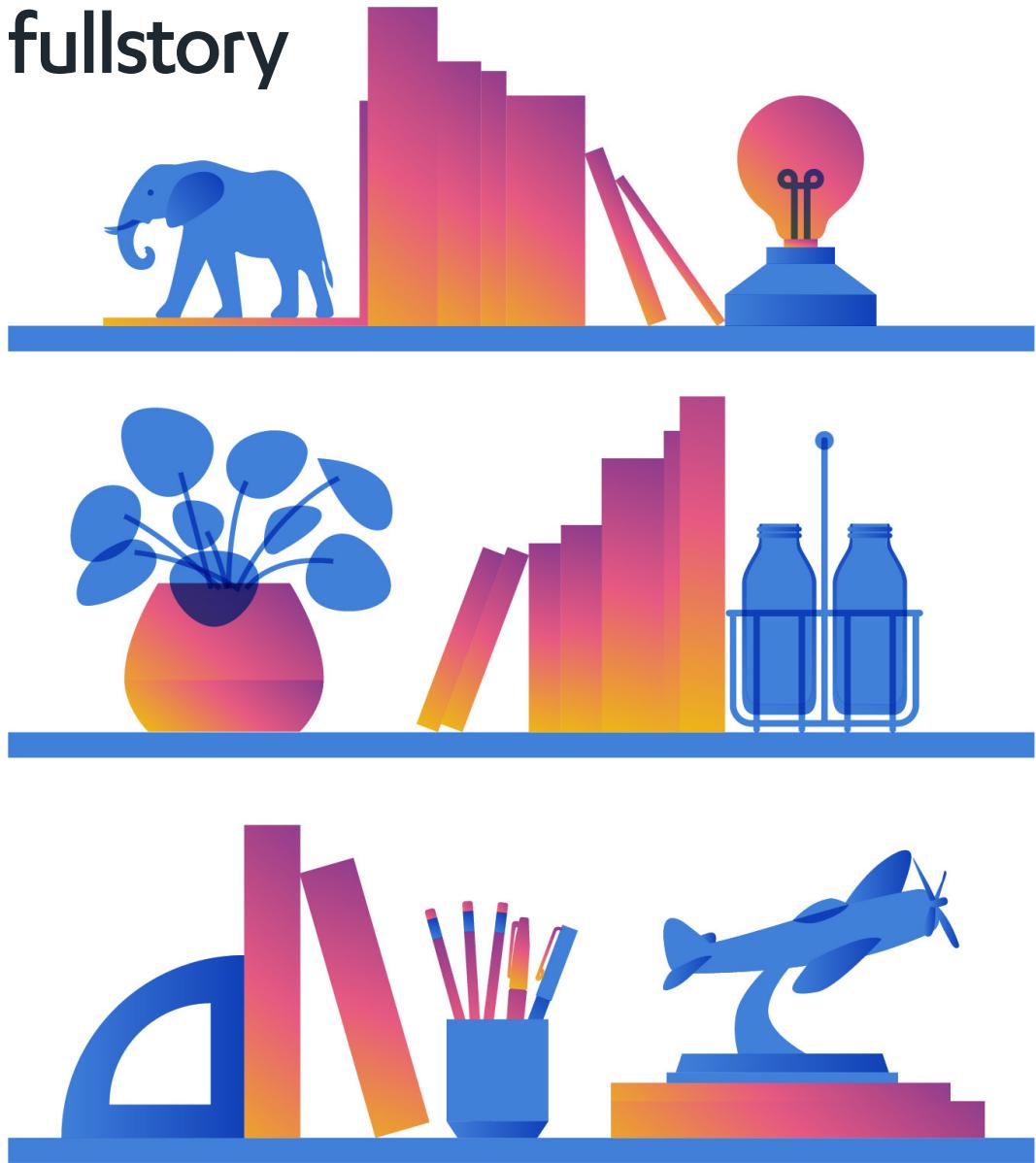


fullstory



Three Parables for Perfect Product Management

What Milkshakes, Elephants, and Fighter Pilots Teach Us About Product Management Process

Table of Contents

Introduction	3
CHAPTER ONE	
The Parable of the Milkshake	6
CHAPTER TWO	
The Parable of the Blind Men and the Elephant	16
CHAPTER THREE	
The Parable of the 4,000 Fighter Pilots	27
Conclusion	34

Introduction

INTRODUCTION

As the SaaS industry becomes ever more competitive, building winning products is as lucrative as it is challenging.

That's because when it comes to today's digital tools and products, the always-online—and always-working—customer expects nothing less than perfection. What's more, they expect it delivered at broadband speeds whenever and wherever they want.

As a SaaS product manager charged with creating products that exceed your customer's expectations, you've got your work cut out for you.

Despite ever-higher customer expectations, the fundamental job of product management hasn't changed much: translate customer needs into a product vision and then drive an efficient process to make that vision a reality.

“ The fundamental job of product management hasn't changed much: translate customer needs into a product vision and then drive an efficient process to make that vision a reality. **”**

The job of product management *is* that process. As Dan Hill, Co-Founder of Alma and former Director of Product at Airbnb put it, “[The product manager’s] product ... [is] the process that builds the product. Designers output interfaces and interactions,

INTRODUCTION

engineers output code, product managers output process."¹

For digital product managers, your process means you must:

1. Clearly understand the problem your product solves.
2. Facilitate efficient communication across the teams who build the product.
3. Launch the product!
4. Measure results to identify opportunities for fixes and features.
5. Go back to Step 1.

If you acquire a better understanding of your product building process, you can make that process better.

While many books have been written about doing just that, perhaps the wisdom you need can be found through illuminating stories.

That's why we've compiled *Three Parables for Perfect Product Management*. Each parable delivers a lesson you can put to work right away to drive better process—and build better products going into 2019 and beyond.

¹ *Observations on Product Management*, Dan Hill, 2017



The Parable of the Milkshake

CHAPTER ONE

CHAPTER ONE

The Parable of the Milkshake

According to research from Alpha's 2018 *Product Management Insights* report, the top three responsibilities of product managers are setting the roadmap (89%), writing user stories (81%) and conducting customer interviews (70%).

The product manager's top responsibility is to understand and map customer needs to the product.

PRODUCT MANAGERS RESPONSIBLE FOR FOLLOWING ACTIVITIES:



Alpha, [2018 Product Management Insights](#)

These responsibilities exist, of course, because the product manager needs to have extreme clarity about the problem their product is aiming to solve. Achieving this level of clarity—understanding just what the customer's story *is*—it's not as simple as interviewing customers.

If you want to understand the expectations of your customers, you have to take a less direct route, which brings us to our first parable, *The Parable of the Milkshake*.



The Story

Clayton Christensen, Harvard Business Professor and writer of the popular book The Innovator's Dilemma, tells us a story that reveals how understanding what your customers are actually using your product for matters more than any particular product feature.

The story begins with a fast food enterprise looking to understand how to make a better milkshake in order to drive more sales. What is it customers enjoy about milkshakes? How do you take an already delicious, creamy milkshake and make it better?

The fast food franchise hired researchers to study their milkshake-consuming customers. On receiving the results, they went on to improve their milkshakes across the dimensions identified by the research. Only when they reviewed the milkshake sales numbers, it turns out their “improvements” did not increase

milkshake sales at all.

What was happening? The customers were given what they said they wanted yet nothing changed.

It was a mystery.

So they determined to take a different approach. This time, real-life milkshake consuming customers were observed. Surprisingly, about half of the milkshake sales occurred before 8:00 AM. On studying these early morning milkshake buyers, a pattern emerged.

Turns out these early-morning milkshake slurping customers had a “job to be done.” They were buying milkshakes to drink in between stop-and-go commutes on their way to work. The milkshake solved their dual problems of hunger and boredom.

Why milkshakes instead of foods like bagels, donuts, or bananas? According to Christensen, the researchers found that:

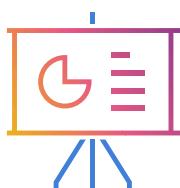
“ The milkshake does the job better than any of the competitors, which in the customer’s minds are not Burger King milkshakes but bananas, donuts, bagels, Snickers bars, coffee, and so on.”

— Clayton Christensen, *Milkshakes — Understanding the Job*

For these early morning commuters, more traditional breakfast foods all had problems when they were consumed on the commute—crumbs, too easy to eat quickly, not satiating, whatever.

What mattered most to road warrior milkshake buyers was how well the food solved their problems. The food needed to be easy to consume while driving but not so easy as to be eaten too quickly while also satisfying hunger until the next meal could be had.

These customer expectations when applied to milkshakes simply weren't the same as the stated desires discovered through research.



The Lesson

“ People don't want to buy a quarter-inch drill. **”**
They want a quarter-inch hole!

— Theodore Levitt, Harvard Business Professor

The moral of the *Parable of the Milkshake* is that customers buy products and services to solve some problem, what Clayton Christensen calls a “Job-to-Be-Done.”

To understand the Job-to-Be-Done, product managers must understand the difference between benefits and features. It's easy to get hung up on the technical prowess of your

product. The whizbang features that were so hard to build excite the teams that built them. Features help marketers and sales quantify a product's capabilities compared to competing products.

Really, features are backward-looking and used by customers to justify their decisions. This is even though the decision, itself, was made based on a more basic, emotional understanding of the product and what it does for the customer.

As a product manager, you need to understand the "Job-to-Be-Done" in order to build your product to satisfy the fundamental desires of your customers.



Application to SaaS Product Management

“

B2B product managers will directly connect with end users rather than extracting feedback through multiple layers of sales and intermediaries.

”

— *Product Managers for the Digital World*, McKinsey & Company, May 2017

Product managers cite direct feedback from the customer as the number one, best source for product and feature ideas.² You know your customers choose your product because it

² *2018 Product Management Insights*, Alpha

solves a specific problem for them.

However, the problem comes when you lose sight of the customer's problem in the pursuit of delivering ever better features.

What you need are ways to connect directly with end users. Observe real customers, following up your observations with critical questions.

For SaaS products, observing real customers can be challenging: the customers are engaging with your product from afar, through their own devices, on the other side of a screen.

Working around this challenge may require formal user experience research through services that offer user testing—that is, you hire individuals to use your product to some end while you make observations.

“ User session recording and replay offer an intriguing solution to understanding the digital customer’s Job-to-Be-Done. ”

New technologies like user session recording and replay offer an intriguing solution to understanding the digital customer's Job-to-Be-Done. Replay how actual users engage with your app through video-like recordings. These types of recordings benefit from their authenticity but also have a level of nuance that can be insightful.

For example, tools like FullStory capture frustration signals called “[Rage Clicks](#). ” Rage Clicks occur when a visitor repeatedly and rapidly clicks on the same element on your site or app. Through FullStory’s replay, you can play back what users do before and after “Rage Click events” and uncover potential gaps in product performance—or discern clues at how the product is missing expectations around a specific Job-to-Be-Done.



CASE STUDY » IMPROVING ONBOARDING AT APPCUES

Ty Magnin of Appcues began researching Rage Click frustration signals in FullStory to analyze bounce rate issues during onboarding. After collecting a user’s email address from the Appcues signup form, a small bit of text would display on the submit button saying, “Warming up our engines ...”

As the Appcues team discovered on replaying sessions with Rage Clicks, this subtle bit of clever copy was confusing users.

Appcues realized that on clicking the “Create your first experience” button, users had to wait a meaningful amount of time before anything would happen. They failed to understand that “warming up” was meant to imply “Please be patient—things are happening.” As a result,

Appcues saw users Rage Clicking the submit button over and over even while the site's backend was trying to get through processing a fair amount of data to set up their accounts in the app.

In other words, what was intended to be a helpful, human bit of copy ended up having the opposite effect, and confused users were expressing their frustration by clicking the button repeatedly—and then leaving.

To fix this, Ty went into the app and coded up a new bit of copy to display after the button was clicked. Now, when you sign up for an Appcues account, you get the text: “Thanks! You’ll be redirected in a sec.”

That simple change in copy, making it clear to users what was happening, brought Appcues’ activation rates back up and eliminated their onboarding Rage Click problem.

[Learn more about Rage Clicks >](#)

Even while new technology can be used to tease out the “Milkshake” problems of your customers, you’ll still want to follow up with actual customers and get the rest of the story.

When you talk to them, tease out the “Job-to-Be-Done” via these questions from Basecamp’s Jason Fried³:

³ [*What is someone going to stop doing when they start using your product?*](#), Jason Fried, Feb 2017

1. What are people going to stop doing once they start using your product?
2. What does your product replace?
3. What are they switching from?
4. How did they do the job before your product came along?

Additionally, consider the basic needs your customers are seeking to fill. Professor Christensen has written:

“With few exceptions, every job people need or want to do has a social, a functional, and an emotional dimension.”

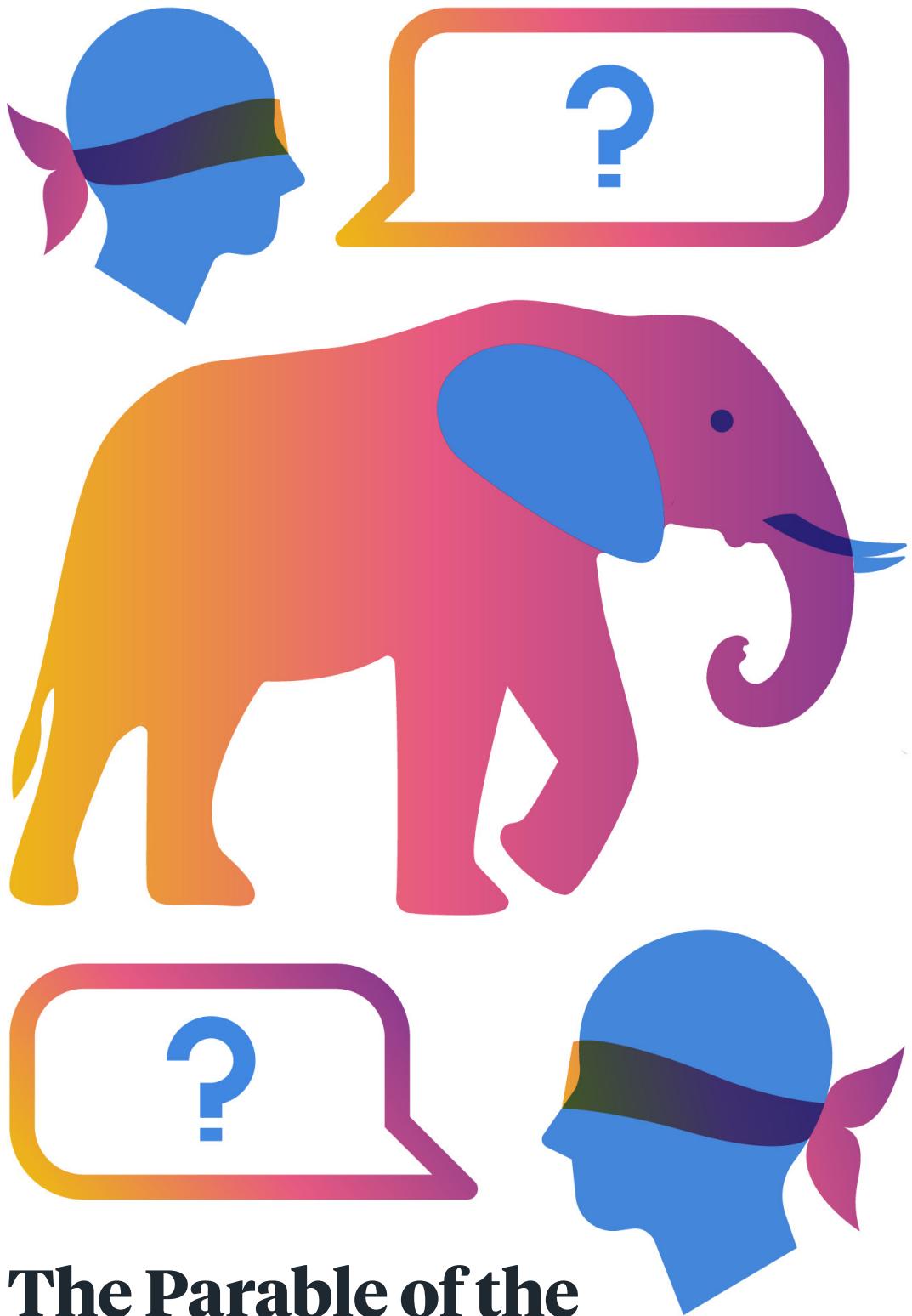
— *What Customers Want from Your Products*, Clayton Christensen,
Scott Cook & Taddy Hall, January 2006

How does your product function across these dimensions. Ask:

- What social need does your product solve?
- What emotional need?
- How will using the product make the customer feel?

If you answer these questions thoroughly, you'll soon understand your product's Job-to-Be-Done better.

Persistent product managers solve the mystery of the milkshake—and in the process discover a more customer-centric way to understand the product.



The Parable of the Blind Men and the Elephant

CHAPTER TWO

CHAPTER TWO

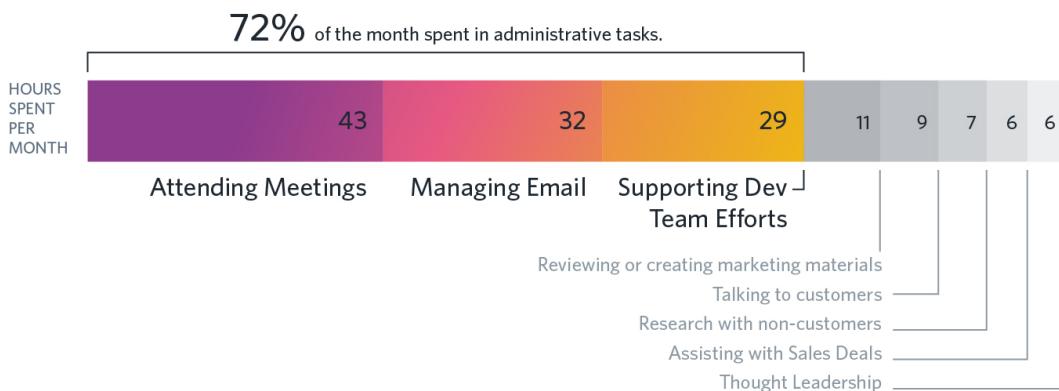
The Parable of the Blind Men and the Elephant

Now that we've established the importance of understanding customer expectations—something accomplished through researching real user behavior and actually talking to your customers—you might think product managers spend a lot of time doing just that.

Only they don't.

According to Pragmatic Marketing's 2018 *Product Management and Marketing Survey*, a whopping 72% of time working per month is spent on tactical activities like managing email (4 normal workdays per month on this alone), attending meetings (clocking in at over 43 hours per month!), and supporting development team efforts (29 hours per month).

Product managers bogged down in administrative tasks rather than high-value strategic work.



2018 Product Management and Marketing Survey, Pragmatic Marketing, 2018

What does all of this time spent have in common? It all involves aligning teams and making sure everyone is working together, toward the same goal, and off the same page.

Which brings us to our next parable, one that provides insight into what's going on here—and it's all about perception and communication.



The Story

The Parable of the Blind Men and the Elephant is believed to have originated in India. Here is one retelling of it⁴:

A group of blind men heard that a strange animal, called an elephant, had been brought to the town, but none of them were aware of its shape and form. Out of curiosity, they said: "We must inspect and know it by touch, of which we are capable." So they sought it out, and when they found it they grabbed about it ...

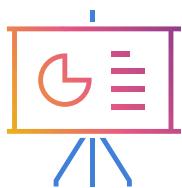
The first person—whose hand landed on the trunk—said, "This being is like a thick snake." For another one whose hand reached its ear, it seemed like a kind of fan. As for another person, whose hand was upon its leg, said "The elephant is a pillar like a tree-trunk." The blind man who placed his hand upon its side said, "The elephant is

⁴ Blind Men and an Elephant, [Wikipedia](#)

a wall." Another who felt its tail described it as a rope. The last felt its tusk, stating the elephant is that which is hard, smooth and like a spear.

In some variations of the story, the men go on to share information only to discover they are not in agreement with each other. These disagreements lead to confusion, accusations of deception, and even violence.

In other variations of the story, an individual appears who can see. This person describes the entire elephant. The blind men are then able to understand how they were each right in part, only their knowledge was incomplete.



The Lesson

The Parable of the Blind Men and the Elephant teaches us much about problems of perception and communication. Each blind man is only able to take in a portion of the information—that which can be experienced through touch (Setting aside sound and smell).

Notably, each man relies on his own perception of the elephant to understand the entire animal. The primary experience is all that matters and for each blind man, there is no other information.

In Nobel Laureate Daniel Kahneman's book, Thinking, Fast and Slow, Kahneman discusses how when presented with limited information, we rely completely on our limited understanding, treating it as though it is all-inclusive. We do not automatically look for gaps in our knowledge.

Kahneman refers to this cognitive bias as "What you see is all there is" or "WYSIATI." Kahneman shares:

You cannot help dealing with the limited information you have as if it were all there is to know. You build the best possible story from the information available to you, and if it is a good story, you believe it. Paradoxically, it is easier to construct a coherent story when you know little, when there are fewer pieces to fit into the puzzle. Our comforting conviction that the world makes sense rests on a secure foundation: our almost unlimited ability to ignore our ignorance.

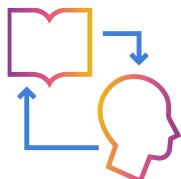
Returning to our parable, in an optimal scenario that uses communication, our group of blind men can piece together each other's second-hand information to create a "complete," though imperfect, understanding of what an elephant is.

With the aid of a sighted individual, they can go even further, taking their intimate first-hand knowledge and combining it with some explanation of the big picture.

These solutions to the problem of perception require a great deal of communication and trust between teams as they struggle to get on the same page. Outsiders can help though as

intermediaries they introduce a layer of administration—and friction.

Ultimately, as the *Parable of the Blind Men and the Elephant* illustrates, if you want to bring together individuals with different perspectives, you need an intermediary that facilitates the exchange of meaningful communication so that teams may create a shared understanding.



Application to SaaS Product Management

If you work across teams to build complex, digital products, the challenges become clear. The blind men are the customer support professionals, developers, UX researchers and designers, among others. Each team works on a part of the product about which they have intimate, first-hand knowledge. Each understands the product through their unique perspectives:

- Support professionals focus on problems experienced by customers,
- UX teams focus on research and analysis around product use,
- Developers focus on code, performance, QA, and bugs,
- And so on.

Division of labor is what makes building and maintaining complex products possible. What can be maddening is coordinating perspectives and getting everyone to work towards the

same objectives—all with as little friction in communication as possible.

Now we know the reason why PMs spend upwards of three-fourths of their month in meetings, email, and supporting efforts of developers, which of course has everything to do with cross-functional alignment.

And of course you, the product manager, readily fill the role of the “sighted individual” in our parable. You see it all. For you, the big picture *is* the product—our elephant.

Yet you still struggle to serve as interpreter and translator of first-hand knowledge from and across your teams.

It's terribly inefficient.

Let's consider the support professional who works with a customer to understand a technical glitch in the product. A ticket is filed and, to the best of the support agent's ability, the problem is logged and passed on to your developers. It's just that on arrival the developer finds only enough information to know there's a problem and not quite enough information to resolve it. The ticket lacks important data that would make solving the bug a snap. Too often, the bug languishes until it is finally archived as “Cannot reproduce.” Meanwhile, support is left having to continue managing the errors.

The product stays broken.

When problems like these pile up, the PM inevitably steps in,

researches the problem, and allocates time and resources toward solving it. Maybe it even gets solved. No matter what, the process is frustrating and distracts from more exciting product efforts.

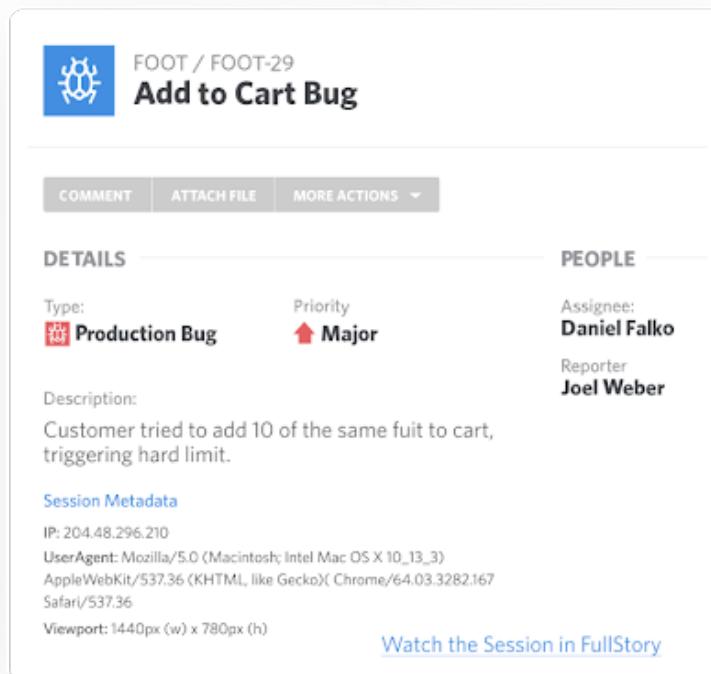
Efficiency-minded PMs who want to improve process for their teams—reclaiming a chunk of their own time while they are at it—need to hunt for innovative ways to reduce the friction and the “transaction costs” of information sharing and collaboration across teams.

What’s needed are tools that help teams work together—tools that help them see the product just how they need to in order to do their jobs, but also empower an understanding of how their efforts fit into the big picture.

More robust analytics, integrations across tools, and even tools like Slack help break down cross-team barriers to communication.

Session replay is one promising technology for empowering collaboration across teams. For example, replaying session recordings in [FullStory](#) will give you a reproduction of a user’s experience on a website or app. Because a session recording captures all the information from the user’s visit—everything from what’s seen on screen all the way down to minute details like console errors, network problems, stack traces, UserAgent, and system information—each team member gets precisely what they need to do their job. The support agent gets to see what the user saw. The developer gets to “see” what’s happening behind the scenes.

Importantly, tools like FullStory package up all of the relevant data into a shareable link that can be passed across departments just like a YouTube video. Just as a picture is worth a thousand words, a replay link eliminates the friction of written notes explaining “just what seems to be the problem.” It gives teams that were formerly blind a second sight.



The screenshot shows a ticket interface for a 'Production Bug'. The ticket ID is 'FOOT / FOOT-29'. The title is 'Add to Cart Bug'. Below the title, there are three buttons: 'COMMENT', 'ATTACH FILE', and 'MORE ACTIONS'. The 'DETAILS' section contains fields for 'Type' (Production Bug), 'Priority' (Major), and a 'Description' which reads: 'Customer tried to add 10 of the same fruit to cart, triggering hard limit.' The 'PEOPLE' section lists 'Assignee: Daniel Falko' and 'Reporter: Joel Weber'. Under 'Session Metadata', it shows IP: 204.48.296.210, UserAgent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_13_3) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/64.0.3282.167 Safari/537.36, and Viewport: 1440px (w) x 780px (h). A blue link at the bottom right says 'Watch the Session in FullStory'.

Integrating FullStory with your support desk tool means every ticket comes with a link to replay just what went wrong as well as the technical details needed to troubleshoot the problem.

Whether it's Slack, better integrations from debugging tools to support desks, or FullStory, product managers seeking to improve process stand to benefit from helping their teams eliminate friction in perception and communication.



kayako + fullstory

CASE STUDY » IMPROVING ONBOARDING AT KAYAKO

Even though James Doman-Pipe—and his team at Kayako—used Totango and Segment to see which users weren't fully activating and which features were gathering dust, it wasn't enough. They still struggled to understand "why" they struggled.

When Kayako installed FullStory the curtain was lifted. James and team could immediately begin watching customers interact with their SaaS product in real time by using session replay. James shares:

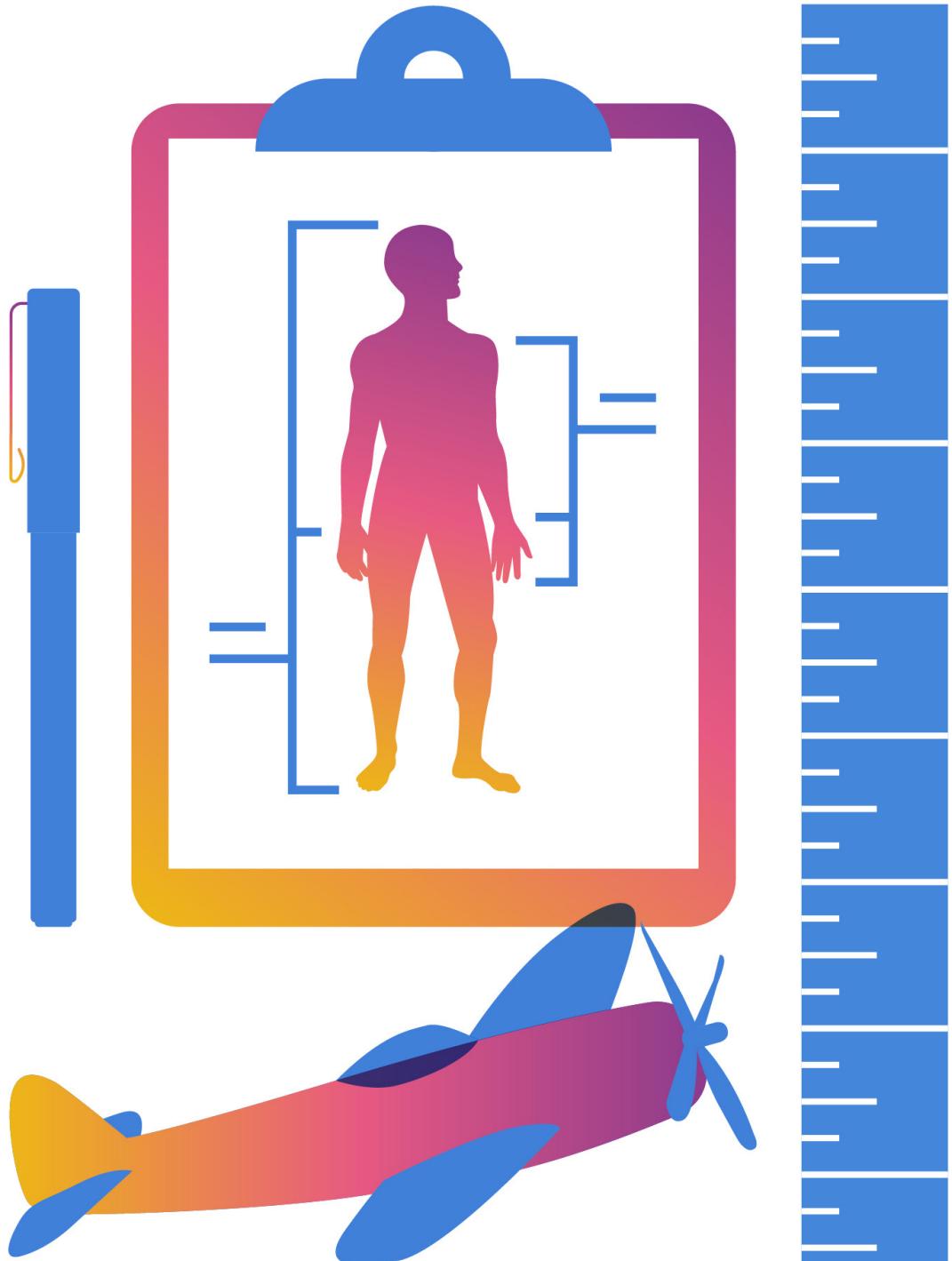
It was so accessible, even to those of us who aren't that technical. Most of us wouldn't have been able to identify buttons or links by CSS selector, but we could immediately search on the text of a button in FullStory and start watching how customers were using the product.

FullStory has been a massive time saver. [We] can move at four times the speed we used to. We're sitting back and watching these full experiences about what our customers are doing, what they're thinking, exactly where they're moving the mouse. So it's not just that the information comes faster; it's also richer than what we can get from interviews.

CHAPTER TWO: THE PARABLE OF THE BLIND MAN AND THE ELEPHANT

Now, James can uncover in real-time the “why” behind unsuccessful trials and underutilized features, no time-consuming or expensive interviews required.

[Read the rest of Kayako’s story >](#)



The Parable of the 4,000 Fighter Pilots

CHAPTER THREE

CHAPTER THREE

The Parable of the 4,000 Fighter Pilots

“ Over the next three to five years, we see the product-management role continuing to evolve toward a deeper focus on data (without losing empathy for users) ... ”

— *Product Managers for the Digital World*, May 2017, McKinsey & Company

Timely and accurate measurement is a critical dependency for product managers. For SaaS products, measurement means everything from daily active users to annual recurring revenue, feature adoption to churn. For each of these points, measurement usually requires studying specific cohorts or segments of users.

Regardless of the performance being analyzed, what's important is for PMs to have access to timely information that accurately reveals the health of the product. You need high-quality information to make smart product decisions.

Where product managers run into measurement trouble is in finding the right mix of quantitative and qualitative data off which to base decisions, all while taking care to mind the nuances:

- **Quantitative analysis** distills activity into abstractions. While context is usually lost in aggregating individual user behaviors, high-level insight is gained.

- **Qualitative research** is powerful because it is personal. But it has the opposite problem: it's too close to the individual, anecdotal, and is difficult to extrapolate from "n=1" to larger groups.

Why the balance matters—and some clues to working through the balance—are revealed in our next parable, *The Parable of the 4,000 Fighter Pilots*.



The Story

In 1950 the U.S. Air Force set about redesigning the cockpit for their airplanes⁵. Researchers took physical measurements of 4,000 pilots across 140 dimensions of size in order to determine the average torso length or arm length and use that average to inform the placement of the cockpit seat, the yoke (i.e. the steering wheel), and other components.

Unfortunately, the resulting cockpit design was a disaster. Good pilots were crashing having lost control of their planes. Mysteriously, no one, including the pilots, quite understood what was amiss.

Lt. Gilbert S. Daniels, a 23-year-old Air Force analyst, had experience in measuring the human body. He'd studied human

⁵ [When U.S. air force discovered the flaw of averages](#), Todd Rose, The Star, January 2016

anatomy in school. Daniels had a theory: Perhaps the cockpit had been designed under false premises. Perhaps there was no average pilot size.

To test his hypothesis, Daniels looked at the 10 most relevant physical dimensions of pilots from the study and created an “average pilot” based on the middle 30% range of the dimensions. According to Daniels’ analysis, the “average pilot” ranged in height from 5’7” to 5’11”. Daniels then looked at the entire pool of 4,063 pilots and tried to match individual pilots to his “average pilot” across the ten dimensions.

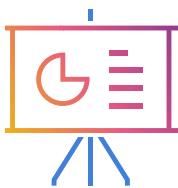
Daniels’ hypothesis was correct. Not a single pilot fit the average. As it turns out, designing a cockpit for the average man is the same as designing it for no one.

Armed with this insight the Air Force radically changed their design philosophy⁵:

By discarding the average as their reference standard, the air force initiated a quantum leap in its design philosophy, centered on a new guiding principle: individual fit.

Rather than fitting the individual to the system,
the military began fitting the system to the individual.

The Air Force had engineers immediately fix the problem. In short order components were made adjustable. The cockpit debacle is what ultimately led to adjustable car seats.



The Lesson

“ The tendency to think in terms of the ‘average man’ is a pitfall into which many persons blunder ... It is virtually impossible to find an average airman not because of any unique traits in this group but because of the great variability of bodily dimensions which is characteristic of all men.

— Lt. Gilbert Daniels, Air Force Analyst

Daniels' insight—that there is no average human—doesn't stop at anatomy. It applies just as readily to any product that involves people, where the underlying environment is the output of a number of dynamic, interdependent variables.

To accommodate complexity, systems must be designed with tolerances that make them adaptable. Like an adjustable seat—or an elastic waistband—designs that allow for minor customizations and adaptations are more likely to survive unexpected problems.



Application to SaaS Product Management

Quantitative analytics are prone to the same “flaw of averages” Daniels saw in the Air Force. Meanwhile, for digital products— websites and web applications—there is great variability in how individuals access and interact with the Internet. Consider the following variables:

- Device variability (laptop, desktop, tablet, smartphone),
- Intra-device variability (iOS or Android; Windows, OS X, Linux),
- Intra-OS hardware variability (Over 24,000 different Android devices estimated),
- Browser variability (Chrome, Firefox, Safari, others),
- Screen resolution differences,
- Window sizing preferences,
- more ...

If you run a few iterations of the above variations, you get an unfathomably differentiated population. The average—like taking the average of an apple and an orange—is meaningless.

To solve these kinds of problems, product managers turn to conducting UX research and usability tests. Having users run through a series of steps can be illuminating in understanding where the product can adapt to the user—or where it gets in the way and breaks their experience.

Alternatively, again, technology like FullStory's session replay can be used both at the quantitative and the qualitative level. Segmenting users in FullStory by their online behaviors to analyze aggregate trends can help reveal problems and opportunities. From there, taking a closer qualitative look by replaying a set of sessions can show just how the segmented set of users is engaging with the product. By marrying these two approaches in one tool, you ensure you don't fall victim to the "flaw of averages."

Once you're armed with a complex understanding of your users—one that mirrors the variability in your customer base—you can begin to create a product that respects those variations. You can build a product that has the necessary flexibility to meet your customer's needs.

Whatever you do, make sure you don't lock yourself to a specific measurement dimension. Pay attention to the nuances across your user base and continue to strive for a balance between the quantitative and the qualitative.

Conclusion

Perfecting Product Management Process into the Future

With customer expectations rising higher and higher, if you're working as a product manager in SaaS, you have your work cut out for you.

You must understand what your customers really want.

And just asking them can only get you so far. You'll often have to understand your customer's needs in a way they haven't even articulated—as with milkshakes and their strange role of being a commuter friendly breakfast food.

You must acknowledge and work around problems of perception and communication. You have to coordinate efforts across all the teams working on the product. You'll have to push hard to align perspectives and priorities. And whenever possible, seek out tools that remove friction from this process and help teams align towards common goals.

You must measure results at the quantitative and qualitative level, respecting the variations and complexity of your users. Armed with these nuanced insights, build a powerful and adaptable product that just works.

You must bring to bear a simple process that creates an incredible product. We know: easier said than done.

Empower Your Process

The SaaS product managers of tomorrow have no choice but to seek out and find new ways and new tools to empower their teams—tools like **FullStory**.



What's the story with FullStory? **FullStory is a unique digital analytics platform** that brings together the qualitative power of session replay and the quantitative power of behavior-based analytics. Integrating across the most popular SaaS tools like **Intercom, Zendesk, Jira**, and more, and loved by companies like **Jane.com, Wistia, Moosejaw, ThredUp** and more, FullStory stands ready to unlock previously hidden insights about your actual users and their very real needs ... all while getting everyone in your organization working off a single source of truth.

You can learn more about FullStory at www.fullstory.com and even try it out with a free 14-day trial.



fullstory