The Secrets to Product Management at AWS

Delivering continuous customer value, growth and longevity through an iterative approach to innovation

Innovation at Amazon

The act of innovation is often thought of as a spectacular epiphany: the Eureka moment, or the proverbial light bulb illuminating above an inventor's head. That a revolutionary idea emerges from thin air, is excitedly launched to take the marketplace by storm, and goes on to become an enduring success may be what most outside the company perceive; however, that is only an illusion. While it makes for a dramatic story, serendipity is rarely the mother of innovation, even if it may appear that way.

Since Day 1 of our journey, Amazon has had a relentless obsession with our customers, and a disciplined approach to iteration and experimentation to address their needs. We've found that consistent innovation comes not by chance, but by integrating these two elements into a product-driven operating model.

Amazon's product-driven approach is distinct. We put customers at the center of every decision we make. We remain laser focused on the vision of a new product but are flexible in the details of how we achieve that vision. And we take an iterative and experiment-driven approach to build and launch the best possible solutions to meet our customers' needs. This product-driven operating model is the foundation for how we rapidly innovate for our customers and our employees, partners, and suppliers.

aws

Amazon CEO Andy Jassy wrote in his 2021 letter to shareholders,

> **It's been hard-earned by putting ourselves in the shoes of our customers, knowing what they wanted, organizing Amazonians to work together to invent better solutions, and investing a large amount of financial and people resources over 20 years (often well in advance of when it would pay out). This type of iterative innovation is never finished and has periodic peaks in investment years, but leads to better long-term customer experiences, customer loyalty, and returns for our shareholders."**

One illustration of the long-term customer experiences Jassy speaks about is Amazon's introduction of two-day shipping in 2005. At the time, delivering everything on that schedule was unheard of. Two-day shipping was an absolute game-changer.

It quickly became a favorite of customers and a defining characteristic of Amazon's service. Since then, it has proven transformative, not only to Amazon's business, but to the industry at large as companies today seek the fastest, most convenient delivery schedules possible, lest they look slow and out of touch with the needs of their customers.

Two-day shipping is an idea that sounds simple in theory but is extraordinarily complex in practice, and a phenomenal effort was needed to make it possible. It's one of countless examples of innovation at Amazon. To innovate at speed and scale and create growth through new products

and services like two-day shipping, it is critical to have a strong product management approach. This article aims to clarify how we've made innovation part of our DNA. We'll review the four main product management elements that we believe have the largest impact in our product-driven operating model: how we operationalize customer obsession, our unique product manager role, how we empower our teams to innovate quickly at scale, and the performance metrics that drive ongoing iteration. These core elements create a reinforcing system that has enabled us to iterate rapidly and effectively over the long term in the service of our customers.

Working Backwards: Being customer obsessed

Many organizations we work with care deeply about their customers and recognize the link between delighting customers and business growth. The question is how best to determine what will delight customers? How do you arrive at a definitive picture of your customers' needs and the problems or opportunities that can be addressed?

Making guesses about customer needs based on intuition or personal experience is well-intentioned, but indeterminate. To be customer obsessed, organizations need to move from imagining to knowing.

"At Amazon we've created specific mechanisms to ensure that customer needs can be demonstrably defined, gathering data about our customers, their pain points, and how they might be delighted."

We take a broad view of the customer experience across their lifecycle: not just how they use a product, but how they arrive at a buying decision, how they're onboarded, or how they might reach out for support if needed. Then we "work backwards" from that broad knowledge base to clearly characterize who the customer is, the specific challenge or opportunity we're addressing, and how their experience could be improved to benefit them. This process is something we do consistently and programmatically at scale: we call it **Working Backwards.**

To begin — before we ever request a budget, assemble a team, or write a line of code — we write a press release (PR) for what we imagine this final product will accomplish. Because it must fit on a single page, this is an exercise in simplifying and focusing our big ideas into a compelling and concise narrative that will resonate with the end customer. All relevant stakeholders, including leadership, are engaged in this process. The PR serves as our North Star for innovation.

We also produce an FAQ that addresses key questions about this product-to-be. This first half of the FAQ focuses on customer questions such as, "What happens when the product breaks?" "Will my data be secure?" "Why would I choose this over another product?" forcing us to think through the product from the customer's point of view.

The second half addresses our questions, like, "Will this product be profitable?" "Might it cannibalize other products?" "Do we have the resources to make this work?". We don't include every possible question. We start with the most important first, working until we are comfortable that we've answered enough questions to make decisions quickly and effectively throughout the product lifecycle.

These documents are some of our most valuable mechanisms for innovation. They force product teams to prioritize what is most important, identify what features to invest in, uncover issues before they occur, and create organizational alignment, all before product development begins. The PR and FAQ ensure that ideas remain firmly rooted in compelling customer value and becomes an essential tool for

The initial steps of Working Backwards at Amazon

1 **We write a press release** for what we imagine the final product will accomplish on a single page to simplify and focus ideas into a concise customer narrative

2 **We draft an FAQ** to address key questions about this product-to-be throughout the product lifecycle, focusing on customer questions in the first half and our questions in the second half

These documents force teams to prioritize, identify where to invest, uncover issues before they occur, and create organizational alignment, all before product development begins

> **The list of what we've invented and delivered for customers in EC2 (and AWS in general) is pretty mind-boggling, and this iterative approach to innovation has not only given customers much more functionality in AWS than they can find anywhere else (which is a significant differentiator), but also allowed us to arrive at the much more game-changing offering that AWS is today."**

Andy Jassy
Amazon President and CEO

testing assumptions and evaluating the potential impact of a new product. It enables product teams to be stubborn on vision while flexible on the details, experimenting rapidly to identify the best ways to deliver on that vision.

This approach creates an environment where the product teams focus on the customer need or opportunity rather than a particular solution. Then the work of developing a product begins, experimenting and iterating in order to narrow the available options until we arrive at the simplest and most effective way to deliver a solution.

We prefer to co-design our products and their features with customers, testing product iterations in real life. We break our releases into "minimum lovable products." Each iteration addresses a significant customer need that they're excited to buy and use. And we promptly tweak the product as needed based on feedback.

The goal is to treat any idea we have — no matter how experienced we are in the market, how high in the organization the idea generator sits, or how valuable we think the innovation is — as a hypothesis. The emphasis is on learning from customers, not just by asking them what they think, but by exposing them to our products in development and measuring the impact. This approach reduces the risks related to product or market fit and avoids excessive opportunity costs.

The approach the AWS team took to launch the first version of a flagship product called EC2 is a good demonstration of this process in practice. The team was forced to make difficult early product decisions, launching a more limited version earlier, and then applying an iterative approach to flesh out the rest of the features that we felt even more confident about over timebased on data.

The Amazon product manager: The true voice of the customer

As a customer-obsessed organization, the single most important ingredient in the development of any product is the voice of the customer. At Amazon, the product manager is accountable for representing the voice of the customer, and is therefore a role we hold in the highest regard.

Product managers work directly with customers and dive deeply into customer data to problem solve and innovate. They understand customer pain points, find out what's working for them, and develop the product roadmap with them. They're also accountable for driving the business outcomes of the product, overseeing product development, sales, marketing, support, and operational issues. The role embodies Amazon's ethos of customer centricity and operational excellence.

The skills needed to succeed as a product manager at Amazon are dynamic and wide-ranging — a combination of unique hard and soft skills that can make it a challenging role to fill. The most common traits we see in successful product managers at Amazon are empathy and relationship-building skills, having an entrepreneurial mindset, and bringing passion and precision to the role. These traits are likely universally appreciated for a product manager at any company, but are especially important for success at Amazon.

Empathy and relationship-building skills are crucial for this highly cross-functional role. In addition to engaging directly with customers of all sizes, they communicate with internal stakeholders, collaborate with other product managers and engineers in multiple development

teams, and work with sales teams on adoption plans. They may not be the most senior people in the room or have the deepest technical expertise, but they consistently work to Earn Trust with all stakeholders — one of Amazon's Leadership Principles. Our business leaders entrust resources and decision authority to product managers while peers and team members look to them for direction. Product managers earn the trust of all these stakeholders through their performance: they unblock bottlenecks and deliver results.

Because they operate in an environment marked by ambiguity and competing priorities, the best product managers have an entrepreneurial mindset. They have a strong sense of curiosity and a propensity to learn; our product manager role requires them to expand their knowledge across a wide range of functions. They come from various backgrounds; we have engineers, business consultants, and industry experts. They share a passion for customers and the products and services we develop on their behalf.

They instill that passion into the work of every function involved in building, launching, and operating a product. They ensure that marketing, engineering, sales, support, and legal work side by side and remain oriented toward the customer, not pointing fingers or losing sight of their purpose. The product manager is the anchor, keeping the team obsessed with the customer.

"

The best way to fail at inventing something is by making it somebody's part-time job,"

David Limp
SVP of Amazon Devices & Services

At Amazon, product managers are single-threaded leaders, a term borrowed from computer science that means they work on one thing at a time. We've found that when we put one highly skilled person in charge and make it their only job, it results in sharper focus, clearer authority and accountability, greater creativity, and more ownership and engagement among team members. We give them and their teams full autonomy, trust, and responsibility, which enables them to rapidly iterate, experiment, launch, and scale new products and services.

aws

The need for speed: Optimizing product teams for success

Amazon is known for its speed. As Jassy recently explained, **"Speed is not preordained; speed is a choice."** You have to create a culture that has the drive and urgency to experiment all the time, and the organizational structure that enables it to do so quickly and effectively. At Amazon, we focus on ensuring that our product teams have ownership, accountability and the right skills to execute, and that they're small enough to move fast and stay close to the customer.

We empower our product teams with full ownership and accountability, enabling them to run their products with a startup-like mentality and agility. We ensure that the team has the right mix of skills to be able to quickly execute while minimizing dependency on others. In doing so they become subject matter experts, their productivity and throughput increases, the quality of their work improves, and they feel more connected to their products and their business impact. The net result is more innovation and more valuable products.

It's management's responsibility to bring the work to these teams and ensure they're working on the highest value opportunities. They give the product teams their missions, but the teams themselves figure out how best to execute it. Operating based on a well-defined set of metrics, they own every aspect of their area of focus, from design and technology to business outcomes.

The benefits of small, empowered product teams with full ownership and accountability

They become subject matter experts

The quality of their work improves

They gain control and transparency without bottlenecks

Their productivity and throughput increases

They have equal and immediate access to resources

The deliver constant innovation and evolution

The net result is more innovation and more valuable products

Besides ownership and accountability, Amazon also right-sizes product teams to minimize communication and coordination overhead, ensure they move quickly, and work as close to the customer as possible to stay better attuned to their needs. They need to be small enough to be nimble but big enough to have an impact.

Knowledge and communications flow readily across product teams of this size, increasing the teams' ability to observe, learn and adapt quickly while reducing the barriers to decision-making. As a result, teams spend less time managing timetables and keeping everyone up to date and more time getting things done. This approach is particularly beneficial in product management, where complex interdependencies can slow the rate of innovation and implementation.

aws

Measuring what matters: Metrics for iterative innovation

Product managers develop the product vision and strategy by working backwards from the customer. They also define the product and business metrics to track performance, unearth and address issues, and uncover relevant trends and patterns.

We like to say that our product teams think big but start small. Starting with our minimum lovable products, our product teams aim to steadily improve the customer experience over time while unearthing new growth opportunities and operational efficiencies. Employing data and analytics, they can quickly see which ideas may not deliver, double down on those with promise, and scale those with the greatest value to customers.

Traditional project metrics, like adherence to the timetable, budget, and scope, have their place. But our focus is on customer outcomes, so we measure product team performance against speed, agility, and meeting customer needs.

The metrics that matter will change and evolve over a product lifecycle. When launching something that didn't exist before, product teams guided by a product manager rely on gut and intuition to determine

what to measure, grounded in their intimate understanding of the customer and the problem they're solving. When the first versions of a product are in the customer's hands, they turn their attention to gathering insight on what they love about it and what's not working or frustrating for them. At this stage, they prioritize metrics such as customer usage, feature value, error rates, and adoption trends.

As the product grows more refined and gains traction in subsequent versions, product team attention turns to scaling and running the product or business more efficiently and effectively. Operational metrics, such as revenue, profitability, and operational risk, become increasingly important at this stage. Product teams are clear about what they're measuring at each stage of the product adoption and maturity lifecycle and ensure that the metrics are actionable.

Transparency and visibility among product teams are also critical. As product teams iterate with customers and feed cyclical data to the enterprise level, a portfolio view shows how product lines, geographies, and customer segments are performing and informs further strategy developments. Portfolio transparency also helps business units identify issues.

Minimum lovable product metrics

Timetable
Budget
Scope
Speed
Agility
Customer needs met

Metrics after initial launch

Customer usage
Feature value
Error rates
Adoption trends

Metrics as the product gains traction

Revenue
Profitability
Operational risk

aws

Key takeaways

Amazon's customer-centric, product-driven approach, Working Backwards, ensures that we always start with our customers and "work backwards" to iteratively innovate on their behalf. We do that by:

✓ Having a **clear and concise vision** for the product that delivers what customers need and want through PR and FAQ development to align on an unwavering vision

✓ Leaders who **trust their teams and are flexible on the details** in order to unlock speed and agility

✓ **Product Managers that represent the Voice of the Customer**, are accountable for the business, and are set up as single-threaded leaders that wake up everyday thinking about the customer and the product

✓ Empowered teams that have the **ownership and autonomy to figure out the best way to execute**, with the right skills to build, experiment and iterate and the right size to be agile and impactful

✓ Having a **clear objective and definition of success** as the product evolves through its lifecycle focused on the right things to measure using data and insights from customers

All of these together enable Amazon to deliver truly innovative products and solutions while unlocking speed, agility, and scale.

aws

Apply these concepts to your organization:

Consider the full life cycle of the customer experience: how they use a product, make the buying decision, reaching out for support, etc. **Then "work backwards" from that broad knowledge base** to develop solutions iteratively and quickly over the long term.

Experiment with having product teams write PR/FAQ one-pagers to distill what the customer need is, how to fill it, and to anticipate questions, roadblocks, and guide the team through the product's lifecycle.

Keep product teams small enough to be agile but large enough to have impact; this ensures continued agility and adaptation to experiment results.

Measure what matters by focusing on metrics that are most relevant to the customer experience.

To continue the conversation, connect with AWS

in

Follow AWS Executive Connection on LinkedIn for more insights ›

Conversations WITH LEADERS

Listen to the AWS Conversations with Leaders Podcast ›

aws

Request a conversation with an AWS Innovation Specialist ›

aws

About the author

Choong W. Lee, Worldwide Head, Innovation Learning from Amazon

Choong engages senior AWS customer executives to help them apply insights and learnings from Amazon's experiences, delivering customer innovations at speed and scale. Previously at AWS, he was the Worldwide Head of Migration Acceleration Program (MAP), leading a global team helping the largest enterprise customers accelerate their AWS migration and modernization efforts. Prior to AWS, he was a senior executive at leading technology and management consulting companies for two decades, including: Partner at The Boston Consulting Group (BCG), Global Head of Data and Integration Architecture Group within Accenture's IT organization, and Technology Executive at Accenture. Choong holds a Bachelor of Science degree with Honors in Electrical Engineering from the University of Illinois at Urbana-Champaign.

About AWS

For over 15 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud offering. Today, we serve millions of customers, from the fastest-growing startups to the largest enterprises, across a myriad of industries in practically every corner of the globe. We've had the opportunity to help these customers grow their businesses through digital transformation efforts enabled by the cloud. In doing so, we have worked closely with the C-suite, providing a unique vantage point to see the diverse ways executives approach digital transformation—the distinct thought processes across C-suite roles, their attitudes and priorities, obstacles to progress, and best practices that have resulted in the most success.