


UNLOCKING BUSINESS AGILITY WITH EVIDENCE-BASED MANAGEMENT

SATISFY CUSTOMERS AND IMPROVE ORGANIZATIONAL EFFECTIVENESS



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Forewords by **KEN SCHWABER & DAVE WEST**

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FOREWORD BY KEN SCHWABER

Evidence is like a critic, pointing out our shortcomings. We are free to disregard or disbelieve it, or we can investigate and see if there is any merit to what it says.

Software product development is complex. The individual components of people, tools, and transformation of ideas to working software and products have more parts that are unknown or argued over than are known and agreed upon. As they are conglomerated, the result needs to be known to power the heart of empiricism: inspect and adapt.

Given that morass, we need to create the product in short iterations, progressively turning the most important ideas, needs, and requirements into valuable increments that build on each other until the vision is achieved—if the vision is even possible.

We use empiricism to continue as long as our efforts create more value than cost.

Empiricism uses frequent inspection of the work in progress to achieve the best outcomes. The work generates regular well-known artifacts. To maximize the value of these adaptations, we must ensure the artifacts are well understood

and conform to certain standards (“Done”) that are based on frequent decisions of what is happening, are realistic, and do not cling to desire.

SCRUM

We presented Scrum to the world more than 30 years ago. Many teams and organizations have used it to deliver valuable solutions to complex problems. Scrum is a framework within which a team of people can address a complex problem to create an increment of value within a short period of time.

What follows is the problem as we saw it at the time:

Problem: Most software development projects failed to deliver the expected functionality on the committed date for the budgeted cost.

Cause: Software development is a complex endeavor that requires a process that relies on the art of the possible, not fantasies of the improbable.

Solution: Utilize a process that is not fixed but adapts visions into goals that *are* possible. Flexibility is important. Empiricism was reflected in the growth of iterative, incremental development processes in the 1990s.

In Scrum, a well-understood artifact, the *increment*, is generated and shown by the end of each iteration, or *sprint*. It must be complete and “done,” or everyone inspecting it will see things differently and want adaptations that suit narrowly defined needs. Undone work undoes Scrum.

How valuable is Scrum to your organization?

We see from the Standish Group that the success rate of waterfall projects is less than 20 percent. In contrast, Scrum projects achieved a 90 percent success rate by 2015. (You can find details at their websites and in their publications.)

However, closer to home, ask anyone at an organization that uses Scrum how things are going. You might hear, “excellent,” “pretty good,” “better than before,” “awful,” or “another fad.” Those are interesting responses. Notice that these are only opinions, not facts. These are also not the basis of actions to optimize short-term or long-term value.

As we worked with organizations to adopt Scrum, we realized that their whole organization had similar issues to what software teams using Scrum had. Both teams and organizations found themselves wondering, “What is value, and how do we know if we are delivering it? Is Scrum working for us?”

EVIDENCE-BASED MANAGEMENT

To help them understand this, we studied and adapted the evidence-based medicine that is used in healthcare organizations for software development. We developed metrics that manage product and software development, regardless of the overall process, and created a framework that we call Evidence-Based Management (EBM).

Consistent, known measures facilitate optimal outcomes based on intelligent adaptations, which we have evolved into different Key Value Areas (KVAs). We looked at metrics measuring (broadly) a product’s

- Current value, which is a measure of the outcomes that customers experience by using the product
- Time to market, which is a measure of the intervals at which the organization delivers new product increments
- Ability to innovate, or measures of the effectiveness of the organization in delivering valuable increments

Over time, we saw a need for a fourth kind of measure that we called unrealized value, which looked at the potential value that the organization might deliver but currently does not deliver.

Although the KVAs gave organizations a way to measure both the value they delivered and their ability to deliver it, they also needed a reason to deliver value. They needed goals and a way to align their value delivery with their broader organizational goals—not just strategic goals, but shorter-term goals like sprint goals and intermediate-term goals like product goals.

Consistent use of empiricism and experimentation helps organizations achieve optimal outcomes based on intelligent adaptations.

Plans are often based on hopes, beliefs, and visions. However, upon inspection, supporting data is often absent or contradictory. Data that could support a plan is often inconveniently absent, or when present it is at odds with the beliefs.

In our industry, EBM is revolutionary, but it is essential to avoid fads based on marketing assertions. This book was written by people who have helped others learn how to use software and other complex products more wisely. Read and learn.

Scrum has been out for 30 years. Using Scrum and EBM entails paradigm shifts that only those with a serious work ethic seem willing to undertake, but these shifts are the only way to move forward in a complex world.

Scrum On!

Ken Schwaber

FOREWORD BY DAVE WEST

The one reality for organizations and people in the twenty-first century is uncertainty. And this uncertainty leads to complexity. Digital technology amplifies both the uncertainty and our ability to perceive it. Ultimately, that means organizations and individuals need to be more agile to adapt in response to our changing understanding of the world around us. For Scrum.org, agility is defined as three basic ideas:

- An empirical approach to work. That means breaking work into small increments, delivering those increments, and learning from that process and associated outcomes.
- Empowered teams. That means allowing the teams doing the work to own the how and the what.
- Continuous improvement. This is the belief that everything can be improved.

These three ideas are simple, but they are surprisingly tricky to implement. From my experience, the challenge can be defined as the disconnect between work and value. In the past 100 years, people, teams, and organizations have concentrated on efficiently delivering work. Percent complete, on-time, and on-budget metrics are the traditional standards by which teams are measured.

But teams find questions such as, “Why is this more important than that” and “Why does the user need that” much harder to answer. That in itself is not a problem if the result of the work is valuable.

Here’s the problem: Deciding what is valuable work is more complex and more challenging as you increase complexity and uncertainty. That is even harder the further away from the work the decision is being made. Aligning and focusing teams on the why is the fundamental first step to agility. It allows teams to do the work that makes the most sense and bridges the gap to purpose, which authors such as Dan Pink and Simon Sinek highlight as crucial to motivation and better outcomes.

Value is the not-so-secret sauce of effective agile transformations. Similarly, buying a poster that reads, “Customer first,” does not make your company a customer-first organization. Saying that your agile transformation focuses on value does not mean you are aligned or measured on value. And one person’s value is another person’s activity.

That is why the ideas of Evidence-Based Management (EBM) are so helpful. EBM supplies a framework for effectively putting goals and supporting measures in place to provide direction to teams and organizations on their journey to value. They focus not on the motion of the organization but on the outcomes. At the heart of EBM are the customers and the organization’s ability to serve them.

Ken Schwaber, the co-creator of Scrum, created EBM in response to a simple question his customers asked: “How agile are we?” EBM was inspired by evidence-based medicine, which applies the scientific method to organize and apply current data to improve healthcare decisions. Evidence-based medicine tries to answer clinical questions for a patient. It provides a framework for questions about the customer and the organization. EBM focuses on four key value areas (KVAs): current value, unrealized value, time to market, and ability to innovate. Each organization or team will find its own goals and metrics to explore those areas, and those measures will change over time. Also, notice that the answer to the question, “How agile are we?” provided by EBM is not directly about agile but rather agility’s impact on value.

As you can imagine, Ken's answer was often met with a confused look. Agility should never be the reason for the change but instead the answer to delivering more value and managing the unknown. EBM focuses on the outcomes, not the mechanics of the process or approach. These KVAs should provide data that then drives improvements, which in turn, drives changes to the data. And thus, the cycle continues.

The ideas of EBM are simple, but the challenge is applying them. Most organizations are good at measuring motion, but transitioning this to value can take time and effort. That is why a practical book on applying EBM is valuable.

In this book, Patricia, Todd, Ryan, and Kurt provide a practical guide on how to use EBM. They start with goals and purpose and then move into effectiveness, expectations, and noise vs. signal chapters. Finally, they discuss EBM at the product, portfolio, and organizational levels. EBM is a valuable tool for product teams, but you can also apply it at the organizational level as part of an enterprise agile transformation program. Throughout this book, the authors describe a pragmatic approach to adoption using examples to cite how organizations that have many challenges can still gain something from this approach. That is the great thing about EBM. It does not require wholesale change but can be applied in the small or large. Of course, the most significant return on EBM is when it helps drive organizational change. But EBM can achieve value at whatever level you are applying the change. These principles can help teams, products, portfolios, and organizations.

Even after more than six years of applying EBM at Scrum.org, I still found this book usable and compelling. I enjoyed the case studies and examples and often saw my experiences in these stories. Even when you know Scrum, have lots of experience implementing it, and understand the concepts of EBM, changing your mindset after 25+ years of activity and motion focus takes work. Throughout this book, the authors highlight the importance of balance—not just balance in focus between the different key value areas, but balance in implementation. Teams often have different stakeholder needs, and EBM can be a great vehicle to balance those sometimes conflicting requirements.

After all, everything affects the customer. It just requires an understanding of the timeframe, lens, or focus.

Good luck on your voyage. I hope EBM is a helpful compass.

Scrum On!

Dave West

PREFACE

More than thirty years ago, Ken Schwaber and Jeff Sutherland created an approach to software development and delivery they called *Scrum*, after the huddle-like teaming practice used in rugby. At the time, software development teams struggled to deliver complex software systems. Simple programs were easy, but somewhere, things fell apart as the work became more complex. Years-long, many-person initiatives failed to achieve results, with alarming regularity. Scrum helped these initiatives deliver working products in a series of increments.

The organizations in which teams using Scrum worked still had a problem: They looked at the development effort as simply a cost they wanted to minimize. They could not see the work for what it really was: an engine for creating value. They needed a new way to look at their development efforts and a new way to manage that focused on value, not simply cost and revenue. Building on ideas Ken borrowed from evidence-based medicine, the ideas embodied in EBM evolved.

For us, Evidence-Based Management (EBM) helps answer a fundamental question that teams and organizations struggle with: What is value?

Measuring value is not as easy as it might first seem. Organizations use profit (revenue – cost) as a proxy for value, but increasing profit makes a poor goal because it does not provide insight into what the organization should do to grow its profit. Better goals always involve providing something of value to customers. Things are valuable to customers when they satisfy their needs and help them achieve an outcome they value.

In our work with Scrum.org, we meet with many organizations at various waypoints on their agile journeys. One of the key questions we try to ask them is, “What are you trying to achieve with your agile initiative?” Of all the answers we get, one theme stands out: They want to go faster or be more responsive to change or new opportunities.

On the surface, that seems like a fine objective. What organization would not want to be more responsive? But at another level, merely going faster seems rather purposeless. That is why we always ask a second question: “What will you do when you can go faster?” And that is when we get puzzled expressions telling us they have not thought about that. Our version of the answer is that the true goals of an organization have to do with delivering value to customers. Being more responsive to customer needs is important, but first it is necessary to understand those needs.

Delivering value sustainably means focusing on more than just the value that customers experience. It also must include the means of delivering that value: the organization’s effectiveness in delivering value and the speed at which it can respond to new information. Organizations claiming their goal is to become faster and more responsive are right. Still, they also need to think more strategically about what they will do when they can deliver value to customers more quickly.

This book helps organizations achieve a more balanced perspective on value. It elevates and illuminates strategic customer-focused goals, but it also uses short feedback loops to quickly try new ideas that might improve the customer’s experience. We want to help organizations deliver value to customers using those same feedback loops.

Lest this book seems too focused on organizational themes, we also have a more personal purpose in writing it. In our work, we also see a lot of people who aren't engaged in the work they do because they feel disconnected from the goals of the organization, which, in turn, are disconnected from customer value. Their work seems pointless and purposeless. We have seen how working toward meaningful goals is life-changing, and we want to help others find their purpose. Seeing how one's work is connected to important customer and societal goals motivates and provides meaning in ways that "enhancing shareholder value" never will.

For organizations and employees that think agility simply means "go faster," we hope this book will restore purpose to agile initiatives that have "lost their why." We hope that it will help them reconnect with their customers using frequent feedback and help them continually and systematically improve their ability to make progress toward meaningful goals. If these goals resonate with you, we encourage you to read on.

Patricia, Todd, Kurt, and Ryan

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ABOUT THE AUTHORS

Patricia Kong helps organizations thrive in a complex world by focusing on enterprise innovation, leadership, and teams. She is a people advocate and fascinated by organizational behaviors and misbehaviors. She is co-author of both *The Nexus Framework for Scaling Scrum* (Addison-Wesley, 2017) and *Facilitating Professional Scrum Teams* (Addison-Wesley, 2024).

Todd Miller has practical experience as a Scrum Master, Product Owner, Software Developer, and Agile coach on a variety of technical and creative projects across a multitude of industries. He has been a professional Scrum trainer with Scrum.org since 2016.

Kurt Bittner has been delivering working products in short, feedback-driven cycles for more than 40 years, and has helped many organizations do the same. He is particularly interested in helping people form strong, self-organizing, high-performance teams that deliver solutions that customers love, and helping organizations use empirical feedback to achieve customer outcome-focused goals.

Ryan Ripley is a Professional Scrum Trainer with Scrum.org, and has experience as a software developer, manager, director, and Scrum Master at various Fortune 500 companies in the medical device, wholesale, and financial services industries. He is the host of “Agile for Humans,” the top agile podcast on iTunes. He recently co-wrote *Fixing Your Scrum: Practical Solutions for Common Scrum Problems* (Pragmatic Bookshelf, 2022).

INTRODUCTION

Many organizations practice color-coding projects to show their status. Green means everything on the project is going fine, yellow means the project needs some help, and red means the project is failing. Most projects start as green. Changing an in-flight project to yellow or, even worse, to red, often causes a three-alarm fire. Most project managers and teams do not want that level of management attention, so many projects that look “officially” green to the outside world are yellow or red on the inside. We call this phenomenon a *watermelon project*.

Organizations can function just like watermelon projects. From the outside, they look healthy and successful, but on the inside, they struggle to deliver anything valuable to their customers. These organizations tend to have cultures of *false positivism*, in which everything is always “great!” and where any signs of less-than-complete enthusiasm can be career-ending. They operate on a narrative of ever-and-ever greater success, with no humbling missteps, and any short-falls in performance are either covered up or blamed on a convenient scapegoat.

The problem these organizations face is that they are unable to learn from experience; therefore, they cannot respond to unexpected events. During a long string of random occurrences, they may be able to avoid the consequences of their inability to learn and adapt, but they cannot avoid it forever.

In the end, their inability to learn hampers them and ends the string of success they may have achieved to date.

Many organizations today claim they want to be more responsive to customer needs and competitor challenges. They often express these claims by investing heavily in internal change initiatives that, once completed, result in a more customer-centric mindset. They invest heavily to do so, not knowing whether they have changed anything at all.

Leading consulting firms and tool vendors have built businesses to perpetuate these hopes by promising easy paths to a customer-first mindset that offers responsiveness, efficiency, and speed. However, after the initial fanfare, these initiatives almost always lose focus and support, devolving into shallow ways of working that feel different but produce no better results. After millions spent and years lost, organizations find that their customer-centric journeys lead them, more or less, right back to where they started. The thing we see often that has changed is that they have new management who end up starting similar initiatives.

We have found that most of these customer-centric initiatives sow their seeds of failure at their start: by making the goal “to improve the process.” Having better processes is not a goal; it is a means to an end. Better processes are really just shorthand for learning while navigating the unknown in pursuit of a goal. It is an approach for trying ideas, getting rapid feedback on those ideas, inspecting that feedback, and adapting plans for the next step based on what was learned. Feedback is essential. This is where watermelon organizations find themselves stuck: Their culture requires that things always look good, but most learning stems from things not going as planned and having to understand why. These organizations are trapped by their inability to see things the way they are, as opposed to how they want them to be.

PURPOSE OF THIS BOOK

Our purpose in writing this book is to help organizations find their true purpose, improve their ability to reach their goals, and build a culture of trust and transparency that allows them to learn from their experiences.

For us, an organization's purpose is to deliver value to customers. Many organizations say that they are customer-focused because it sounds good for them to say it. But for many, these words lack meaning because organizations do not measure customer outcomes. They have no idea if what they do creates customer value. An organization that has no idea whether what it does is valuable lacks the information it needs to be responsive. An organization that does not know whether what it does is valuable wastes its time being faster or more efficient.

However, organizations seem to have lost their way in the modern world. They believe in the certainty of their plans and that every deviation from the plan is a sign of failure. They view the organization as a machine for creating and executing plans instead of looking at it as a responsive organism, attentive to the changes in its environment. In a world of uncertainties, organizations need to be responsive organisms, not rigid machines incapable of reinventing themselves every day based on new information.

This book aims to change all that. It uses a framework developed by Scrum.org called *Evidence-Based Management*¹, or EBM. You do not have to know anything about EBM to read this book. In some ways, EBM is nothing new; it is simply the *scientific method*, simplified and applied to helping organizations achieve their goals under conditions of uncertainty. People have been applying the ideas behind EBM for hundreds—even thousands—of years when they solve novel problems using experimentation.

Throughout this book, we present stories and experiences that illustrate how you can apply EBM to set better goals and then leverage empiricism to achieve those goals using feedback, learning, and evidence. The situations in these stories will be familiar to you. They will present ideas you can try in your own organization to help it become more responsive.

But first we will look at what EBM is and how it works.

1. <https://www.scrum.org/resources/evidence-based-management-guide>

A BRIEF INTRODUCTION TO EBM

EBM is an empirical approach that helps organizations use experimentation and rapid feedback to progress toward goals (see Figure Intro 1). This path is not always obvious or straightforward, but that is a benefit. In a complex and changing world, the path toward goals is always uncertain. EBM helps organizations use new data to adapt their course toward their goals.



Figure Intro 1 EBM helps organizations set and reach strategic goals in uncertain times.

EBM breaks down *strategic goals* into smaller goals that, when achieved, help the organization measure whether it is making progress toward strategic goals. To this end, EBM talks about three levels of goals:

- ***Strategic goals*** are important things the organization wants to achieve. Strategic goals are so big and far away, with many uncertainties along the journey, that the organization must use empiricism to achieve them. Because the strategic goal is aspirational, and the path to it is uncertain, the organization needs a series of realistic targets, like intermediate goals, discussed next.
- ***Intermediate goals*** are achievements indicating that the organization is on the path to its strategic goal. The path to the intermediate goal is often still somewhat uncertain but not completely unknown. Organizations also need immediate tactical goals to take smaller, focused steps toward strategic and intermediate goals.
- ***Immediate tactical goals*** are critical near-term objectives toward which a team or group of teams can work over a short period ranging from a few weeks to a month.

To progress toward the strategic goal, organizations run experiments that involve forming hypotheses intended to advance them toward their current intermediate goal. As they run these experiments and gather results, they use the evidence they obtain to evaluate their goals and determine their next steps to advance toward these goals.

In forming goals, EBM also distinguishes between different goal targets:

- **Activities:** These are things that people in the organization do, such as perform work, go to meetings, have discussions, write code, create reports, and attend conferences.
- **Outputs:** These are things that the organization produces, such as product releases (including features), reports, defect reports, and product reviews.
- **Outcomes:** These are desirable things a customer or user of a product experiences.

Goals based on activities and outputs are ineffective and demotivating. They reduce teams' ability to devise creative solutions by telling them what to do and how to work. Goals are best expressed in terms of the customer outcomes that the organization wants to achieve.

And what about internal goals, like improving profit? Although goals like these are important, ignoring customers does not help an organization figure out what it needs to do for current or prospective customers to make more money. We believe that by focusing on satisfying unmet customer needs, the organization will make more money.

Empiricism and experimentation fit in the experiment loop. Teams delivering value to customers consider customer needs, identify things they think will help those customers, develop and deliver a small increment of value to test their ideas, gather feedback from customers on what they delivered, and then inspect the feedback to decide if they should continue to improve that idea. The move on to another idea if the idea was not valuable or what the teams delivered was sufficient.

Feedback is also helpful in evaluating goals. The organization might find that things they thought customers needed are not crucial to them after all. And the organization might find new customer needs they did not understand before. This means the organization might need to adjust goals at all levels.

Along with goals and the experiment loop, EBM introduces four key value areas (KVAs) that organizations use to consider what value they are delivering and could pursue, as well as their ability to do so (see Figure Intro 2). This book unfolds how organizations can use the different KVAs to focus their decisions and improve their capabilities.

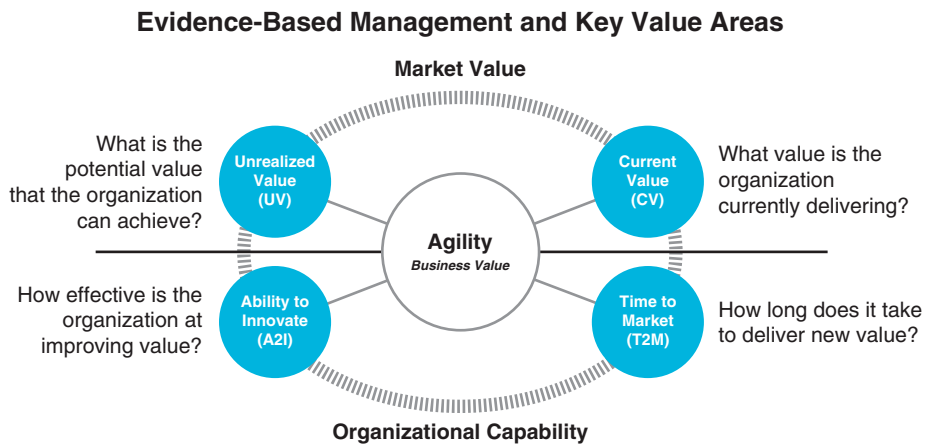


Figure Intro 2 KVAs in a nutshell.

The Evidence-Based Management Guide defines each KVA as follows:

- **Current value (CV):** The value the product delivers today.
- **Unrealized value (UV):** The potential future value that can be realized if the organization meets the needs of all potential customers or users.
- **Time-to-market (T2M):** The organization's ability to quickly deliver new capabilities, services, or products.
- **Ability to innovate (A2I):** The effectiveness of an organization in delivering new capabilities that might better meet customer needs.

Within these KVAs, organizations can develop, inspect, and adapt their measurements, known as key value measures (KVMs), as they run experiments. They use the KVMs to gain information and evidence.

This is not all there is to say about EBM, but it is enough to get started. We will explore these ideas more fully in subsequent chapters.

WHO SHOULD READ THIS BOOK

This book is primarily targeted at middle-level and upper-middle-level managers who are responsible for guiding the organization toward its goals.

It is for those who are close enough to the work to understand how teams actually function and close enough to the executives who typically shape the organization's strategic goals to have influence on the creation and refinement of those goals. For these people, the book depicts organizational challenges and alternative solutions to help them improve.

Team members will also benefit from Chapters 2 and 3 as they look for ways to improve their own ability to achieve goals. The scenarios presented and discussed there will be valuable to team members, apart from whether they have organizational support for improving. Improving their ability to achieve goals may help them gain attention and support for the changes described elsewhere in this book.

This is not a book that presents a process for transforming organizations. If you are looking for that, you will be disappointed, although we have found the ideas presented herein transformative. By setting outcome-oriented goals, forming experiments, measuring the results, inspecting the results, and adapting their next steps accordingly, organizations can achieve remarkable results. Seeking goals using empiricism is a simple yet powerful approach, but there is no magic to it. Success comes from diligently applying the ideas, not from the ideas themselves.

HOW THIS BOOK IS ORGANIZED

This book is organized around an extensive set of case studies that illustrate how EBM can help organizations deal with common challenges. Rather than creating a single case study, we share different organizational case studies. Although the case studies are based on real experiences, we have simplified and anonymized them to make them easier to understand and to focus each one on a single learning goal.

- **Chapter 1: Finding Purpose** describes how organizations can use goals to express their strategy in ways that connect the work they do to things that matter to customers and better engage employees in making those connections.

- **Chapter 2: Using Empericism to Progress Toward Goals** describes how to align short- and medium-term goals with strategic goals and how to use feedback to seek toward those goals, measure progress, and then adapt both the approach and the goal based on feedback.
- **Chapter 3: Becoming (More) Effective** describes how teams can use feedback to improve their ability to deliver to customers.
- **Chapter 4: Managing and Overcoming Expectations** describes how organizations can use feedback to stimulate and inform better conversations about improving organizational performance, focusing on changing the management system and the culture so it can embrace and act upon new information.
- **Chapter 5: Separating the Signal from the Noise** describes how to decide what measures to use, how to interpret feedback, and how to use that feedback to decide what to consider next.
- **Chapter 6: Applying EBM at the Product Level** describes how teams can use EBM to better connect with their customers by delivering products and services that improve customer outcomes and the team’s ability to deliver those improved outcomes.
- **Chapter 7: Applying EBM at the Portfolio Level** describes how organizations can make the hard choices and trade-offs between different products and services based on feedback from customers.
- **Chapter 8: Applying EBM at the Organizational Level** describes how to reshape the organization to better take advantage of feedback from customers and the market, including how to create an organization that can reconfigure itself to better respond to feedback. We tackle these topics last because we have found that organizations change from the bottom-up, not the other way around. Changing an entire organization means starting in pockets, testing and proving ideas, and then expanding.

HOW TO READ THIS BOOK

This book presents a logical progression of ideas, illustrated by short vignettes that illustrate things we have learned in working with real teams and organizations. The first time through this book, we recommend reading it

cover-to-cover. The case studies build upon one another, and the earlier ones set the context for the later ones. After you have read this book once, you will probably want to return to sections that are particularly meaningful to your organization and its unique challenges. You may want to buy a package of sticky notes so you can flag discussions that are important to you.

SEPARATING THE SIGNAL FROM THE NOISE

WeChill is a data-driven, streaming content platform that uses a variety of metrics and analytics to make decisions. The company places a strong emphasis on customer focus and has built a product that meets the needs of its users. Data-driven decision-making is a cornerstone of WeChill's business strategy, and the company uses extensive research and experimentation to inform its decisions.

WeChill has a strong company culture that values transparency, accountability, and innovation, and its employees are empowered to take ownership of their work. The company's personalized content recommendations and sophisticated algorithms drive engagement and retention.

Their content strategy focuses on creating high-quality original content that keeps users returning for more. With a global reach spanning over 150 countries, WeChill has quickly scaled and achieved significant growth.

Recently, WeChill has run into a rough patch as users leave in droves for one of their rival competitors. This has caused WeChill to do a deep analysis of its user base, including users who have recently left the platform. All data that has been analyzed thus far indicates that customers are happy. Even customers that have left report having a good experience with WeChill.

With a proud company culture, this sudden change from leader to lagger has WeChill spiraling internally. A lot of noise and panic among managers begins as WeChill searches for answers. But no matter how hard the company tries, it cannot understand why so many people are leaving.

As the market shifted on WeChill, the company failed to notice and then had difficulty identifying why it was losing users. The customer satisfaction gap had changed because of competitor offerings; while viewers had been happy with WeChill's offerings in the past, competitors were now offering better content than. That led to an increased satisfaction gap between what viewers experienced with WeChill compared to what viewers experienced with its competitors.

On the surface, WeChill was doing all the right things, but the market was shifting under its feet. By the time the company realized it, panic had set in, causing distraction instead of focus. It is important to constantly evaluate what signals you are analyzing and whether they still make sense or have become noise.

IDENTIFYING SIGNALS

It is not enough to identify measures and goals once and move on. You must constantly evaluate the usefulness of both your goals and what you are measuring. Your goals, what you measure, and how you measure will change and evolve as your products and customers change and evolve.

WeChill, as a content creation platform, looks at the following kinds of signals:

- **Strategy and goals:** WeChill has a clear strategy and goals to guide its decision-making. The company's goal is to become the world's leading streaming entertainment service, and it uses this goal to prioritize its decision-making.
- **User data:** WeChill collects vast amounts of user data to identify trends, preferences, and patterns in user behavior. The company uses this information to decide which shows and movies to produce or license, as well as how to market them.
- **A/B testing:** WeChill uses A/B testing extensively to optimize the user experience. It tests various versions of the user interface, content recommendations,

and marketing campaigns to determine which perform the best. By comparing and contrasting the results of the tests, the company can arrive at new hypotheses.

- **Content analysis:** WeChill analyzes the performance of its existing content to determine what types of content are most popular with viewers. This helps the company decide which new content to produce or license. WeChill cannot simply ask viewers whether they like the content because that could lead to a blind spot. Viewers might like the content but not as much as something else a competitor is offering. WeChill must measure the satisfaction gap relative to alternatives to understand if it has the right content.
- **Employee feedback:** WeChill encourages employees to give feedback on the company's strategy and decision-making processes. The company believes this feedback helps it make better decisions by considering multiple perspectives.

WeChill captures and analyzes user data in different ways. Here are some examples:

- **Viewing data:** WeChill collects information on what shows and movies its users are watching and how long and frequently they watch them. This data helps WeChill identify which shows are popular.
- **Engagement data:** WeChill also collects data on how users interact with its platform, such as which shows users add to their watchlists, rate or review, and share on social media. This data can help WeChill understand how engaged users are with a particular show.
- **Demographic data:** WeChill also collects information on its users' age, gender, location, and other demographic factors. This data can help WeChill understand which shows are popular among different user base segments.
- **Search data:** WeChill tracks what users are searching for on its platform to help identify trends and understand what users are interested in.
- **Survey data:** WeChill also uses surveys to gather feedback from its users on what they like and dislike about its shows. This data can help WeChill understand why users do or don't enjoy a particular show.

If a show has high viewing and engagement data but low survey scores, WeChill may decide to renew the show but make changes to address the issues raised in the surveys. Alternatively, if a show has low viewing and engagement data, WeChill may decide to cancel it.

As you can see in our example, WeChill is deliberate in how it identifies signals and has elaborate user data to sift through. Yet, it still missed the market shift, and its competitors noticed before WeChill. Too much information can cause as many problems as not enough.

You must frequently ask yourself, “What questions do I need to answer right now?” to decide what you need to look at. That can help you to identify which signals are relevant now.

INTERPRETING EVIDENCE FROM SIGNALS

With an abundance of information, deciphering what to pay attention to can be a challenge. Here are some ways you can sift through the information and make sure you are paying attention to the appropriate things now:

- **Clear and measurable goals:** Make sure clear and measurable goals are aligned with the company’s overall strategy. These goals are designed to be achievable and provide a clear direction for the company.
- **Flexibility:** Create a culture of flexibility, meaning you constantly adapt to goals and strategies to respond to changes in the market or internal factors. This approach allows an organization to quickly pivot and make changes as needed.
- **Data-informed decision-making:** Rely on data to inform your goal-setting and decision-making. Use data to identify trends, opportunities, and challenges and to track progress toward your goals. Remove the noise of measurements that are no longer relevant.
- **Focus on impact:** Prioritize goals that have the greatest impact on a company’s success. This means that an organization is focused on goals that drive revenue, increase user engagement, or improve the customer experience.

- **Employee involvement:** Encourage employees to be involved in the goal-setting process and take ownership of their work. In Chapter 1, “Finding Purpose,” we discussed how goals and measures influence behaviors. Involving employees fosters a sense of ownership and accountability among employees, leading to increased motivation and engagement.

By considering these bullets, you can make more informed decisions and stay focused on an overall strategy. This approach helps a company remain competitive and responsive to market changes in the market. But a challenge still exists: Data without context is not very useful.

DAMPENING THE NOISE

Noise is data that is irrelevant to your decision. Noise makes it harder for you to understand what is going on because it makes it harder for you to hear or see what is happening. And noise is everywhere: in the data you collect and in the conversations you have with your internal stakeholders, customers, and teammates.

The dashboard in Figure 5.1 contains a lot of information and data, but most of it is noise. Many of these metrics may look great on a slide but are often not helpful when making decisions about a product.

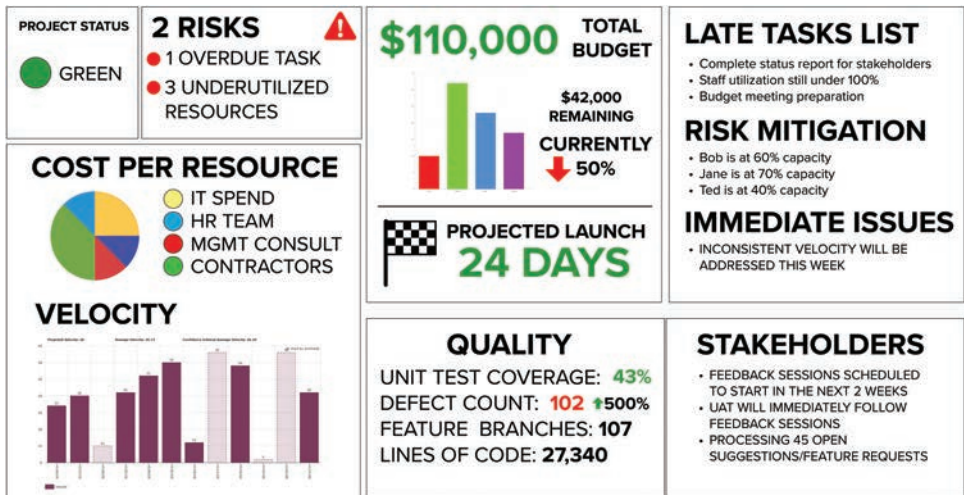


Figure 5.1 An incredibly noisy project status report.

Here are a few common areas of focus we have seen on many status reports that add to the noise rather than dampen it:

- **Utilization:** This refers to the resources (time, money, effort) used in relation to the resources available.¹ Planning for 100 percent utilization is planning to fail. With people—not resources—assigned to multiple initiatives to maximize their utilization, managers get the illusion of efficiency at the cost of effectiveness.
- **Capacity:** This defines a team’s or person’s availability and goes hand in hand with utilization. Just because everyone is busy does not mean your customer is happy.
- **Velocity:** This represents the team’s previous capacity of a team. Velocity is not an indicator of performance or a predictor of the future. It represents the team’s previous capacity the team had to do work.
- **Productivity:** This is often measured by the amount of output produced. Just because you are outputting a lot of things does not mean they fill a satisfaction gap.
- **Misguided quality metrics:** In Chapter 3, “Becoming (More) Effective,” we discussed how a team can become more effective. Dashboards often include things like code coverage, feature branches, and lines of code (see Figure 5.1) that are irrelevant to a team’s ability to innovate (A2I).
- **Budget:** Because we cannot print money, we are constrained in some way by a budget. Being completely budget-driven can limit the available options and create pressure to make decisions prioritizing cost over quality. Lower quality brings on the noisy long-term consequences of bugs, dissatisfied customers, and a difficult product to support and enhance.
- **Time:** We have watched a lot of organizations focus so much attention on dates that they forget why they are building what they are. The timeline becomes the condition of success.

What if there were a simpler way to approach a dashboard? A dashboard should be used to invoke conversations about signals. Figure 5.2 shows an example of an evidence-based management (EBM) dashboard illustrating relevant information rather than noise.

1. “Beware a Culture of Busyness” by Adam Waytz: <https://hbr.org/2023/03/beware-a-culture-of-busyness>

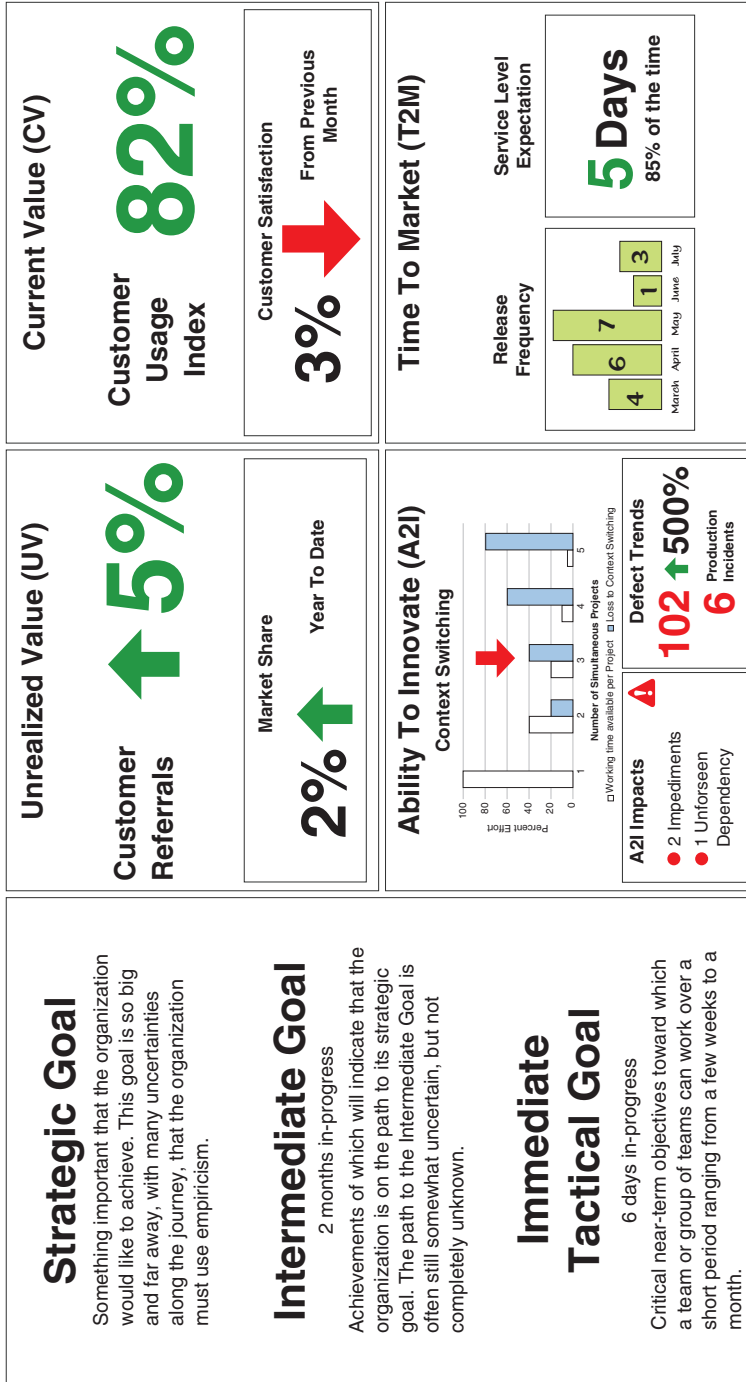


Figure 5.2 A dashboard that provides more useful information.

The dashboard represented in Figure 5.2 helps us invoke important discussions to help you answer the following questions:

- What is the strategic goal we are working toward?
- What is the intermediate goal we are focusing on?
- What is the immediate tactical goal we are working to achieve?
- What are some things we can measure to know if we are on a path to these goals or if these goals are still relevant?

A more simplistic, goal-focused dashboard changes the dynamic of your conversations, helping you to dampen the noise and have new and better conversations. Dashboards can, should, and will change depending on the point in time and audience. Dashboards should never be stagnant.

BIAS CREATES NOISE

A form of cognitive dissonance is present in organizations when information emerges that differs from what is currently believed or accepted as truth. A certain discomfort happens when two opposing ideas are at play in the decision-making process. This friction is amplified when our actions do not match our thoughts and beliefs.

Many types of bias can lead to this friction between data, ideas, and actions. Following are a few types of bias that you need to be aware of as you work to create object narratives driven by data:

- **Confirmation bias** occurs when people seek information that confirms their preexisting beliefs or assumptions while ignoring information that could contradict what they want to believe is true.
- **Anchoring bias** occurs when people over-rely on the first piece of information they receive when making decisions, regardless of its relevance, accuracy, or source. This can lead to decisions based on poor information, leading to poor outcomes and decisions.
- **Availability bias** occurs when people give undue weight to information that is readily available to them rather than considering the full range of available information. This can lead to a failure to identify long-term trends and create a bias toward short-term decisions and issues.

- **Overconfidence bias** occurs when people overestimate their abilities or the accuracy of their judgments. When leaders are too reliant on their gut feeling or intuition instead of data and objective information, there is a risk bias against considering alternative viewpoints and information.
- **Groupthink** occurs when group members prioritize group harmony and consensus over critical thinking and independent decision-making. Groupthink leads to organizations that avoid conflict at the expense of good decision-making.
- **Sunk cost fallacy** occurs when people continue to invest resources in a project or product, even when it is clear that the costs outweigh the benefits because they have already invested significant time, money, or effort into it. This bias is a leading cause of waste in organizations because leaders cannot cut losses and move on from failing projects.

These kinds of biases influence our ability to make objective decisions. When these forms of bias settle into an office environment, they are quite hard to break. Be cautious presenting objective data in these circumstances because it may lead to an emotional reaction you are unprepared for. Slowly combat these biases through a conversation around outcome-driven goals and ways to objectively measure them.

Leading vs. Lagging Indicators

We often encounter people in organizations who waste a lot of time trying to find “leading indicators” for their business. They believe a predictive relationship will tell them that “when we see X (the leading indicator), Y will occur at some point in the future (the lagging indicator).” Many of these leading/lagging indicators involve profit, which is what they are primarily interested in.

In simplistic cases, these leading/lagging relationships hold true. In more complex scenarios, that is only sometimes the case. An increased number of orders *can* lead to greater profits. More employees *can* lead to greater profits. A larger sales force *can* lead to more sales. More features *can* lead to greater customer satisfaction. None of these are guaranteed.

If the sales increase is due to heavy discounting, profits can suffer. More employees can produce more products, but if those products do not sell or are sold at deep discounts, losses can increase. And more poorly conceived features can confuse and frustrate customers. For every proposed leading indicator we have seen, we could provide a counter-case that proves it pointless.

Focusing on finding leading indicators is a distraction and a waste of time. Instead of trying to find predictive relationships, it is better to form better hypotheses to answer your most important questions. These questions tend to be customer-oriented: “Does this feature improve customer satisfaction?” or “Is our understanding of customer needs correct?”

These questions are often hard to answer, which is why some organizations try to look for leading indicators. Not only are leading indicators unreliable, but they are not even focused on answering the right questions.

THE CUSTOMER IS NOT ALWAYS RIGHT

Data alone rarely tells the full story; most of the time, data tells the story you want to hear based on the questions you ask and manipulated the way you want. When you start seeing data that does not quite make sense, you need to get out and see what is happening.

Some organizations hold “voice of the customer” sessions in which customers express what they need the product to do that it does not do today. With these sessions, the problem is that the needs are often expressed in terms of solutions, such as, “I need the product to do this,” rather than expressions of, “Here is what I would like to achieve; can you help me?” Consider the story that follows on how these kinds of sessions can be blinding.

Agile For Robots (AFR), a leading training and consulting firm, was trying to stay ahead of its biggest competitors. Along with surveying existing customers, the firm formed a customer focus group to identify what satisfaction gaps might exist that it needed to fulfill today.

As AFR studied that data and spoke with the focus group, a theme began to emerge around engagement. Current and new customers were yearning for a way to engage with AFR and other like-minded people in their industry. There were options present but nothing like what customers were describing.

Increasing engagement of AFR and like-minded people led to a few hypotheses of things AFR could do. The focus group felt strongly that a new online forum driven by AFR was the best way of creating new conversations and increasing engagement.

AFR created a community forum with all the bells and whistles customers could desire. Over a year later, having spent a lot of time, effort, and money, AFR decided to pull the plug on the product. There were a lot of signups to the platform, but engagement was low. It became quite cumbersome to maintain and was losing revenue. The product had failed.

All the signals of success were there for the community forum AFR decided to develop. Through surveys and focus, new and existing customers this is what they wanted. Yet, when the forum was delivered, nobody used it. AFR blindly followed its customers and built a solution no one used or wanted.

AFR's lesson was expensive but valuable to the rest of us: Customer feedback can provide valuable insights, but it can also add noise to decision-making. Stakeholders may have different priorities, and their feedback only sometimes aligns with the organization's goals or values.

In addition to the blinding voice of the customer sessions, organizations selling products or services into enterprises often have their executives meet with peer executives at client companies. The executives from the product or service companies often come back from these meetings with new customer needs, sometimes adamantly insisting that new capabilities must be added in the next release because the executive promised them to customers. In executive meetings, these needs are usually filtered and interpreted through several layers of an organization, which is a problem.

The only way to understand customer needs is to interface directly with them through a variety of methods, such as observing people directly, using customer-driven prototyping, going into the field, or directly speaking with them. Even when applying any of these methods, the needs may be filtered by a customer's presumptions about how the product works. Everything is a hypothesis of value even if all signals from a customer indicate it will be valuable.

All this is critical to understanding the customer's *satisfaction gap*. What you usually get is an expression of what they think you can do to your product or service to solve their problem. Sometimes they are right, and you just need to give them what they ask for. But sometimes, when you understand what they are trying to achieve, you can figure out something far, far better.

OBJECTIFYING NARRATIVES

Narratives are stories we tell ourselves. Sometimes, they can be negative and detrimental, especially when no evidence supports that narrative. That is what happened at WeChill.

Executives at WeChill began thinking their platform needed to be more coherent and certain features were no longer relevant. One of these features they wanted to remove was the user reviews section. Data illustrated that many users submitted negative recommendations. They felt these submissions could have been more helpful and caused users to miss out on good shows because of the negative reviews. Executives believed personalized recommendations were far more important to a person viewing decisions and could be controlled by the platform.

A major investment into a recommendations engine would become the primary way for users to discover new content. The executives trusted their recommendation algorithm over the voice of the users. They believed removing user reviews would streamline the platform and make it easier for users to find relevant content.

The decision had unexpected consequences. Users who had relied on user reviews to find new content were left without a valuable source of information. The content recommendations they received from the recommendation engine were not as relevant to the reviews coming from users in similar demographics.

The company's reputation suffered as users took to social media to express their irritation with the platform's latest change. The decision to remove user reviews also affected user engagement, as some users began to consider switching to other streaming platforms that still had user reviews.

The executives at WeChill issued a statement saying they had listened to user feedback and would reinstate the user reviews section. However, the damage had already been done. WeChill's reputation took a hit, and users had lost trust in the platform.

In the latest at WeChill, executives made data fit their beliefs. They did not listen to the data and let that information drive their decisions. Making data fit a narrative rather than driving a narrative based on data is dangerous, and WeChill paid the price for it.

When a narrative is created and data is morphed into fitting that narrative, we often find that a key value area (KVA)—and related goals centered around it—ends up being overemphasized. Figure 5.3 illustrates what may happen if each KVA becomes the singular focus while the others are ignored.

It is important to know if your organization puts too much emphasis on a particular KVA. Do you recognize some of the negative impacts in Figure 5.3 that occur when a KVA has a bias? Are your goals emphasizing one of them?

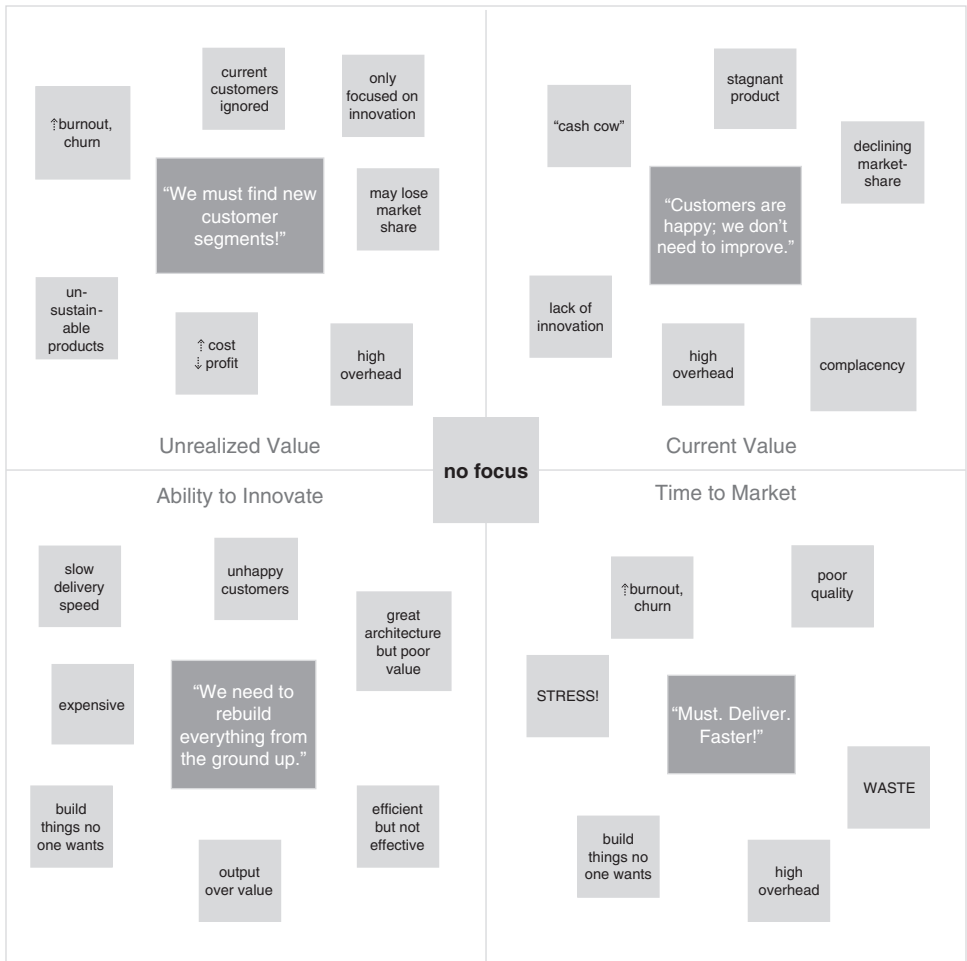


Figure 5.3 Too much focus on only one KVA can have consequences.

Here are some themes we have found when overfocusing on a KVA:

- **Unrealized Value (UV):** If you are focused entirely on UV, you might find something current or existing customers love. But overfocusing on UV can lead to current customers feeling disengaged because you are not serving their needs. It can cause you to neglect your cash cow products. Also, it can cause your teams to become less effective because internal pressures are to build new things, not to refine what is there.
- **Current Value (CV):** Current customers might be elated by the focus you put on them when you emphasize CV. However, employees may leave or feel bored because the work is not exciting. You might miss out on fulfilling satisfaction gaps to acquire new or existing customer's unmet needs. You may ultimately sacrifice your ability to adapt to the market as your solution becomes tailored to existing customers.
- **Time to Market (T2M):** Going faster helps you test hypotheses of value more quickly, making the time to validate those hypotheses shorter. But overfocusing on speed leads to issues with quality and decreased effectiveness to deliver, which ultimately limits your ability to deliver with sustainable speed. We discussed this at length in *Chapter 3*.
- **Ability to Innovate (A2I):** Making your delivery more effective enables you to deliver a more desirable result in the long term. But chasing efficiencies and effectiveness for long periods of time results in missing market opportunities in both UV and CV.

If you find yourself overfocused on a particular KVA, the first step toward curing that overfocus is to make it transparent. Highlight why other KVAs and a holistic approach may be important for your team and organization. It is okay to focus on a KVA for a short period of time, but it is not a viable long-term strategy. Ask what behaviors might be occurring in your organization and within your team because of that single focus. What should you be focused on right now?

GETTING UNSTUCK

“But this is the way we’ve always done it!” is a trap many organizations fall into. It is easy to be blinded by past success. It is in the very nature of human beings to avoid what has brought us punishment and seek what has gotten us

rewards. However, when working on a complex problem, doing what worked in the past is no guarantee of future success.

PedalDrop offers connected exercise machines with HD touchscreens, allowing people to exercise at home with interactive bicycles, treadmills, trampolines, and rowers. The company also provides digital home fitness program subscriptions led by trainers worldwide. PedalDrop's tagline is "Personal training, at home, at your leisure."

PedalDrop achieved record sales during the 2020 pandemic. Masses of people wanted a PedalDrop machine, even though they were expensive. It was a way to stay fit and entertained while staying indoors while gyms remained closed. PedalDrop machines were so in demand that the company could not keep up with equipment production.

As stay-at-home pandemic restrictions relaxed, PedalDrop watched consumer demand steadily drop for its products. Gyms were opening back up, and competition that had not existed before emerged. Also, PedalDrop was viewed to be quite pricey. They no longer had a hold on the satisfaction gap.

In response, executives in the company were convinced that they should diversify with more connected products. They believed the answer was to manufacture new types of machines like ellipticals and strength equipment and to create different sizes of their existing equipment. They often reminded staff, "PedalDrop is proud of its legacy in modern exercise equipment."

So the company diversified. It started to sell PedalDrop ellipticals and a smaller PedalDrop bike to simulate a mountain bike ride. Revenue continued to drop, and costs were out of control. Yet the company kept doing what had once worked. PedalDrop was stuck.

Is your company stuck right now? Similar to PedalDrop, many companies have something they are holding on to that they should let go of. Here are some ways you can start moving your organization forward and get unstuck from past ideas, techniques, and biases:

- **Define clear goals and objectives:** Organizations should have clear and specific goals and objectives they want to achieve. Goals are essential from an EBM perspective. The strategic goal, intermediate goals, and immediate tactical goals help decide which metrics and measures are most relevant and

keep everyone aligned and focused on the most critical and essential pieces of data and information.

- **Choose appropriate metrics:** Organizations need to carefully select the metrics that are most relevant to their goals and the questions they need to answer to learn more. These questions and metrics will change over time.
- **Analyze data effectively:** Organizations should be able to analyze data effectively. Avoid only looking at data that fits a particular narrative. Creating a holistic dashboard of metrics helps avoid confirmation bias. Celebrating learning breaks groupthink.
- **Foster a culture of continuous improvement:** Organizations should encourage a culture of continuous improvement, constantly analyzing data, adapting goals as needed, and sharing what they have learned with stakeholders. This can ensure that they are constantly separating the signals from the noise and focusing on the metrics that are most relevant to achieving their goals.

It is easy to get stuck. Leveraging EBM and using some of these pieces of advice will help you become unstuck quickly.

MAKING DECISIONS

With all the signals and data pouring in, you need to make decisions. Often, there is no clear, correct answer at any given moment. But you have to make a decision and do so swiftly. Product development is a complex and risky process, and leaders and managers need to make decisions based on signals, not noise.

You can conduct market research to understand the satisfaction gap your customers currently experience. You can analyze usage data from your customers, have feedback forums, and look for trends in support issues. Looking outward at the market, you can assess competitive offerings, industry reports, and trends. You can consult with experts in the field. You can do usability testing with real customers to see how your products and services are used in the wild.

Be mindful that satisfaction gap data is almost always a signal. Data requesting specific features that close a gap is almost always noise.

Sometimes, you will not have all the information, and you still need to decide. Sometimes you have to rely on gut feeling.

While influenced by data and signals, WeChill often relies on gut feelings to guide its decisions about which shows to create, keep, or cut. It still values the instincts and intuition of its team members. In some cases, this has led to surprising successes, like a television series called *Weird Stuff* that was initially rejected by multiple networks before finding a home at WeChill.

Of course, not every gut feeling pays off. For every *Weird Stuff*, there is a show that fails to find an audience or connect with viewers. But even when a project does not work, WeChill is willing to take risks and try new things, knowing that the biggest successes come from unexpected places sometimes.

Everything is a hypothesis. You will not know if something brings value to customers until they receive it and you get feedback. The trick is to keep your decisions and experiments small so you can validate ideas quickly and either abandon them as soon as they do not work out or proceed to the next step because you are getting a strong signal.

WHAT TO WATCH FOR

From our observations, a large majority of interpreting evidence is knowing what questions to ask, while the remainder is getting answers to those questions. If you know what questions to ask and to whom you should ask them, you will get more useful answers. A great place to start is with stakeholders. However, many organizations rely on internal stakeholders as proxies for real customers.

The problem with relying on internal stakeholders is that they are not customers; their opinions relate to their own experiences and perceived satisfaction gaps, which may not be the same as customers. Internal stakeholder feedback can be useful, but it is not a substitute for customer feedback.

Imagine seeing revenue steadily climb over the course of a year. That is great, right? When you speak to customers, what if you discover how unsatisfied they are with your offering? Your revenue may increase because customers do not have a better choice, not because they are happy with your offering. If your competitor closes this satisfaction gap, you could be out of business. You might have a temporary hold on a customer, but it will disappear in time.

Perhaps the most critical thing to consider is how long it has been since you have collected real feedback from real customers. As that time period increases, so does your connection to your customers and your alignment to their needs. A widening satisfaction gap is a ripe opportunity for competitors to disrupt you and your business model.

MOVING FORWARD

As we have discussed in this chapter, there is so much noise happening all around us, it can be hard to decipher signals from that noise. Traditional organizations tend to measure activities and outputs without considering the value they deliver. Realigning measurement around value is a major shift that requires challenging assumptions about work, utilization, and efficiency that are widely held by many in the organization.

Measuring value delivered to close customer satisfaction gaps is eye-opening for most organizations. Once they can see where they need to go, it is easier to discuss what improvements they need to make to get there. Efficiency and speed are still important, but only to the extent that they help organizations run experiments about value faster.

In the next chapter, we continue this discussion by looking at how organizations improve their ability to deliver value through their products (and services, which are just another kind of product). Products are simply vehicles for delivering valuable outcomes to customers. Organizations improve their ability to work toward their goals by shifting their focus from features and functions to valuable outcomes that help close satisfaction gaps.

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