



Product Mindset

The pathway to being customer-centric



Product School

Introduction: know thy customer

To build products people love, you need to know your customer better than your best friend. Better than you know your parents. Better than you know your spouse. You need to understand the conditions of their lives, and the intricacies of their state of mind as they undertake the journey your product takes them on.

The examples and case studies in this book will take you from the laboratory to the conference room. You'll read about how Spotify won over artists, how Netflix tamed artificial intelligence, and the psychological mechanism that your smartphone shares with a casino slot machine.

Written with experienced and aspiring Product Managers in mind, this guide will also be helpful for startup founders, entrepreneurs, engineers, and anyone who wants to build products that people love. This knowledge is not innate. Even the best Product Managers have to work hard to understand exactly who is using their product, why they are using it, and what experiences they have when they do.

Inside 'Product Mindset', you'll hear from a select group of influential Product Managers at top companies on how they get inside the customer's mind. You'll learn not only how to acquire this knowledge but also how to translate this knowledge into concrete, real-world results. We cannot wait to hear how you're using this information!

 Carlos González de Villaumbrosia
CEO of Product School

Contents

1.	Customer-centric practices that feed durable growth	4
	Get to know your customer	5
	Use customer-centric tools	6
	Set yourself up for success	6
	Stay up to the minute	6
2.	User research for insights that count	8
3.	Customer voice: how to ask the right questions	12
4.	Fill a need, fast: creating your minimum viable product	18
5.	Building AI products that people trust	25
6.	The past, present and future of personalization	30
7.	The psychology of habit-forming products	34
8.	Conclusion: your mission, the customer's needs, your company's values	39

1

Customer- centric practices that feed durable growth

By Jared Lees 

VP of Product Marketing at Gainsight

Jared Lees is a highly experienced global Product and marketing executive with a strong background in digital technology and customer experience. He has successfully developed and implemented strategies to enhance customer experiences and boost sales growth for Fortune 500 companies. Lees has led cross-functional teams and played a key role in the growth of a multi-billion dollar business.

1

During a business downturn, it's human nature to play it safe: get back to basics and wait out the storm. For Product Managers, that typically means sticking to their core competency of developing products and shipping features. But in this pivotal moment, the stakes for SaaS companies are too high to simply stick with the status quo. And challenging the status quo does not have to mean taking on new risks.

Forward-thinking Product teams are using the market slowdown of 2022 as an opportunity to shift their strategic focus from products to people. As business goals shift from growth to resilience, the best way to endure is to strengthen the customer relationships they already have.

Doubling down on customers is at the heart of a durable growth strategy, and Product Managers can be the drivers behind this approach. By revamping their product strategy, companies can lower the cost of customer acquisition, increase revenue retention, and unlock ways to scale up and sustainably grow revenues.

Getting inside the customer's mind is actually at the core of the durable growth strategy—which is why we are encouraging Product Managers to shift the product mindset within their organizations. This ebook features insights and best practices from Product Managers at top companies who are leading the charge for customer-centric practices that feed durable growth.

Get to know your customer

A customer-centric product strategy means understanding your customer before you start developing your product. This may seem obvious, but all too often product development falls back on maintaining the status quo and works the other way around: deploy a new feature and then see how the customer reacts. Instead, people-focused Product Managers are taking a deep dive into the minds of their customers and leveraging those insights when they get back to the lab.



Ben Babcock, User Research Leader at Meta AI, shares powerful tips for getting inside the user's mind with user research.

Shoshana Burgett, Owner at Pink Elephant Productions, LLC, breaks down the customer voice and explains how to capture it in the real world.

Use customer-centric tools

The world of product experience (PX) becomes more sophisticated every day, but having the best tools only matters if you know how to use them. To strengthen customer relationships, you have to deploy tools with the customer in mind. In other words, if a capability isn't helping you strengthen your bond with your customer, it isn't doing its job.

Jori Bell, Director of Product Management at Audible (former Product Owner at Spotify), examines the enigmatic concept of the MVP (minimum viable product), demonstrating how building an effective MVP starts with knowing the customer.

Chris Butler, Product Leader at Google, delves into the complexities of AI (artificial intelligence) and shows how, if properly used, it can maximize user actions and build trust with any product.

Set yourself up for success

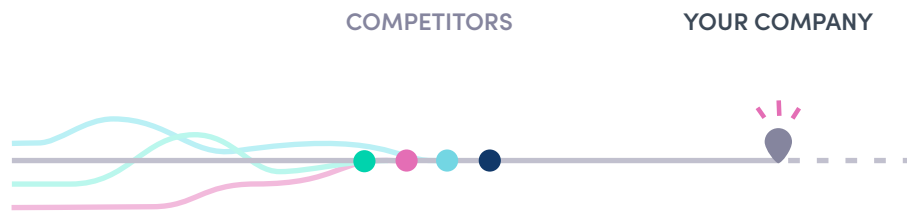
Customer-centric product strategies truly are a mindset, a different way of looking at products and customers through the same lens. Making the shift to durable growth is more than just adding analytics and engagements, it's also about changing priorities and how you approach challenges. Self-improvement is always a good idea, but for Product Managers looking to lead their organizations into a customer-focused future, reorienting your principles can become a foundation for future success.

Stay up to the minute

Product development is the beating heart of SaaS, and the brightest minds in our industry are constantly pushing the envelope in this exciting field. Keeping abreast of the latest concepts will help inform your decision-making and help any Product Manager become a true leader. Specifically, applying lessons from psychology to the practice of customer centricity has the potential to be a game-changer for any product.

Chris Maliwat, Chief Digital Officer at Victoria Beckham Beauty, delivers an eye-opening analysis on the power of personalization, helping us understand the role of technology and where it's heading in the future.

Nir Eyal, author of *Hooked*, gives a master class on the psychology of habit-forming products, helping us understand not only how customers think, but how they act, and how we can meet them where we are with our products.



We're excited for you to read these articles from the best minds in Product, and we can't wait to hear what you do with this knowledge!

User research for insights that count

By Ben Babcock 

User Research Leader at Meta AI

Ben Babcock is a senior research, design, and innovation leader with over 20 years of experience in AI, behavioral sciences, product design, and research. He has worked at numerous companies, including startups, Amazon, Microsoft, and Facebook AI, and has been involved in the development of a variety of products. Babcock is a leader in the field of AI and is passionate about building products and businesses that delight customers and inspire the people who build them.

2

Teams make big mistakes when the people who build products are not in tune with those who use them. This is why good Product Managers make knowing the customer their top priority. Ben Babcock honed his user research skills at Microsoft and Amazon. Now, as the Director of Customer Research & Insights at Jet.com, he is responsible for ensuring that his company is fully orientated towards the customer at all times. Here are Ben's most powerful tips for getting inside your customer's mind.

Find out where you stand now

If you already run a product team, then make it a priority to check in regularly and find out how well every team member knows your customer. This isn't just important for marketers; it's essential for everyone who builds something that the customer will one day use.

To evaluate where your team stands, ask them the following key questions:

- Who is our customer?
- What do they love or hate about us?
- When was the last time you spoke with a customer?
- How are you improving the customer experience?
- Where do you go to learn about your customers?

You should expect your team to be able to respond to all of these questions with clear, consistent and specific answers. If anything is vague or negative, or they haven't spoken to a customer in years, then you may have a problem.

One way to solve this is to get one of your customers in the room.

	Good	Not good
Who is our customer?	Consistent, specific	Inconsistent, no details
Love/hate about us?	Specific, prioritized	No idea. all love, right?
Last time you spoke with a customer?	v / last week	Never. Why would I?
Your team improving customer experience?	Metrics projects	Not our thing now?
Where do you go to learn about customers?	Team / CX dashboard	Do we do that? That one person?

Get the customer in the room

Even if your team's customer knowledge is pretty good, doing this is not optional. You have to do it. People who work in the corporate world tend to insulate from immediate customer interactions.

You work and think in a comfortable office, not outside in the real world where customers use your products.

The real world is busy, stressful, messy. People will not sit down and use your product with the luxury of time in an air-conditioned conference room. You are not your customer.

This is why you need to bring your customers into the room.

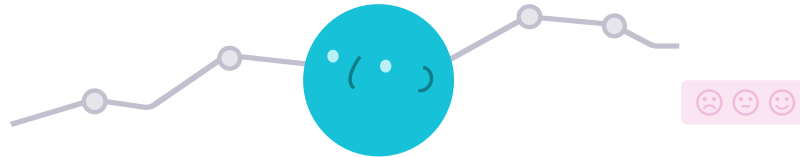
- Learn from your customer service team. They are on your frontlines. You should go visit them at least once a month. Understand the concerns they face. Receive frequent summaries, listen along to some calls and consume their insights.
- Bring customers in and have them use your product in front of you! Ben created an apartment-style customer lab in the Jet office where customers can browse Jet.com as if at home!

Ben uses eye-tracking, which is quite easy to use these days and requires only a sensor on the computer.

- Visit people in their home. Set up a time to go out into the wild and understand the triggers and environment that guide their use of your product.
- Have an empty chair in the room. Imagine the customer is sitting there in your next meeting. It's a gimmick that can guide thinking, but this only works if you have already done some of the above and have a good sense of your typical customer.

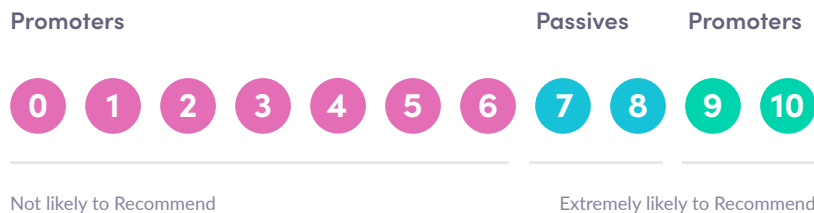
Examine the customer journey

Your team is part of an entire journey. Each team member may only be part of one step in the journey, but they need to understand their role in context, so they understand the state of mind, expectations, and needs of the customer as they reach that specific part of the journey map.



Use net promoter score (NPS) to measure customer satisfaction

This simple survey says, “How likely are you to recommend [company name] to a friend?” People answer on a scale of 0-10. You’ve probably received emails like this in the past from the services you use. It gives you a sense of how many users are promoting your brand, versus how many are detracting from it. If you aren’t using this tool already, you should be.



How to calculate NPS score:

- Ask your users, “On a scale of 0-10, how likely are you to recommend [Product or Company] to a friend.”
- From your responses, add up the percentage of detractors and the percentage of promoters.
- Subtract the number of detractors from the number of promoters. For example, if you had 100 answers with 20 detractors, 20 neutral, and 60 promoters, then your NPS would be 40.
- You should be aiming for an NPS score of over 50. Anything under this, and you are doing something wrong.
- Those who answer 0-6 are detractors.
- Those who answer 7 or 8 are neutral.
- Those who answer 9 or 10 are promoters.

Conclusion: voice of customer (voc)

“There is only one boss. The customer. And [he or she] can fire everybody in the company from the chairman on down, simply by spending [his or her] money somewhere else”.

— Sam Walton

Uses the tools explored above to engage with your customer, and learn about their authentic wants and needs. When they talk, listen.

Customer voice: how to ask the right questions

By Shoshana Burgett 

Owner at Pink Elephant Productions, LLC

Shoshana Burgett is a marketing expert who helps organizations improve their results by gaining practical, actionable insights into their customers. She works with companies to build better products, create compelling marketing messages, and develop strategies to grow their market share. Burgett has expertise in customer intelligence, cross-functional team leadership, digital marketing and lead generation, customer-focused analytics, and product marketing.

3

Our job as product innovators is to determine what customers want before it even exists. Consider this input from Henry Ford: “If I’d asked customers what they wanted, they would have told me, ‘A faster horse!’” And Steve Jobs famously stated, “Some people say, “Give the customers what they want.” But that’s not my approach. Our job is to figure out what they’re going to want before they do... People don’t know what they want until you show it to them. That’s why I never rely on market research. Our task is to read things that are not yet on the page.”

Both legendary innovators seem to dismiss market research, yet we are all taught that market research and listening to the customer is essential. So how do we reconcile this seeming contradiction? By understanding that there is a difference between the Voice of the Customer (VOC) and Customer Insights.

VOC is the items customers demand, but customer insights are the nuggets gleaned by researching and evaluating how customers behave, interact and feel towards a product. Insights come from being empathetic to customers, removing any biases and looking through the lens of the customer.

Shoshana Burgett teaches that the answer is first to understand the difference between: **Customer Voice** and **Customer Insights**.

Customer Voice

- I need the button to be green
- I need my data to export in Excel
- It must be brand X → It must be within this
- Price frame

Your job as a Product Manager is to know your customers better than they know themselves.

Customer Insights

- Is the customer color blind?
- Is there a secondary system?
- Who are the users of brand X?
- Is the customer interested in saving 50% more time?

VoC is not insight. VoC is the raw output. You need to process this output to come up with insights. This contrast shows that merely listening to your customer isn't enough. You need to dig in and pull back the layers of the onion.

There are four types of customer voice that we will explore in this chapter:

- **Interviews** — Active listening, ask probing questions
- **Quantitative** — Scale your updated proof points
- **Observational** — Passive and empathetic, walk the walk updated proof points
- **Qualitative** — Social Media, Reviews, Chats, read the long forms

Conducting customer interviews

Product Managers are notorious for asking leading questions. A parent wouldn't say "Is my baby ugly?" Likewise, PMs are often reluctant to ask questions that would elicit negative feedback.

Additionally, their desire for a positive outcome can create an inherent unconscious bias to ask leading questions.

Here are a few rules that will help:

- **Never ask "why."** Many lean and Six-Sigma companies teach employees the 5-Whys to problem-solving.

However, when doing market research, the word why is perceived as a challenge to the customers' decision. Your goal is to understand and observe. Instead, say "tell me about your experience." Or "walk me through your process."

- **Listen.** Don't speak so much! You should be listening 80% of the time, and talking only 20% of the time. You are watching, on the lookout to discover innovative ways to solve a problem. One should act as a therapist, ask questions about their difficulties and what keeps them up at night. When they start talking, stay silent, and listen.
- **It's a love-hate relationship.** Examine extremes. Question what they love and follow up with inquiring about what they hate. Seek out specific examples anchored in their everyday life. If someone can't provide a real-life use case, it's probably not as significant as they say or you think.



- **Ask probing questions.** What's most important to you? How would you fix this? How often does this happen? Dig deeper. Don't just check the box. Keep the conversation and engage them with "tell me more."

Making observations that count

Get out of your office or home and see customers at their place of business. It's critical to see how products are or would be, used in the 'real world' at a customer site.

Walk the walk. Go on-site and understand the context in which your potential or current customers use your product. Regardless of whether it's software or hardware, nothing can replace the insights you'll gain from really being present and seeing how long it takes or how they may click or choose.



A great example is a viral video where parents provided their son and his friend a rotary dial phone and asked them to make a call. It highlights that what could be inherently apparent to one person may not to another.

Gather evidence. Observe in real-time and get pictures or videos. Count steps/clicks and observe size and shape. The data accumulated will inform product teams and help other team members learn to develop and displace something later.

Quantitative feedback: measure what you have learned

Now that you've gathered all this knowledge – experiment with it and test it against your original assumptions. Using the new insights, consider creating a product prototype or design a new interface and check it with another set of potential users.

Gathering information can be done online using visual surveys or blind focus groups, where the individual does not know who the company is. You can also create a simple Meetup, or Eventbrite to gather folks and observe - put each potential idea to the test!

Structured data that validates or debunks insights provide product managers with the knowledge and credibility to support their product changes. You will be more confident in your conclusions and will have the evidence and details to back them up.

Qualitative feedback: tapping into the big picture

Now we're at stage four; here's a formula for creating innovations using what you have learned so far:

Read reviews, word for word.

It's all about the long form. Focus on 'best friend and worst enemy' - people who loved the product and hated it. Spend time on social media reading what people say, read reviews, watch videos people post. Draw it all together and examine it all.

Isolate trends.

Tools like word clouds can help you isolate keywords and put quantitative numbers into qualitative studies.

Define what you believe to be true.

For example, is it valid that "more women use the product in the North East". Pull all of your assumptions/ conclusions together.

Map frustration and frequency.

Zero in on the problem your customer is having. Given what you know, define how annoying the problem is, and how regularly it happens. What are the most frustrating things for your audience, and how frequently do they occur, don't forget to add the 'devil they know'. Something may be a complete time suck, but for the user it has become muscle memory.

Find Innovation in "Not."

Innovation is often the removal of a previously required but generally annoying element. Car = horseless carriage. Bluetooth = cordless phone. Kindle = paperless book. It's a streamlining process - making things work faster, nimbler and more accessible.

Example: creating the ipod

Let's use a disruptive product as an example. Create a matrix of your customer's pain points. Here I use the iPod as an example to show how Apple took the various technical challenges and turned them on its head with the iPod.



Customer Pain Points



In conclusion: know your customer better than they know themselves

Customers don't always know what they need before they see it. Your job as a Product Manager is to know your customers better than they know themselves. Using interview tools, observation, quantitative analysis, and qualitative analysis will help you be successful.

4

Fill a need, fast: creating your minimum viable product

By Jori Bell 

Director of Product Management at Audible
(former Product leader at Spotify)

Jori Bell has 10+ years of product leadership with a consistent record of shipping consumer-facing products. She's worked as a Product Manager at Spotify, SoundCloud, Rolling Stone, and AOL, and is now heading up Product Management at Audible.

4

You've probably heard the word "MVP" before, it's a popular buzzword, but this chapter seeks to disperse some of the fog that hangs over this concept. An MVP or "Minimum Viable Product" is the quickest and most efficient way to fulfil your value proposition, generally used to gather feedback and test your concept's effectiveness. MVPs are subjective, and it's not always clear where to start or what principles your team will use to guide your product along these roadmaps to its ultimate destiny.

As a Product Owner at Spotify, Jori Bell has extensive experience building and shipping a range of MVPs that add to Spotify's suite of features. As with everything, building MVPs begins with knowing the customer. It's also important to prioritize, narrow down, and use your customer knowledge to cut through the clutter and get a sense of what matters.

If we can't build everything, why build anything?

This question was put to Jori by the director of a non-profit client who demanded a complete website and interface within 6 weeks.

Unwilling to compromise on their demands and accept a smaller solution; eventually, nothing was delivered.

Why? Because building everything isn't effective. There simply isn't enough time, money or brainpower in any organization to build everything.

Even the biggest companies have limited resources, and to please your customers, you need to ship quickly; you need to hustle. This is why we need MVPs.

Minimum viable products

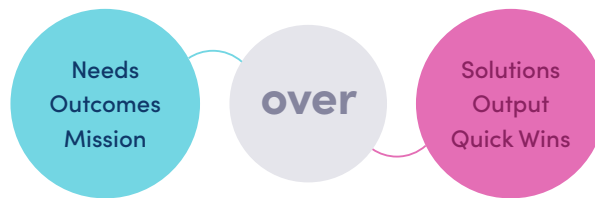
An MVP is the smallest piece of passable product you can create. It helps solve your user problems in the cheapest possible way, and it's the first step towards your goal.

A user problem is your customer pain point. It's the problem that your product solves for your customer. User products keep us customer-centred. They can be expressed from the user's perspective as "I want to [Insert Need] so I can [Insert Goal]."

I want to [Insert Need] so I can [Insert Goal].

Spotify is obsessed with understanding user problems

Before the iteration phase begins, it is absolutely essential to understand the core of the user problem. When you rally around user problems, you prioritize in more useful ways:



When you prioritize high-impact work, your MVP begins to take shape. As you create yours, you'll understand that MVPs are subjective. They will vary from company to company and even within companies based on the style of different PMs.

Spotify's creator mission

Spotify's mission is "To unlock the potential of human creativity - by giving a million creative artists the opportunity to live off their work and billions the opportunity to enjoy and be inspired by it."

Your mission will orient towards the market that you serve. As a PM, it will be to your advantage if you can find a market segment to focus on with whom you have natural empathy. Jori's work focuses on the segment of creators, rather than the listeners specifically. As a creative person, Jori easily empathizes with this group.

Spotify's creator mission was introduced quite recently in the company's history. It introduced a lot of specific user problems for the company to focus on, such as:

- Musicians who want to promote their music and build an audience.
- Managers who want to monitor the performance of their artist's catalogue.
- Labels that want to deliver new music to Spotify so they can garner streams and earn revenue.

Thanks to the creator's mission, Spotify decided to prioritize this list of goals and focus first and foremost on artists because artists are the core of Spotify's product.

Through data, Spotify learned that artists had struggled to quantify success on their platform. So Spotify decided to invent new Key Performance Indicators, thereby reinventing the definition of success as an artist in the 21st century.

They didn't start with everything

Spotify's pivot towards delivering meaningful data to artists began with simple stats focused only on audience, song and playlist data. These three buckets formed the core of Spotify's initial data offering.

Artists also wanted to know where they were appearing and when. These are simple stats that led to Spotify Fan Insights, a small fraction of the amount of data Spotify collects. Had they given everything, they would have scared the user away. Sometimes, less is more.

This new platform led to further insight into what artists want, for example, the ability to sell merchandise through the Spotify platform. With these new insights into what is important for the artists, Spotify upgraded their simple Fan Insights into Spotify For Artists.

MVPs are negotiable

Time, effort and value are constantly negotiable. As a Product Manager, it's down to you to shine a light on these three pieces and show the gains and the costs of each segment. You are the spokesperson for your team. You must constantly consider their requirements and restraints while staying focused on the mission.

When your team puts all their cards on the table, you have to shine a light on the costs/ benefits and decide what trade-offs need to be made based on your knowledge of the user, your industry, the pulse you have on the competition, and the user data that you have.

Everything begins with your insight into your user and your knowledge of user behavior.

Use the following tools, and advice in this eBook to get started:

- **User research.** To understand user behavior. Refer to Ben Babcock's chapter above for more advice on this.
- **Roadmaps.** Your MVP is version 1 of your product. Where are you heading from here?
- **Prioritization.** What matters most, and what comes first?

A quick win: first impressions that win you lifelong customers

We create relationships with everything we interact with. With all these relationships, first impressions count. Most Product creators neglect this first impression with their customers, but this is the one key chance to give an "aha!" moment and create a new, lifelong user. Enzo Avigo, Product Manager at Intercom, explains why good onboarding is powerful and how it can even change the economics of a whole industry.

Great products make great first impressions

Rebuilding your onboarding process can enhance your conversion rates from trial to paid customers by up to 200%.

There are four steps to effective onboarding:

- Capture users' hearts
- Get sign-off from their minds
- Pave the way
- Align in-app touchpoints

Let's explore this in detail:

Capture users' hearts

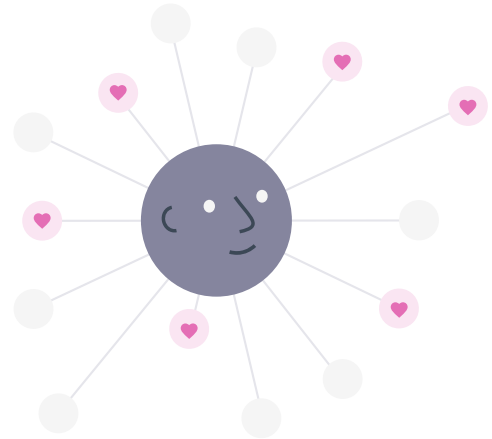
This first and most crucial step itself breaks down into four key areas:

- **Your value proposition.** Clear, inspiring, and to the point. For example, "Build your brand, sell more stuff" from MailChimp.
- **Context.** Place the user in a familiar environment - MailChimp shows a picture of a mobile phone showing the user how their app works in daily life.
- **People.** Sell the result, not the process. Don't talk about the magic flower; talk about who Super Mario becomes after he eats the flower. Know clearly what your product is making people better at.
- **The "aha!" moment.** This is when your customer realizes what they can achieve through your product that they couldn't achieve before. If you can put your "aha" moment in your onboarding, you're doing something right. Don't bury your "aha" moment deep inside your product. From the moment you open Uber, you see a map with real cars around you. Only then, when you try and book a car, are you asked for your payment details!

Get their approval

Now that you have the emotional win, it's time to get the intellectual win and validate the positive experience that you have created.

- **List Your Product's USPs.** List specific ways that your Product exceeds the competition. Think beyond features - think results.
- **List Testimonials.** Provide evidence from other users who benefit from your product as social proof that it works.
- **Transparency.** Show ratings from review websites and any media coverage you have had.
- **The Numbers.** Some companies list the number of users who join and install their apps. How can numbers prove your value proposition or popularity?



- **Success.** Claim success in numbers - Slack claims they reduce by half the internal emails their users receive. If you can prove your success in numbers, this is the Holy Grail.

Path the way

Now that you have users sold on your value proposition, it's time to let them "eat" it. There are two keys to pathing the way:

- **Remove the Frictions that Slow People Down.** Are there unnecessary steps in your signup process? Do you need that Captcha field, or their phone number, or for them to confirm their email? If you don't need a step or a hurdle, drop it, and your conversion rates will rise.
- **If you do need to gather a lot of information, break it down.** One screen for one question. Make it easy and fluid, and create a feeling of progress. Put the easy questions first to increase momentum - start small.

Don't Let Users Drift Away

Think about what sends people away from your app or page. If people see a coupon field, they may open another tab to search for the code, and then they get distracted and you lose the sale. Asking someone to validate an email address has the same result - it asks people to leave your platform. If at all possible, keep people on your app/ webpage - don't send them away.

Align in-app touch points

At this point, you have sold your users on your value proposition and removed barriers that may have prevented them from enjoying this. Now, you need to make sure all your ducks are in a row for maximum enjoyment. There are three "rules" here:

- **First Impression.** Give your users immediate value. Ship the product. Order the taxi. Reward your users immediately for signing up.
- **One Seat.** If you can keep people "in place" - preventing them from having to move, close the app, or take a different action to get this value, then your users will appreciate it!
- **Cut Steps.** If it takes customers 5 steps to use your product, see if you can cut this down to two. Think about how Google Docs streamlined the process with their survey function. No need to save, no need to embed; just build and send! You don't even need to name the doc - google automatically takes the first words and makes it the title.

Focus on the concept of activation

These three rules need to be aligned with your Concept of Activation. This is the action that your user needs to take to become an active, engaged user. For example, Twitter has defined that 30 followers as their activation threshold. Once a user reaches 30 followers, they are likely to be engaged in the platform. This is what Twitter focused on, for example, by providing suggested followers right at the moment you sign up. What's this for you?

Conclusion: delight and streamline

Giving a good first impression means you deliver against what you promise in the most elegant, streamlined way. You'll find this is often about dropping steps rather than adding them, taking away what isn't needed, and moving the reward and the "aha!" moment as near to the front of the process as possible.

5

Building AI products that people trust

By Chris Butler 

Product Leader at Google

Chris Butler is a product manager with over 20 years of experience in the field, including leadership roles at Microsoft, Waze, KAYAK, Facebook Reality Labs, and Cognizant. He is currently the Lead Product Manager at Google's Core Machine Learning team, where he is responsible for the PM experience and strategy.

5

The key to AI implementation success is understanding why users trust and interact with AI. Like everything, it comes down to your human understanding of your customers—the state of mind they are in and their actual needs. And the mental models they hold may not actually correspond to the hard facts of reality.

Chris Butler, Product Leader at Google, has implemented multiple complex AI solutions for a broad range of companies. Let's explore some of his advice for understanding and employing artificial intelligence with insight and purpose.

Start with what ai is not

- AI is not just chatbots
- It's not magic dust to improve any product
- It's unlikely to kill us all in the near term
- We're also unlikely to fall in love with it in the near term → AI is not automation

So, what is AI?

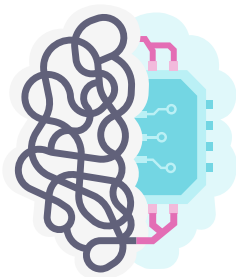
"Data science produces insights. Machine learning produces predictions. Artificial Intelligence produces actions."

— David Robinson, Chief Data Scientist at Data Camp.

Human centered AI

Remember, everything boils down to the human user. When we think about AI from a human standpoint, we see:

- Data science produces insights about people's needs and desires
- Machine learning produces predictions about what people will do
- Artificial intelligence produces actions that help people



In one line — AI is: a machine algorithm helps us exist towards our purpose and nothing else.

AI exists to maximize or minimize human actions — with limitations

The idea that AI exists to radically maximize use of a product or service can be taken too far. There are only so many hours in a day, and so many times, someone can reasonably purchase a flight or watch a video. Netflix has apparently said their main competition is sleep! The limit here is obvious: People can stay up late, but eventually, they'll need to close their laptops and get some shut-eye!

The idea is therefore to find a target, an optimal number to represent usage. Humans are messier than big data would like us to be; therefore, we need to find the sweet spot.

In the pharmaceutical industry, this sweet spot is referred to as the Therapeutic Index, which measures how much medication someone should take before it becomes toxic.

AI or machine learning would attempt to optimize to an extreme degree, for example, to try and have humans watching Netflix videos 24 hours a day! However, any human can understand that this would ultimately be harmful. Data doesn't always get this.

Take care in how we build customer mental models

In the 1980s, Donald Norman experimented with mental models, examining how people use calculators. Regardless of the type of calculator we use, a consistent function that all people perform is to clear the calculator multiple times.

That's a way humans have internalized how to use calculators, even if it's not the most optimal approach. Therefore, designers need to learn and understand the messy, sloppy and incomplete models that our users actually have. Our perfect theoretical models are not our users' real, messier models.

So how do we get to good mental models? Tools like empathy mapping and personas help to bring out the assumptions a user has about how technology works and how those assumptions actually play out in the real world.

For example

- When asking questions of our customers, we use simple, sensory language that does not require the user to have any understanding of AI.
- We even go as far as to use roleplay prototyping where a human behaves as if they were a product, for example, a chatbot, saying only words available to the software. By doing this, we get a sense of how empathetic and effective the process is.

As you put the user into the process and imagine a human being doing what your AI is programmed to do, you'll learn which processes it is OK to automate away and which are not.

How does a machine build trust with people?

There are four levels of trust in machine automation:

- **Use.** People voluntarily use automation when they want
- **Misuse.** People over-rely on automation
- **Disuse.** People do not trust or are underutilizing automation and therefore, they turn it off
- **Abuse.** Automation of functions not taking into account the consequences on human performance

Everything boils down to understanding the real use case for the people using your products. For example, recently, people had their Medicare/MedicAid benefits automatically adjusted by a machine algorithm. They had to go through the courts to get this explained or changed, a distressing experience that did not consider the human element.

Another example is a safety robot to lead people out of burning buildings. The trouble is, people would blindly follow the robot even if it malfunctioned and went around in circles. A robot was overkill for this kind of work, and people trusted it too much.

**Everything
boils down to
understanding the
real use case for
the people using
your products**

Gaining and building trust for product managers and the products they build

The qualities of trustworthiness vary between individuals and products, but there are commonalities.

<p>Someone who gains trust</p> <ul style="list-style-type: none"> Creates alignment Makes hard decisions Understand the audience Expands understanding 	<p>Someone who loses trust</p> <ul style="list-style-type: none"> Doesn't know the audience Isn't logically consistent Makes mistakes in spelling, grammar, communication
<p>A product that gains trust</p> <ul style="list-style-type: none"> Is interpretable Allows expertise to be built Helps avoid human error Makes good decision 	<p>A product that loses trust</p> <ul style="list-style-type: none"> Doesn't allow intervention Makes simple mistakes Breaks the illusion of control Doesn't take the operator into account

Who is accountable?

“If a machine is expected to be infallible, it cannot also be effective.” Alan Turing.

Real intelligence requires imagination, risk-taking, and the willingness to make mistakes. If you are not wrong often enough, you are probably not trying hard enough.

With this in mind, we need to consider who is accountable for the mistakes made by artificial intelligence. The software, the users, or the designers? Clear accountability is essential for building trust.

Summary

1. Success isn't just about minimizing or maximizing human behavior
2. User mental models do not equal your mental models
3. Make building the right amount of trust a priority

The past, present and future of personalization

By Chris Maliwat 

**Chief Digital Officer at Victoria Beckham Beauty
(former Product Lead at DreamCloud)**

Chris Maliwat is a seasoned product lead, business strategist, and interface designer with a track record of turning concepts into successful, award-winning products. He combines technical expertise with creative talent to develop user-validated, revenue-enhancing, market-oriented solutions for a wide range of industries.

6

The ultimate result of incorporating your knowledge of the customer into your product is personalization. But most people - even those of us in the Product space - misunderstand or fail to grasp the potential of this tech. To help you understand the power of personalization, Chris Maliwat from DreamCloud presents a scenario that he learned from Mark Zuckerberg during his time at Facebook:

Imagine you are visiting a city for the first time, and you walk into a bar that you've never been to before. You enter, and the bartender already knows your favorite drink and can make recommendations based on your tastes. Your favorite song starts to play over the speakers, and an app on your phone suggests you approach the gentleman in the corner who shares your passion for classical music.

If this is the future of personalization, what is the past, and what is the present? Understanding personalization in context can help us make better use of this technology.

Personalization in the present

Over the last six years, people have mostly equated personalization with product recommendations. "If you liked this, you may also like..." etc. It's a common feature of many eCommerce websites like Amazon.

Now, some people are seeing other uses of personalization. For example, have you noticed Gmail's Smart Reply and Smart Compose features? Using information about you and machine learning, Google can sometimes predict what you intend to say and fill in things like your address for you.

Personalization in the past

Personalization actually began before technology. Your hairdresser probably knows you and your preferences. When you walk in, you ask for "the usual." But you don't think of it as personalization. You think of it as a relationship.

Personalization is routed in the first part of the word. Personal. It's about people relating to people. It begins with something as simple as making an introduction.

P E R S O N A L I Z A T I O N

Effective interfaces parallel human interactions. Let's break that down:

The four elements of personalization



One - Input

Back in the day, if you went to a store, you wouldn't browse the products yourself. You'd tell the shopkeeper your needs, and they would go and fetch you the best products for your situation. This input form takes the shape of a dialogue; it's an explicit process.

These days, most inputs online are implicit. If you watched an entire season of *Stranger Things* on Netflix in one day, Netflix doesn't need to ask you what you thought of the show: It knows you liked it! On the other hand, if you drop a show after 10 minutes and never return to it, that's a good sign that you didn't enjoy it.

This implicit gathering is going to greater lengths. Spotify Running used to learn not only your music preferences, but also learned your running pace and suggested songs whose tempo matched your running pace! It combined implicit and explicit data to present a specific, personalized experience.



Two - Smarts

Back in the day, shoe stores would keep a written history of a customer's preferences. If a product matched the customer's needs, the clerk would make this recommendation the next time they came in. The customer would feel catered to.

In the digital age, this kind of experience took two different routes. Pandora analyzed the elements of music tracks that people listened to and suggested similar tracks based on the style of music with the help of composers and music experts. Netflix instead analyzed a user's rating of different movies, and suggested similar movies based on their preferences using heavy math and machine learning.

Both camps learned from each other and discovered there was value in combining machine learning with specific product expertise.



Three - Selection

Selection used to be very controlled and curated - an optometrist would suggest a narrow range of lenses the customer was permitted to try. Warby Parker gave the customer more freedom and power, which changed the model for this segment of retail.

These days, there are so many products online that selection is once again about narrowing it down based on a user's specific needs. The trend is now heading towards more connection. The success of websites like Etsy is a desire to return to a relationship between the creator and the user. People are also increasingly concerned about the values and the missions of the company they shop from.

Bespoke-tailored clothing is also growing fast. The ability to further customize what you have is almost a step towards the past, back to the cobbler days before mass production!



Four - Delivery

Success in eCommerce used to be purely about conversion. Delivery and how it is part of the personalized experience is now taken more seriously. In some ways, this is also a step back to earlier times, back when people knew the milk person who came every day and the milk person knew your requirements and preferences.

The rise in eCommerce made the delivery experience quite impersonal. Now, eCommerce companies are taking responsibility for how successful a customer is with their product. Success for eCommerce is no longer "did you buy the product?" It is now "did the customer solve their problem?"

Key takeaways

1. Start with an introduction
2. Make it a collaborative dialogue
3. Presentation matters
4. Follow through with feedback

The psychology of habit-forming products

By Nir Eyal 

Author of Hooked

Nir Eyal is the bestselling author of "Hooked: How to Build Habit-Forming Products" and "Indistractable: How to Control Your Attention and Choose Your Life." He has taught at the Stanford Graduate School of Business and Hasso Plattner Institute of Design, and has written about technology, psychology, and business for various publications, including the Harvard Business Review, The Atlantic, TechCrunch, and Psychology Today.

7

At this point, you understand how to conduct research to get an accurate sense of who your customer is. You know how to apply this knowledge to create an MVP, how to communicate this knowledge to your team, and how to use it to advance as a PM and create personalized products that people connect with.

Now, let's take things a step further and look at how to use neuropsychology to design habit-forming products that people will use again and again. The undisputed expert in this field is Nir Eyal, the author of the hugely successful book *Hooked: How to Build Habit-Forming Products*.

The formula behind any behavior

Nir introduces a simple yet essential formula that forms the basis for understanding how, when and why people will use - or not use - your product.

According to BJ Fogg of Stanford, for any human behavior to occur, we need motivation, ability, and a trigger.

$$B = M + A + T$$

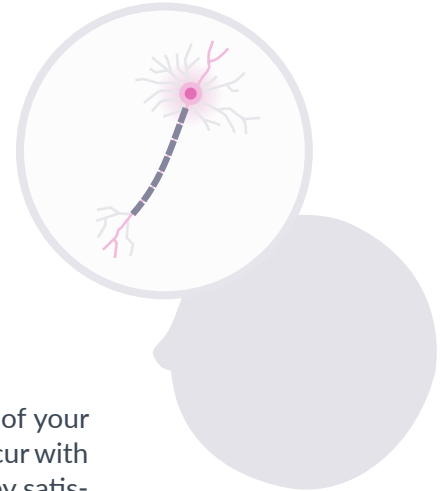
Let's break that down:

Motivation is the energy for action. It is composed of six elements that motivate all human beings:

- Seeking pleasure
- Seeing hope
- Seeing social acceptance
- Avoiding pain
- Avoiding fear
- Avoiding rejection

Ability is the capacity to do a particular action. It's a measure of how easy or difficult something is. The harder something is to do, the less likely someone is to do it. The elements of ability break down as:

- Time
- Money
- Physical effort
- Brain cycles (do we understand it?)
- Social deviance (do we see others doing it?)
- Non-routine (have we done it before?)



Understand your customer's internal trigger

What feeling, state of mind or desire happens inside the mind of your customer that triggers them to use your product, and does it occur with sufficient frequency in order for you to build a viable business by satisfying this need? How is this internal state of mind triggered externally, for example through a notification, an external need, an interaction?

Understand the action phase

What is the simplest thing a customer can do to relieve that psychological tension? For example, popular digital products require only very simple actions in order for that psychological need to be met:

- A scroll on Pinterest
- A search on Google
- A click on YouTube

If people aren't using your product...

They lack sufficient motivation, and/or your product is too difficult to use, and/or the trigger that drives someone to use your product fails to occur. You need every element in the formula to be present in order for your product to become habit forming.

Example: your phone is ringing

Think of the last time your phone rang BUT you did not pick it up. What was happening then? Was your phone far away? Were you in a meeting? Maybe you did not recognize the number and didn't answer. In all these cases, the trigger was there, but you either lacked ability or motivation to answer the phone.

Understanding rewards

“Rewards” for responding to the trigger and using your product happen in the brain. Specifically, in the area called the Nucleus Accumbens. When lab rats could stimulate that part of the brain with an electrical current, that was all they wanted to do from then on. Likewise with people - when people could trigger this part of the brain by pushing a button in a laboratory, some had to be physically removed from the experimental setting as they enjoyed triggering this part of the brain so much!

Sex, movies, junk food... and using good products all stimulate the same part of the brain! But this is not the brain's pleasure center. It is the stress of desire, the reflex of desire. It becomes most active in anticipation of a reward, but less active when the reward is delivered.

It is not about pain or pleasure, it's about pain FOR pleasure.

How to supercharge the stress of desire

There is a simple way to manufacture desire.

Do you want to know how it's done?

Do you?

Pay attention to your state of mind now.

Are you perking up?

Are you curious?

Mystery is highly engaging.

It stimulates the stress of desire. And it is habit forming.

Variability stimulates the nuclear accumbens

If rewards are sometimes given in response to a certain behavior but not always, then desire will increase!

There are three types of variable rewards, at least one of which you will notice in all addictive products:

- **Rewards of the tribe.** Rewards that come from other people. Empathetic joy. Partnership. Competition. For example, social media! You're never quite sure what form these rewards will take.
- **Rewards of the hunt.** These rewards stem from our primal search for resources. A slot machine or game of chance is a classic example of a variable reward. The exact same psychology works online. Notice LinkedIn on mobile. When you scroll through your feed, you may not enjoy the first story, but you will keep scrolling in anticipation of what you might find. It's the same psychology that makes gambling addicts pull again and again on the lever of a lot machine.

- **Rewards of the self.** The search for competence, control or mastery. These things are intrinsically pleasurable. The best example online is game play. Angry Birds gives no tangible or external rewards, but it gives you internal satisfaction when you get to the next level. Another example: your to-do list, your email inbox, that notification on Slack!

Scratch user's itch. Give users what they came for... and yet have some mystery associated with the next time they will use your product.

The investment phase

The investment phase increases the habit-forming nature of your product by getting people to come back through the hook. It does this in two ways:

- Loading the next trigger. The user does something to bring themselves back. For example, sending someone a message on Slack or email. Nothing immediate happens, but you have invested in the platform and loaded the trigger in anticipation of the reply, the external trigger that pulls you through the hook once again.
- Storing value. The product improves with use. Unlike physical tools, digital products get better with use. Clothes, laptops and cooking implements depreciate with wear and tear. Software appreciates. It does this by adding content. The more content you upload to Google Drive, the more you are invested in it and the better and more personalized the product becomes. The more followers you have on Twitter, the better it becomes for you.

Reputation is a form of stored value on sites like Airbnb, eBay and Upwork. If you have stored value in a product, you're unlikely to leave it even if a better product comes along.

Building habit-forming products in five steps

1. What is the internal trigger the product is addressing?
 2. What is the external trigger that gets the user to the product?
 3. What is the simplest behavior in anticipation of reward?
 4. Is the reward fulfilling, yet leaves the user wanting more?
 5. What "bit of work" is done to increase the likelihood of returning?
- Conclusion: your mission, the customer's needs, your company's values

**Conclusion:
your mission,
the customer's
needs, your
company's
values**

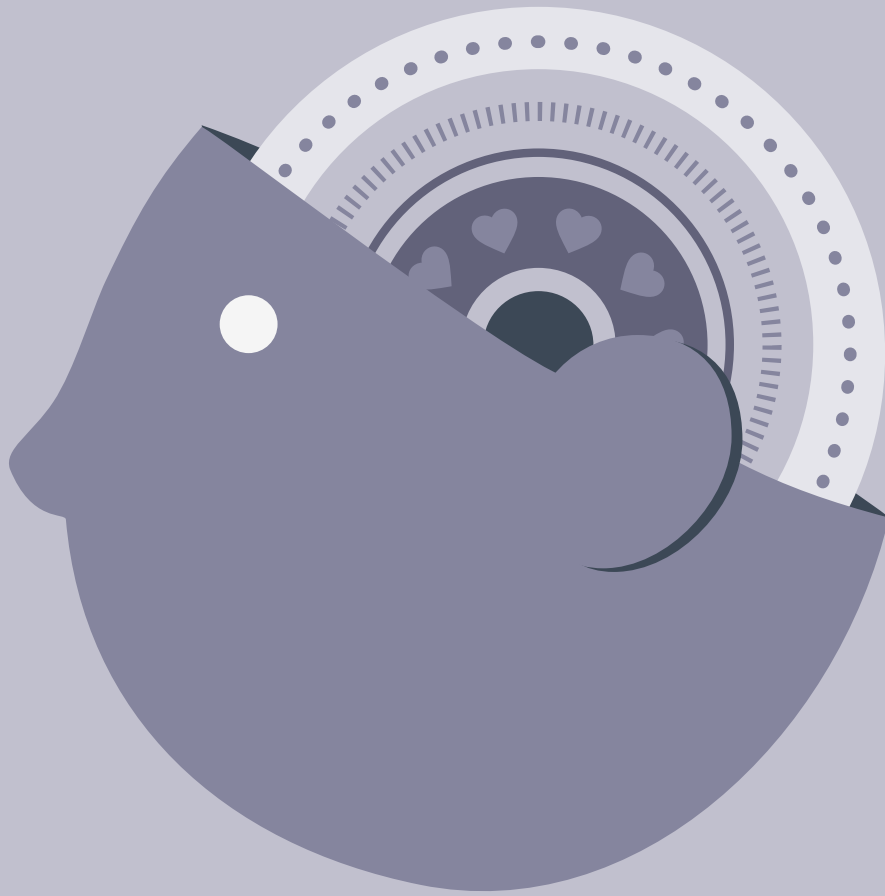
8

You've learned how to deploy user research to get inside the mind of your customer.

You've learned how to quickly fill their needs with an MVP, and how to put the human element back into Artificial Intelligence. You've learned how to communicate with empathy and resolve conflict, and seen how these skills are essential for climbing the Product Management ladder. With this knowledge, you've read about putting the personal back into personalization, and taken a deep dive into the neuropsychology of creating habit forming products.

What comes next is up to you. Based on your personal mission, the needs of the customers you serve, and the value of the company you work for, seek to build products that make the world a better place. We cannot wait to see what you come up with!





Product Book Path

On your path to achieving the most in product management? Here is a recap of several other books in our journey. We've got you covered whether you are fresh out the gate in product management or a seasoned PM wanting to excel.

