs, then revenue is not even relevant.

So profit, defined as revenue minus expenses, is a better measure. Of course, when the product owner is looking at the value of a feature, the total profitability of the company is not what is important, just the *incremental* profits that will result from the feature. And what time period's profits does she care about? Typically ROI uses the average profits for a given number of years into the future. Of course, when the product owner is prioritizing features in a backlog, she does not actually know what increases in profit will result from each feature; she only has projections to work from. She doesn't really even know how much the cost of the investment will be—she has only the developers' estimates of effort. So really we are defining ROI as used by the product owner as *projected* average annual increase in profits divided by *projected* investment cost. It turns out that this

is the most common definition of ROI used by companies to make investment decisions.

Unfortunately, making decisions based on this ROI formula does not necessarily maximize business value.

The first problem is that profit does not consider the *timing* of the cash flows from sales and costs. As we will discuss in the next chapter, there is a time value of money that must be considered. ROI is a simple formula—that is its chief benefit—but it is misleading to simply consider short-term profits or to mix together short- and long-term profits.

Second, with ROI we are not considering the *risk* of the expected returns (or of the cost, for that matter). We are taking a point estimate of a projection, which discards important information about how certain the estimate is. There are different ways to factor in uncertainty: by using confidence ranges rather than point estimates, for example, or by reducing projected profits by a “risk factor.” But simple ROI does neither of these things.

Thirdly, *profit* is based on financial accounting reports and is not intended for managerial decision-making. In financial accounting, cash flows are adjusted using an *accrual* method to give investors a picture of the company’s health. Revenues and expenses are “recognized” in time periods that might be different from when the associated cash is received or disbursed. Depreciation and other non-cash expenses are factored in, as are increases in *working capital*, the temporary accumulation of inventory and credit given to customers. Accountants have considerable latitude in how to compute these numbers: for example, choosing depreciation methods and deciding whether to account for inventory using First-In-First-Out (FIFO) or Last-In-First-Out (LIFO) techniques. These decisions made by the accountants affect profit, but they do not affect the underlying economics of whether an investment is good or bad.

To decide whether an investment is worth making, companies compare the ROI to a *hurdle rate*, or minimum return that investors demand. But according to Alfred Rappaport in his book on how managers should maximize value for their shareholders, this makes no sense. “The essential problem with this approach,” he says, “is that ROI is an accrual accounting return and is being compared to a cost of capital measure, which is an economic return demanded by investors.”¹⁴

In fact, near-term profit is poorly correlated with the value delivered to shareholders of a company. In a classic textbook on how to measure the value of companies, Tom Copeland and his coauthors point out that changes in accounting technique that have *reduced* profits have often resulted in *higher* stock prices;¹⁵ Rappaport, speaking of Earnings (i.e., profit) Per Share (EPS) reports that “numerous companies have sustained double-digit EPS growth while providing minimal or even *negative* returns to shareholders.”¹⁶

Even if ROI were a good proxy for business value, it would not be very useful to product owners for prioritization decisions. In “The Problems with Estimating Business Value,” Mike Cohn points out that it is difficult to assign value to individual stories, because the values of user stories are often intertwined. As examples, he asks what the values are of the left front wheel of a car or the doors and windows of a house.¹⁷ None of these individually makes a difference in ROI, but presumably all are valuable. In a blog post entitled “How do you estimate the value of user stories? You don’t,” Pascal van Cauwenberghe questions the very idea of first writing stories and then estimating their ROI, since that can only result in a “vomit of user stories” that might or might not turn out to have value. Instead, one must “first determine what is valuable and then write user stories to deliver that value.”¹⁸ Dean Leffingwell, who has written extensively on Agile requirements, notes that prioritizing features through ROI is challenging because it involves making trade-offs between differ-

ent types of value, and revenues generally cannot be allocated on a feature-by-feature basis.¹⁹ So even if ROI were the right metric, it would be difficult to implement.

Perhaps Leffingwell is even understating the case when he says that quantifying returns is difficult. The practical aspects of projecting returns are daunting. For example, the product owner may project revenue increases for a particular feature, but what happens if a competitor copies that feature? Does the product owner really know how the new feature will affect the marginal profitability of the company? It can't be considered on its own, because it might affect other revenues and expenses of the company; that is, it might have side effects. Perhaps the new feature will cause increasing adoption of the product, but it will cannibalize other products that the company sells.

Remember that we've been speaking of ROI solely in the context of product companies. What if the software development effort is meant to serve users internal to the company? In this case, the impact on profitability may be even harder to ascertain. What is the impact on profitability of a dashboard that enables management to drill down on sales by region? There undoubtedly is a connection, but assessing it involves so many assumptions that the exercise is impractical. The new dashboard may occasionally help management spot and diagnose an issue that mid-level supervisors have not noticed, and that issue might lead someone to formulate a solution, and that solution might increase sales in a predictable way . . . but the product owner will be in a state of analysis paralysis before all of this gets worked out for prioritization.

I want to be careful here: although forecasting changes in profitability to make prioritization decisions seems impractical, I am not saying that it is impossible or that measuring actual changes in prof-

itability after the feature is implemented is impractical. As Douglas Hubbard points out in *How to Measure Anything*, we can use statistical techniques to tease out how much of an increase in profits was due to a particular investment. We can also use measurements to reduce our uncertainty about a planned feature's impact on future cash flows. But I do not think this makes ROI a useful proxy for business value in prioritizing user stories.

Curiously, one of the things ROI does not take into consideration is agility itself. Part of the business value that software development can give us is the ability to respond to unknown future needs. We can build things in a way that gives us more options in the future or in a way that gives us validated learning about the environment we are in. In economic terms, we can say that software development efforts can give us “real options”—that is, options to invest more or to not invest in the future, depending on which way the market goes. This agility has true value to the organization, but it will not be accounted for in an ROI calculation. We will come back to this subject later.

We can fix some of the problems with ROI by using more sophisticated measures than incremental profit as the numerator of the equation. For example, we can look at incremental cash flows. We can even discount the cash flows based on timing and risk. But once we start moving in that direction, we start losing the value that ROI was intended to provide: simplicity in analyzing investment choices.

We will have to look elsewhere for the meaning of the elusive term *business value* that is the very core of our Agile practice.

The Problem: business value, critical but elusive, remains at large. Our first set of clues leads nowhere.

- 1 Various Authors, “Manifesto for Agile Development,” February 11–13, 2001, <http://agilemanifesto.org>. The emphasis is mine.
- 2 Ken Schwaber, *Agile Project Management with Scrum* (Redmond, WA: Microsoft Press, 2009), Kindle loc. 207–208.
- 3 Kent Beck and Cynthia Andres, *Extreme Programming Explained: Embrace Change*. 2nd ed. (Boston: Addison-Wesley, 2005), 3.
- 4 Jim Highsmith, *Agile Software Development Ecosystems* (Upper Saddle River, NJ: Addison-Wesley, 2002), 32.
- 5 *Ibid.*, 58.
- 6 Other Agile frameworks such as XP do not have an explicit product owner role. In XP, an onsite customer represents the business. But ultimately decisions are somehow being made about what will deliver business value. So when I refer to the product owner in these early chapters, please take it as referring to the person, people, or mechanism responsible for these decisions.
- 7 Both quotes in this paragraph are from Philippe Kruchten, “The Elephants in the Agile Room,” February 13, 2011, <http://philippe.kruchten.com/2011/02/13/the-elephants-in-the-agile-room/>.
- 8 Mike Cohn, *Succeeding with Agile: Software Development Using Scrum* (Boston: Addison-Wesley, 2010), 125. Cohn has also written compellingly on Agile requirements and Agile project planning.
- 9 Schwaber, *Agile Project Management*, 18.
- 10 Jim Highsmith et al., “Declaration of Interdependence,” February 17, 2005, <http://pmdoi.org>. Highsmith’s cosigners on this document include many of the leading Agile thinkers—Mike Cohn among them.
- 11 Schwaber, *Agile Project Management*, Kindle loc. 1134. Emphasis is mine.
- 12 Craig Larman and Bas Vodde, *Scaling Lean and Agile Development: Thinking and Organizational Tools for Large-Scale Scrum* (Upper Saddle River, NJ: Addison-Wesley, 2009), 309.
- 13 *Ibid.*, 310.
- 14 Alfred Rappaport, *Creating Shareholder Value: A Guide for Managers and Investors* (New York: The Free Press, 1998), 31.
- 15 Tom Copeland, Tim Collier, and Jack Murrain, *Valuation: Measuring and Managing the Value of Companies*. University ed. (New York: John Wiley and Sons, 1996), 85.
- 16 Rappaport, 5.
- 17 Mike Cohn, “The Problems with Estimating Business Value,” *Mountain Goat Software*, September 30, 2010, <http://www.mountaingoatsoftware.com/blog/the-problems-with-estimating-business-value>.

- 18 Pascal van Cauwenberghe, “How do you estimate the business value of user stories? You don’t.” *Thinking for a Change*, December 30, 2009, <http://blog.nayima.be/2009/12/30/how-do-you-estimate-the-business-value-of-user-stories/>. The title says it all, doesn’t it?
- 19 Dean Leffingwell, *Agile Software Requirements: Lean Requirements Practices for Teams, Programs, and the Enterprise* (Boston: Addison-Wesley, 2011), 261.

First learn the meaning of what you say, and then speak.

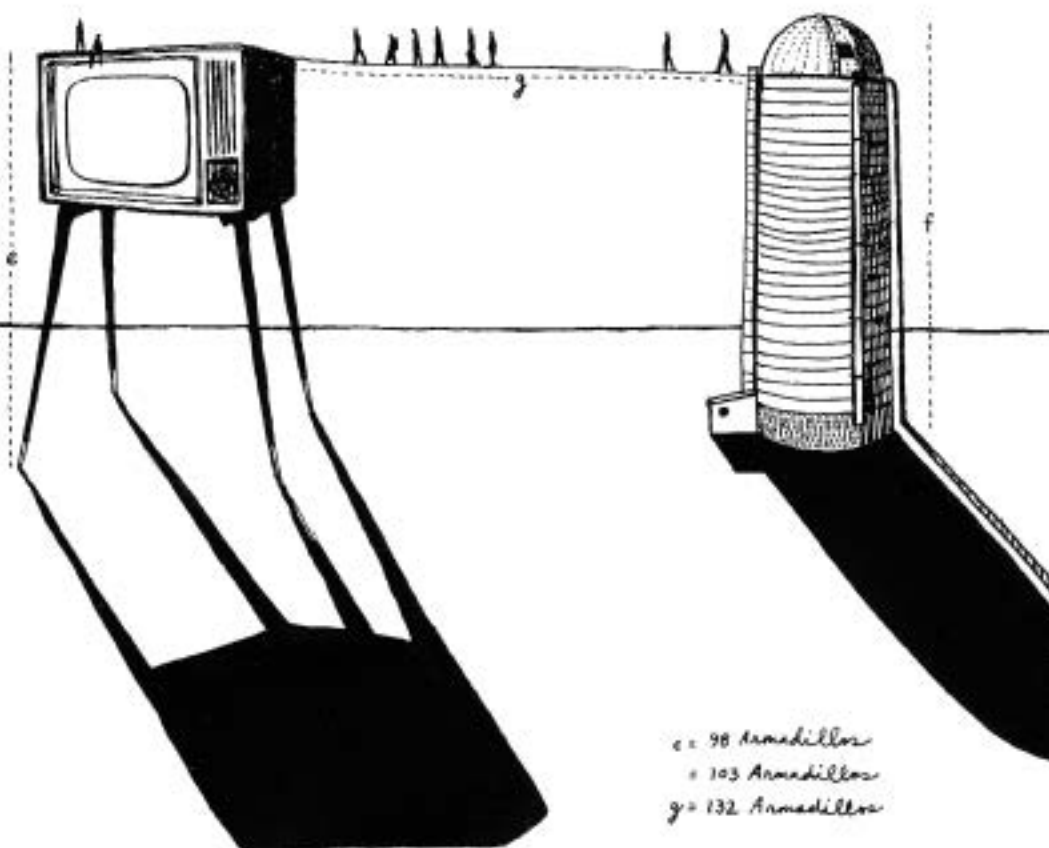
Epictetus, *The Discourses*

Make for thyself a definition or description of the thing which is presented to thee, so as to see distinctly what kind of a thing it is in its substance, in its nudity, in its complete entirety, and tell thyself its proper name, and the names of the things of which it has been compounded.

Marcus Aurelius, *Meditations*

2

THE MEANING



If ROI is not the right measure of business value, then what is?

Ultimately, in a capitalist economy the duty of a corporation is to return value to its owners. Some writers have argued that the only way to deliver on this goal is to manage to it directly, rather than using proxy metrics like ROI. Such an approach is referred to as “Management by Value” or the “Shareholder Value Approach.” According to this way of thinking, managers aim at making investments that maximize Market Value Added (MVA) or Shareholder Value Added (SVA). The technique is described well in books on valuation by Alfred Rappaport¹ and Tom Copeland.² To maximize MVA, these authors argue, managers must combine investment decisions with decisions about how to raise financing, signals from the stock market about its expectations, and decisions on when to return cash to investors as dividends instead of reinvesting it.

In Copeland’s view, MVA is the only measure that takes into consideration *all* of the impacts that a project (or a feature set) will have on the company, side effects and all. MVA determines the company’s long-term sustainability, since increases in shareholder value make more investors interested in investing in the company. It takes into consideration the future competitiveness of the company (or at least the market’s perception of it) and is the metric that includes the interests of all other stakeholders, since equity holders have the “residual claim” on a company—they are the ones who are paid out last in a liquidation, after all creditors.

Copeland does note that outside the United States, business value is not always seen this way: in continental Europe and Japan, he points out, “intricate weightings are given to the interests of customers, suppliers, workers, the government, debt providers, equity holders, and society at large.”³ In his opinion, however, all of these interests are adequately represented in MVA. Rappaport goes as far as to define a “value ROI” metric: the shareholder value created divided by the

cost of the investment.⁴ Value ROI, he argues, should be used instead of accrual accounting ROI to make investment decisions.

But even managers who believe that MVA is the ultimate measure of business value don't, for practical reasons, use it for their everyday capital budgeting or investment decisions. It would be hard to imagine a product owner prioritizing features based on their projected impact on share price. Fortunately, there is a simpler metric that can often be used for making investment decisions consistent with MVA: Net Present Value, or NPV. NPV is a reasonably simple calculation that takes into consideration the cash flows that will result from an investment, their timing, the risk of the investment, and the opportunity cost of making an investment rather than returning money to shareholders as dividends. If made correctly, NPV-based decisions ultimately optimize MVA. Richard Brealey and Stewart Myers are the authors of a popular MBA textbook on corporate finance; in it, they say—perhaps surprisingly—that “the remarkable thing is that managers of firms can all be given one simple instruction: maximize net present value.”⁵

Just what is NPV? Lest you think NPV is something just for *the business* to understand, I'm going to try to give you most of the value of an MBA program in just the next few paragraphs. Incidentally, a two-year MBA program itself has a rather low NPV. You might want to work it out as an exercise while I explain the concept. Make a few business assumptions and see if you can value the user story, “As an Agile practitioner, I would like to attend an MBA program so that I will understand what business value means.” I'll give my answer later in this chapter.

I believe that the major lessons covered in an MBA program can be reduced to two principles:

1. There is a time value of money.
2. A business venture needs a sustainable competitive advantage.

Principle one says that a business should generate cash flows, preferably as soon as possible, and principle two says that in order to continue to generate cash flows, it needs a way to continue competing effectively in its market. You are probably not surprised that these things are true. What is interesting is how they apply to business decisions.

Suppose I propose an “investment” to you: you give me a \$100 and I give you back \$105. Are you interested in that investment?

A good answer is, “It depends.” *When* do I give you back the \$105? If I take your \$100 and immediately give you back \$105, it is certainly a good investment, and you should keep making it as long as I’m willing to offer it. The longer it will take me to give you back the \$105, the less good the investment is, because you are without your \$100 for a longer time. Let’s say I propose that you give me the \$100 now and I will give you the \$105 in one year. Are you still interested in the investment?

Once again, a good answer is, “It depends.” It depends largely on what other options you have for “investing” your \$100. If you have another friend who says that he will turn your \$100 into \$110 in a year, then investing with me is a bad idea. If the only alternative you have is to put your money in a savings account that pays interest of 1 percent per year, my proposal sounds much better. So the value of an investment clearly depends on both how long it will take to pay off and what alternatives you have for investing the money.

This might be a bit unintuitive: you might not care how quickly you get your money back as long as you have plenty of other money available for your everyday needs. When we are talking about small amounts of money lent informally, it doesn’t really matter to us if it

takes time for the money to be returned, as long as we don't need it. But we *should* care if we have a viable alternative for earning interest on that money. A business is responsible to its shareholders and must make sure it earns a good return on any cash it has. For a business, the time value of money is critical.

Now suppose I say that the \$105 I'm planning to give you back is not certain. I *think* I will be able to give you back \$105, but the exact amount "depends on some factors," and I might not be able to give it back to you at all. Does this make the investment more valuable or less valuable? Less, of course. How much less? It depends on how risky the \$105 is. Another way to look at it is that the higher the risk, the higher the return you should want to make up for the risk. If it's going to be risky, you might want more than \$105 to make you comfortable with the investment. So the value of an investment depends on the timing of its payoff, the alternative investments available, *and* the risk associated with those payoffs.

That's the four-paragraph MBA.

You might be wondering about that second principle, the sustainable competitive advantage. Here's a way to think about it: when a business makes an investment, it is spending cash now in anticipation of a series of cash flows in the future. Let's say that we are developing a software product that will yield cash for us every year over the next five years. Notice that the value depends on our *projections* of cash flows into the future. How solid are those projections? Well, it helps if we are sure that our product can continue to stay ahead of the competitors. If you think about valuing a company as a whole—it is, after all, a sort of machine for producing cash flows—its value depends on its ability to *sustain* its cash flows. And that, of course, depends on whether it has a sustainable competitive advantage.

Okay, now to the value of getting that MBA. You will be investing two years of tuition and living expenses—let's say about \$200,000.

You are also forgoing your opportunity of working over the next two years, which we will say is worth \$300,000, since you are a well-paid software expert. So your total opportunity cost is \$500,000. In return, you hope to earn more in the future. How valuable is that? It depends on how much more you hope to earn, how far in the future you will be earning that increased income, what alternatives you have for your money, and how risky that additional earning is. Let's say that instead of earning the \$150,000 you are earning now, you believe that the MBA will allow you to earn \$300,000 a year beginning five years after you graduate. So your increase in earnings will be \$150,000 per year (\$300,000–\$150,000). You are thirty at graduation, thirty-five when your salary goes up, and you will work till you're sixty-five—so you will have thirty years at the higher salary.

Given that there is a time value of money, the higher salary you will get in the future is worth less than if you had it now. Your \$500,000 cost, however, is all in the present. You want to know whether the \$500,000 *now* is more or less than the \$150,000 per year for twenty years starting six years in the future (simplifying and saying that your salary five years out is delivered in a bundle at the end of the year). We know it depends on the risk—how likely is it that you will hit that salary target—and how much you would earn if you invested money in an investment with a comparable risk. The risk that your salary won't be at least \$300,000 seems much greater than the risk of investing in a diversified stock market portfolio, which has been earning about 7 percent on the average. It is probably a lot closer to the risk of investing in penny stocks, but let's say that we would want about 15 percent for an investment of similar risk.

Now the math. We “discount” your future salary based on timing and risk to get an equivalent dollar amount in today's dollars. The formula we will use for each year n of your earnings is: incremental salary for that year divided by $(1 + 15 \text{ percent risk-based return})$ to

the n th power. So the incremental \$150,000 you earn in year six is worth $\$150,000 / (1 + .15)^6$, or \$65,000 now. The intuition behind that number is that if you invested \$65,000 now in a similarly risky investment, then in six years it would be worth \$150,000, the same as your salary increase. We're not done yet, however—we have to do the calculation for each of the twenty years and add them all together.

What do we get? Your future salary increase turns out to be worth \$450,976 today, compared to your \$500,000 cost today. If we subtract the two numbers, we get Net Present Value (NPV): in this case, -\$49,000. That is the value of your investment in the MBA. Don't do it! Negative NPVs are bad investments. Not only that, but I'm about to try to convince you that NPVs as they are taught to business school students are not the right way to think about business value anyway.

Back to our product owner. She needs to prioritize user stories based on their NPV. The bigger the NPV the better. Let's try one. "As a supervisor, I would like to see how many cases are assigned to each of my account reps so I can distribute the workload better." What's the NPV? First, she can figure out the cost of the investment: the team has estimated ten story points. Of course that estimate is risky, so she'll have to account for it in the discount rate. She makes a number of assumptions and comes up with an appropriate value for that discount rate. (I'm skipping a lot of finance arguments here about whether the discount rate depends on the risk of this particular investment or the weighted average cost of capital, the return that investors demand from this company as a whole.)

Now all she needs to do is estimate the future incremental cash flows that will result from this feature. How unbalanced is the current workload? How much is that affecting revenues? How will balancing it improve revenues and costs of the company? How will it

change over time? How do the competitor's actions influence it? Will the morale of the salespeople improve such that it is easier to recruit new salespeople, and therefore our hiring costs go down? In principle, all of these things can be estimated; in practice, the sprint will be long delayed as the product owner calculates the value of each story.

There is a much bigger problem with framing business value in terms of MVA and using NPV as a proxy for it: MVA is not the business value goal in the vast majority of organizations.

In the United States as of 2013, only 5,008 firms were traded on major public stock exchanges.⁶ Considering the 27 million businesses in the United States, or at least the 5.7 million of them that have employees, this represents only a tiny portion.⁷ For those companies, it is true, shareholder value is easily measured, and signals from the market can be used by managers to help interpret investor desires. But what about other forms of organization: privately held companies, nonprofits, and government agencies?

The remainder of the 27 million firms are private. Although many of those private companies are small, as of 2010 86.4 percent of privately held companies have more than 500 employees; these include Fidelity Investments, Cargill, Koch Industries, Toys 'R' Us, and Mars, the makers of M&Ms⁸ (talk about value!). Many private companies are closely held—that is, owned by just a few owners. Family-run businesses account for 70–90 percent of global GDP. Even many large public companies are family-run (and therefore have some of the characteristics of a private, closely held company); about a third of the Global 500 companies are family-run.⁹

Some might argue that private companies should also try to maximize the market value of their owners' stakes—though it is harder to measure what that value is. Private companies can be valued, for

example, through independent assessments, prices offered by potential acquirers and investors, the market value of assets held by the company, or the net present value of expected future cash flows. But the assumption that business value is tied to maximizing the financial gain of the owners does not really hold up. To see why, let me begin with an anecdote.

I was the CIO of a medium-sized private enterprise called Intrax Cultural Exchange, a company that operated cultural exchange and international education programs—high school year abroad programs, au pair programs, work and travel programs, volunteer abroad programs, and English as a foreign language schools. The company was owned and had been built without outside financing by John Wilhelm and Takeshi Yokota, who also served as the CEO. While the business as a whole was profitable, the English school line of business was a difficult one and consistently lost money. The management team reporting to Takeshi tried a number of things to improve the business, but the fundamental economics of the industry made it challenging: there were too many competitors in each local market, it was too difficult to build a brand that distinguished our schools from others, and the seasonality of the business virtually ensured that some of the schools' capacity would be unused at various times of the year. The management team—yes, including me—finally did the obvious thing: recommended to the owners that they divest that particular business line, thereby making the company as a whole more profitable.

Takeshi and John—rightly, I now must admit—were furious. They saw themselves as entrepreneurs creating new forms of international education. To them, the English schools were a critical part of the whole: without the schools, the enterprise was simply a set of

disconnected lines of business permitted by US laws on cultural exchange visas. With the English schools, they had an international education business that used cultural exchange programs as a unique way to educate young people. They wanted the management team to use its creativity to make the English school business sustainable, even if it needed to lose some money. Divesting the business was not consistent with their vision.

Any notion of business value as NPV, SVA, or ROI would have had them divest the business. The moral of the story is that, as the owners of the company, they had the right to declare business value to be anything they wanted. It was their company!

When a company is publicly traded, the managers of the company cannot possibly talk to all of the owners, understand what those owners value, and then incorporate those values into investment decisions. Instead, the managers assume that SVA or MVA is a proxy for what is valued by all of the owners. But when the company is closely held, the managers *can* try to understand and apply the values of the owners. In fact, as trusted agents or fiduciaries of the owners, they *must* do so. And it turns out that—as in John and Takeshi’s case—those owners do not always primarily value increases to company value or net present value of cash flows.

According to the National Venture Capital Association, in 2014 the 803 VC firms in the United States made investments in some 3,665 companies.¹⁰ Venture capital firms have their own investment logic and their own understanding of business value. For example, an early-stage VC investor may be focused on ensuring that the company’s next round of funding can be raised at a higher valuation—in other words, their biggest concern may be to ensure that the company is perceived as more valuable when it next tries to raise money, because

that will cause less dilution to their ownership stake. In that case, the company creates business value by setting itself up to best match the desires of the next round's investors. And that in turn might mean maximizing market share at the expense of profits, or it might mean making investments in technologies that are trendy at the moment. It might mean recruiting a team that is trusted by investors, even at a substantial cost. Venture capital investors, based on the lifecycle stage of the fund they are managing, may also have preferences for the timeline on which their portfolio companies create an "exit" for them: either by going public or by being acquired. These considerations too may change how the company makes investment decisions.

Nonprofits pose a different set of challenges. In 2014 there were 1.44 million nonprofits registered with the IRS, contributing 5.4 percent of the GDP.¹¹ The ultimate financial objective of a nonprofit cannot be maximizing shareholder value, since it has no shareholders. According to John Zietlow, Jo Ann Hankin, and Alan Seidner in their book on nonprofit financial management, the correct financial concern for a nonprofit should be with hitting targets for liquidity: having just enough resources to carry out the mission, but not too much.¹² But even for Zietlow, whose specialty is financial management, it would be misleading to think of business value solely in financial terms: "the public service nature of a nonprofit poses a major challenge in terms of identifying and articulating its mission and developing criteria for measuring its success."¹³ The criteria for its success—that is, its definition of business value—is about accomplishing the mission for which it was chartered.

The nonprofit's mission is contained in its articles of incorporation and its bylaws, and its trustees or board of directors is legally responsible for ensuring that those documents continue to reflect the

organization's mission, even if it changes. The nonprofit is expected (and required by tax authorities) to create value for both its clients and its donors by delivering on that mission. For a nonprofit formed to reduce cases of malaria in Africa, business value is not related to shareholder value or profit, but to reducing instances of malaria in Africa.

One framework for making business value decisions in nonprofits is the Dual Bottom Line Matrix.¹⁴ The framework is a two-by-two matrix with mission impact on one axis and financial stability on the other. Projects are placed into the appropriate quadrant, which serves as the basis for making investment decisions. Projects with high impact and high sustainability are “star” projects—they clearly add value. Projects with low impact and high sustainability are valuable (“dollar signs”) if they help to finance those with high impact and low sustainability (“hearts”). And those with low impact and low sustainability should be stopped or avoided.

Government agencies also have missions, and value delivery is clearly related to the performance of those missions. But many of those missions have characteristics that make it difficult to measure, project, and compare the value of investments. For example, take the Department of Homeland Security. Its mission is to keep the homeland secure. How do we measure security? If DHS is considering an investment that might—in a very small number of cases—prevent a terrorist activity, is that a value-adding activity? What if it costs \$1 million? What if it costs \$100 million? What if it involves a loss of privacy for citizens? What if it uses the authority of the government to compel citizens to do certain things—that is, it restricts freedom? How can we make business value decisions in such a complex, political, and emotionally charged realm?

To further complicate matters, a government agency has other value concerns beyond those directly related to its mission area. For example, the government values putting veterans to work. It values fairness in its procurement practices: all contractors and vendors should have equal chances to compete for government business. It values transparency, public accountability, and the political goals of those in power. Clearly, shareholder value is not what is meant by business value in the context of a government agency; even mission value might be rather an oversimplification.

On the other hand, there are similarities between the public sector and the private sector. As Mark Moore points out, the goal of a public sector organization can be thought of as delivering *public* value, just as that of a corporation is to deliver *private* value.¹⁵ Both types of organizations must make value-based trade-offs in the use of resources for which there is an opportunity cost, typically cash—in one case the cash of shareholders, in the other case cash from taxpayers. The government is unique in that one of its resources is its authority to compel behavior, but doing so also has an opportunity cost. The magnitude of the punishment for non-compliance, for example, is a cost to society.¹⁶ Moore examines several ways of thinking about public value. Is it about competently and cost-effectively delivering on the mission assigned to the agency? Possibly, but in fact agencies are generally given conflicting or incoherent guidance by their political overseers. Is it about delivering good customer service to the public? Perhaps in some cases: what kind of experience does the government deliver when you renew your driver's license? In other cases, though, customer service would be an odd way to think about government mission. Immigration and Customs Enforcement (ICE), for example, is in the business of arresting and detaining undocumented immigrants. The “customers” for their detention centers are the inmates, and increasing the comfort of

their detention cell beds would be an improvement in customer service that is not necessarily a public value. Business value in a detention center is different from business value in a hotel, despite some surface similarities.

Moore concludes that all decisions about public value have to consider two broad areas: the efficient production and distribution of public goods and the fair distribution of burdens and benefits, where “fairness” depends on the decisions of politically elected representatives.¹⁷ The decisions made by these representatives, Moore says, represent the collective aspirations of the citizenry, acting as if they were a single, collective consumer in the market.¹⁸ Compare this to the market for private goods. The public sector generates value by creating goods and services the public is willing to pay for, just as private companies produce products that consumers are willing to pay for. The public sector also must meet political guidelines for fairness and equity in order to ensure their continued authorization by Congress, just as private companies must demonstrate their ability to create future value (future cash flows) in order to continue to receive investments from shareholders.¹⁹

Moore draws an interesting conclusion:

It is not enough, then, that [public] managers simply maintain the continuity of their organizations, or even that the organizations become efficient in current tasks. It is also important that the enterprise be adaptable to new purposes and that it be innovative and experimental.²⁰

In other words, both private and public entities have to satisfy their equity holders that they will be able to generate future value as well as current value, and they must prove that nimbleness and responsiveness are critical to this goal and have value in themselves. Perhaps agility is already a value in the public sector!

Business managers use a variety of measures for valuing and prioritizing investments. While ROI and NPV are common choices, others include Profitability Index (Present Value of future cash inflows divided by Present Value of investment outflows), Internal Rate of Return (the discount rate that makes the NPV of the investment zero, which is compared to a minimum required hurdle rate), and Payback Period (how long until the investment recoups its costs?). Each of these measures has advantages and disadvantages, but they all share two characteristics: they are really just proxies for what the company ultimately values, like shareholder value, and they are unlikely to be useful to a product owner making feature trade-off decisions.

There is another important reason why these metrics are not so helpful in thinking about business value: they ignore the investment's role in supporting a coherent business strategy. In one of the classic works of business strategy, Michael Porter, a Harvard Business School professor and a leading authority on competitive dynamics, argues that there are really just three generic competitive strategies a business can adopt: cost leadership, differentiation, and focus. To pursue a *cost leadership* strategy, the company focuses all of its efforts on keeping its costs lower than those of its competitors. A *differentiation* strategy requires that the company provide something that is considered unique across the industry—design, brand image, feature set, technology, or dealer network, for example. With a *focus* strategy, the company zeros in on a particular target market or geographical area and serves it better than the competitors.

Importantly, Porter says that companies are unsuccessful if they try to pursue more than one of these approaches: “Effectively implementing any of these generic strategies usually requires total commitment and supporting organizational arrangements that are diluted if there is more than one primary target.”²¹ But if we use a simple measure like ROI to evaluate an investment, how can we

make sure that it is consistent with our competitive strategy? Yes, the ROI calculation might in theory consider the effect on income that would result from undermining our generic strategy, but this is difficult to factor into the projections. More to the point, it seems backwards: we should be valuing the investment based on its contribution to strategy, not just on an income projection.

Business value, alas, is a complicated topic. Simply equating business value, customer value, and return on investment will not help, nor, as I will argue in the next chapter, will pushing the question of business value off onto a product owner. The idea that there is a single metric that represents or can serve as a proxy for business value is also misguided; in order to have a complete picture of business value, we must consider the goals of the particular organization, the interests of at least some of its stakeholders, and a variety of indicators of value, some of which may be quantifiable and some of which may not.

Avinash Dixit, in an article on options that we will be discussing later, points out that in fact, companies often make investments that they shouldn't if they are looking at NPV. "For example," he says, "entrepreneurs sometimes invest in seemingly risky projects that would be difficult to justify by a conventional NPV calculation using an appropriately risk-adjusted cost of capital."²² Clearly there is something else going on as managers evaluate the business value of possible investments.

What is going on, I think, is that each business has a different way of understanding business value depending on its strategies, competitive situation, capabilities, mission, and people. Ultimately, if the business happens to be a public corporation, this interpretation of business value is meant to drive increases in shareholder value, but that is an empty goal until the organization translates it into specific strategies and values. And for other types of organizations—

private companies, nonprofits, government agencies—business value can be just about anything. Metrics like ROI can be interesting and useful, but they are not what we mean by business value.

If I am right about this, then business value is not a given, but rather something specific to the organization that must be discovered. This idea might sound familiar: it is in fact the very idea of agility. Agile software development starts from the assumption that it is impossible for the business to know exactly what its requirements are in advance of a software development project. Requirements must emerge; they must be discovered; an Agile process learns and adapts. I am simply saying that business value is also not a simple given at the outset of our adoption of Agile practices. Instead, business value must be discovered, must be learned, must be turned into a testable basis for valuing requirements.

Fortunately, it is there waiting to be discovered in the organization's institutional memory. Organizations have two convenient forms of institutional memory: culture and rules. In chapter 3 we will explore organizational culture and how to use it to learn what the business values; in chapter 4 we will look at rules through their most powerful instantiation: bureaucracy. The remaining chapters will turn to how we can use these learnings to create value for the enterprise.

The Meaning: the mystery deepens; we have interrogated the usual suspects but have learned little that will help us solve the case. It is curious, though, that the financial experts seem unwilling to cooperate.

- 1 Rappaport, *Creating Shareholder Value*. Discussion beginning on p. 59, for example, illustrates how to determine the SVA impact of alternative strategic decisions.
- 2 Copeland et al., *Valuation: Measuring and Managing the Value of Companies*. The authors discuss why MVA is important in “Why Value Value,” pp. 22–28, and how to manage value through an example case in “Becoming a Value Manager,” pp. 31–69.
- 3 *Ibid.*, 3.
- 4 *Ibid.*, 117.
- 5 Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*. 4th ed. (New York: McGraw-Hill, 1991), 22.
- 6 Dan Strumpet, “U.S. Public Companies Rise Again,” *Wall Street Journal* online, February 5, 2014, <http://www.wsj.com/articles/SB10001424052702304851104579363272107177430>.
- 7 *Forbes* Online, “4 Things You Don’t Know About Private Companies,” reported May 26, 2013 by Mary Ellen Biery, at <http://www.forbes.com/sites/sageworks/2013/05/26/4-things-you-dont-know-about-private-companies/>.
- 8 *Ibid.*
- 9 McKinsey & Company, “Perspectives on Founder- and Family-Owned Businesses,” October 2014, 4. According to a Harvard course catalog at <http://www.hbs.edu/coursecatalog/1402.html>, “Most companies around the world are controlled by their founders or founding families, including not only private firms but also more than half of all public corporations in the U.S. and Europe, and more than two thirds of public corporations in Asia.”
- 10 National Venture Capital Association Yearbook 2015 (Thomson-Reuters).
- 11 McKeever, Brice S. and Sarah L. Pettijohn, “The Nonprofit Sector in Brief 2014” Urban Institute. October 2014. Online at <http://www.urban.org/sites/default/files/alfresco/publication-pdfs/413277-The-Nonprofit-Sector-in-Brief-.PDF>.
- 12 John Zietlow, Jo Ann Hankin, and Alan Seidner, *Financial Management for Nonprofit Organizations: Policies and Practice* (Hoboken: Wiley, 2007), 195.
- 13 *Ibid.*, 6.
- 14 Discussed in Zietlow et al., 327, who credit it to Jeanne Bell Peters and Elizabeth Schaffer in *Financial Leadership for Nonprofit Executives*. I have also found this matrix appearing without credits, for example in David Renz and Robert D. Herman, *The Jossey-Bass Handbook of Nonprofit Leadership and Management* (John Wiley and Sons, 2010), 466. There may be some confusion: there is a different Dual Bottom Line Matrix commonly referred to in literature about socially responsible businesses.
- 15 Mark H. Moore, *Creating Public Value: Strategic Management in Government* (Cambridge, MA: Harvard University Press, 1995), 28.

16 Ibid., 42.

17 Ibid., 48.

18 Ibid., 30.

19 Ibid., 53.

20 Ibid., 55.

21 Michael Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press, 1985), 35.

22 Avinash K. Dixit and Robert S. Pindyck, "The Options Approach to Capital Investment" in *Harvard Business Review*, May–June 1995, p. 109.

End Excerpt