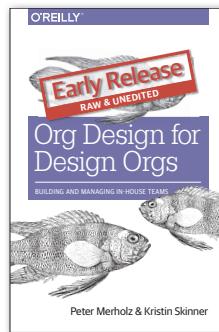
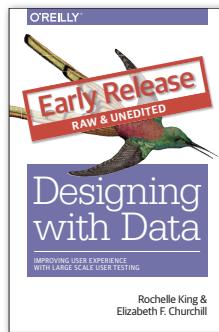
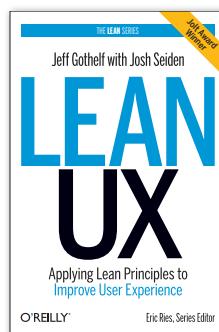
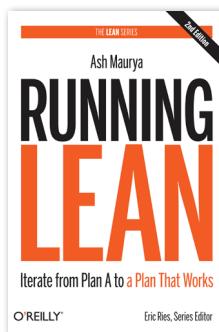
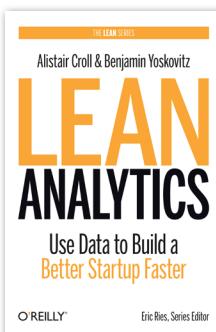


Designing for Product Strategy

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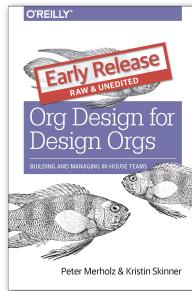
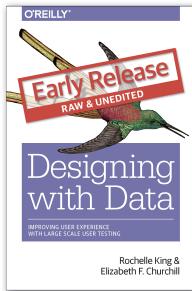
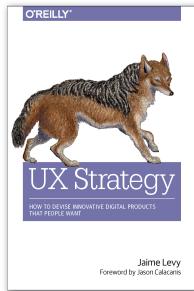
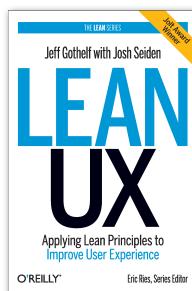
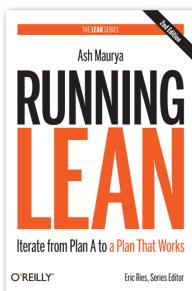
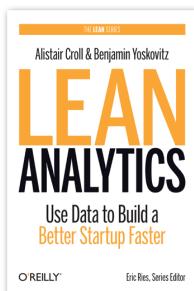
Designing for Product Strategy

A Curated Collection of Chapters from the O'Reilly Design Library

How do you create a truly unique digital product that has potential to disrupt the market? Or one that serves as a much better alternative to current solutions? This collection of chapters from several published and forthcoming books in the O'Reilly Design Library focuses on a project's critical early phase, when you and your team are defining a product strategy for delivering real value to users and stakeholders alike.

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This sampler includes excerpts from these books:



UX Strategy

[Available here](#)

Chapter 2. The Four Tenets of UX Strategy

Lean Analytics

[Available here](#)

Chapter 5. Analytics Frameworks

Chapter 7. What Business Are You In?

Running Lean, 2nd Edition

[Available here](#)

Chapter 10. Get Ready to Measure

Lean UX, 1st Edition

[Available here](#)

Chapter 3. Vision, Framing, and Outcomes

Designing with Data

[Available here](#)

Chapter 2. Business Matters

Org Design for Design Orgs

[Available here](#)

Chapter 2. Realizing the Potential of Design



UX Strategy

HOW TO DEVISE INNOVATIVE DIGITAL PRODUCTS
THAT PEOPLE WANT

Jaime Levy
Foreword by Jason Calacanis

The Four Tenets of UX Strategy

“In war, let your great object be victory, not lengthy campaigns.”

—SUN TZU, *ART OF WAR*^{*}

A STELLAR UX STRATEGY IS A MEANS TO ACHIEVING DISRUPTION IN the marketplace through mental-model innovation. And to keep me from forgetting this, I have the sticker shown in Figure 2-1 on my laptop lid.



FIGURE 2-1

The sticker on my laptop lid

* Sun Tzu, *Art of War*, first published by Lionel Giles in 1910.

Because what's the point in spending time and energy crafting a digital product that isn't unique? Or, at the very least, is a much better alternative to current solutions found in the online marketplace?

To achieve that disruption, we need a framework in which to connect all the dots that will build a cohesive UX strategy. In this chapter, I'm going to break down the most important tenets that you need to understand in order to successfully implement the tools and techniques in this book. Think of it as a primer to get you and your team thinking like a UX strategist.

How I Discovered My UX Strategy Framework

In the digital world, strategy usually begins in the *discovery phase*. This is when teams dig deep into research to reveal key information about the product they want to build. I've always liked to think of the discovery phase as similar to the pretrial discovery process used by attorneys in the United States. To avoid a "trial by ambush," lawyers can request to see the evidence of the opposing counsel in order to prepare sufficient counter-evidence. In this way, the attorneys try to avoid surprises, and you, as a product maker, should also want to *strategically* do just that.

My first chance to practice UX strategy occurred in 2007. At the time, I was the UX lead at Schematic (now Possible) for the website redesign of Oprah.com. Along with the other team leads, I flew into Chicago to kick off our discovery phase.

Before that moment, my 15 years of professional experience focused on interface design and integrating new technologies (such as Flash) into interfaces to create "cutting-edge" products. Often, I was handed a massive requirements document that listed hundreds of "essential" features. Or, I was given a flimsy project brief with pretty comps that stated what the final product should accomplish. From there, I made a site or application map that catered to a specific set of user scenarios that enabled those interactions. Based on these documents, I could only infer whether my creation solved the problem or not because it was typically too late at that point to challenge the rationale behind the product vision. I was just supposed to design it on time and on budget.

But in 2007, it was so fascinating to watch our UX director, Mark Sloan, get a dozen contentious stakeholders—no, Oprah wasn’t there—on the same page. Mark used consensus-building techniques such as affinity maps, dot voting, and forced ranking[†] to help us understand all the different parts—content and critical functionality—that would make up the system we had to digitize. This discovery opportunity helped us (the stakeholders and product team) in examining our goals to make a better platform for the millions of devoted Oprah fans in the world.

One week later, after all the workshops, the product team and I presented the discovery brief defining the product vision. The brief contained typical deliverables such as user personas, concept map analyses, and a recommended feature list. Because the stakeholders were anxious to get started, they immediately approved it. Our digital team was off and running on the implementation phase, which took over six months of emotionally fueled hand-offs. There were hundreds of pages of wireframes and functional specifications traded between stakeholders, designers, and developers.

But the discovery brief was never referenced again. The personas and proposed solution were never validated by existing customers. The stakeholders went back to fighting for whatever prime real estate they could grab for their particular business units. Yet, there was something good that came out of that discovery phase for me: I was a UX designer who finally got a taste of what a UX strategy could potentially be. I was ruined. I couldn’t imagine just being a wireframe monkey anymore.

A full year later, the redesigned site launched. I never looked at it because I had moved onto to another interactive agency (HUGE) with other high-profile clients. In my new position, I was able to focus my energy more directly on the discovery phase of projects in which user research and business strategy were given more weight. I also had a seat at the table to help shape the UX strategy and decide how a product vision should be implemented. I no longer had to feel fraudulent for spending so many waking hours building products for which I lacked a deep understanding of the customer segment and the business model.

[†] Gray, David, Sunni Brown, Jamews Macanufo. *Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers*. O’Reilly, 2010.

Today, I run my own practice that specializes in UX strategy, and since my first discovery phase, I've learned a lot about how to make it an iterative, lightweight, and empirical process of intense collaboration among stakeholders, designers, developers, and so on. Because when everyone shares a product vision, you and your team really have a chance at changing the rules of the game for your product, company, and future customers.

However, I do want to acknowledge that my methodology is my version of UX strategy and might be different from other strategists'. That's precisely why I included Chapter 10, which contains profiles of people I respect who have been practicing UX strategy and design as well. However, you'll also see that we align on a lot of things. That's what happens when a new discipline or methodology arises: people will find their own approach, but even within those differences, there are connective tissues that bind them together to make UX strategy identifiable and unique.

So, with all that said, cue the drum roll to introduce my UX strategy framework, as presented in Figure 2-2.



FIGURE 2-2

The four tenets of UX strategy represented as plates at the dinner table

My formula is this: UX Strategy = Business Strategy + Value Innovation + Validated User Research + Killer UX Design.

These are the four tenets that make up my framework. I have seen them in play every day since my first discovery phase. It's not enough to understand your marketplace if you don't talk directly to your customers. It's not enough to validate that your product works if you're not creating something unique. Good enough just isn't good enough, and just identifying these tenets won't be enough to get your team flying. You'll need to understand how they interact and affect one another. Then, the real trick will be to keep all four of these tenet "plates" spinning in the air while you move through the techniques and tools in the subsequent chapters.

Lessons Learned

- The discovery phase is where UX strategy begins. UX strategy is based on four tenets: business strategy, value innovation, validated user research, and killer UX design.
 - The output of the discovery phase should be based on empirical data, such as getting direct input from target users before going straight from an idea to wireframes and development.
 - How a team executes a discovery phase can be the deciding factor between how a product will ultimately deliver real value through a killer UX *and* create real value for the stakeholders.
-

Tenet 1: Business Strategy

Business strategy is the top-line vision of the company. It is why the company exists. It ensures the long-term growth and sustainability of the organization. It is the basis for the core competencies and offerings, which are the products. In this book, I will use the term "products" to refer to both digital products and digital services.

The business strategy is what gives product makers the direction to grow in the marketplace while beating the competition. The business strategy identifies the company's guiding principles for how it will position itself and still achieve its objectives. For this to happen, the

business *must* continually identify and utilize a competitive advantage. A competitive advantage is essential to the company's long-term existence.

In his classic book, *Competitive Advantage*,[‡] Michael E. Porter lays out the two most common ways to achieve a competitive advantage: cost leadership and differentiation.

The advantage behind cost leadership comes from offering the lowest price for products in a particular industry. Whether it is the cheapest car, television, or hamburger, this was the traditional way that companies achieved dominance in the marketplace. After all, allowing the private sector to compete without government regulation is what free market economy is all about! I mean, look at the rampant success of stores such as Walmart and Target. They can offer consumers the best prices and widest selection of merchandise. But what happens when prices hit rock bottom? Then, the battle needs to be about what makes the product better.

This brings us to Porter's second type of competitive advantage: differentiation. Because we are product inventors planning to build disruptive technologies, this is where our actual power lies. With differentiation, the advantage is based on a new or unique product or a unique aspect of the product for which customers will pay a premium because of its perceived value. As consumers, we choose one product over another based on the things we personally value, ranging from the product's usefulness to how much pleasure we derive from it. That perceived value is what transforms a simple little café and cup o' joe into the crazy success story of Seattle-based Starbucks. There's a reason why people pay \$5 for a cafe latté—it's the *experience* that's also wrapped into the product. It starts the moment a customer steps into the store and ends when that person tosses his cup and sleeve into the trash.

Today, a UX differentiation is the digital-product game changer. Differentiated user experiences have completely revolutionized the way we communicate with the world. Consider what the world was like before microblogging. When it was released in 2006, Twitter confounded users with its 140-character limit. But the limit turned out to be a valuable perk, especially with respect to updates. Today, users

[‡] Porter, Michael. *Competitive Advantage*. New York: The Free Press, 1985.

don't check traditional news outlets for instant updates; they instead check Twitter. When Hurricane Sandy pounded the East Coast in 2012, the power went out, but more than 20 million Tweets occurred among users, residents in the storm, and media and government outlets.[§] I know I spent some time on Twitter, tweeting to friends in New York about the hurricane updates I saw on TV from my home on the West Coast.

Another tool that has distinguished itself from the competition with a UX differentiation is the map app Waze. It combines social traffic with GPS navigation, thereby allowing users to find the quickest route of the moment to their destination. By merely driving around with Waze open, users passively contribute traffic and other road data to the network. Users also can take a more active role by sharing road reports on accidents, police traps, or any other hazards along the way, helping to give other users in the area a heads-up about what surprises might ahead of them. In June of 2013, Waze (an Israeli startup) was acquired by Google for \$1.1 billion. Now, Waze still offers its distinct UX to its users, but its data is also channeled into Google Maps.[¶] Clearly, Google recognized the competitive advantage of UX collaboration and chose to adopt Waze for what it could add to its product rather than compete against it.

A UX competitive advantage is important to understand in this brave new world of technology. Traditionally, the purpose of a competitive advantage was to make a product that was self-sufficient through a revenue stream. A revenue stream is how the company gets paid. And when a customer pays more for the product than what it costs to make, value is created for the stakeholders. To many people, this is the heart of a product's business model. Today, though, a UX differentiation doesn't necessarily mean big bucks when your product hits the market. Instead, the goal of many entrepreneurs is mass adoption. Products such as Facebook didn't kick the collective asses of competitors like MySpace or Friendster's because it was a cheaper alternative. Facebook won the field because, a) it offered a differentiated UX that was perceived by users as more valuable, and b) *everyone* adopted it. From that

§ <http://www.journalism.org/2012/11/06/hurricane-sandy-and-twitter/>

¶ "New features ahead: Google Maps and Waze apps better than ever." *Google Maps Blog*, August 20, 2013, <http://tinyurl.com/lx9sq8c>.

point, Facebook innovated a new kind of business model that relied on monetizing its user data for selling targeted advertising.^{**} In 2013, Waze did a similar thing when Google bought it. Waze made a lot of money by selling access to its devoted users, and Google will make a lot of money because so many users continue to use both the Waze and Google Maps apps. The two companies essentially turned their users into customers because they were able to monetize them, and because of this, from here on out, I am going to use the terms “user” and “customer” interchangeably.

Still, a good business model doesn’t just define the revenue stream of a product. Nor does it just rely on a ridiculous number of users adopting it. This is something often lost on young tech entrepreneurs. Because they grew up in a world in which products like Facebook became solvent and conquered the world without an obvious business model, they don’t realize what an uphill battle they have ahead of them to acquire users. They also forget that the megasuccessful digital products that continue to define our everyday lives didn’t just stumble onto their business models. These game-changing companies experimented, tested, and failed before they hit on and innovated the right one. And if, like me, you worked on the Web when the dot-com bubble burst in the 1990s, you have firsthand experience of all of the risks involved in creating products without proven business models. When the investment money runs out, and there isn’t any more coming in, life *is* bleak.

The process of business-model construction is foundational to a business strategy. As Steve Blank writes, a business model describes the “flow between key components of the company.”^{††} This quote comes from Blank’s Customer Development manifesto, in which he challenges product founders to stop writing static business plans. Instead, he encourages them to adopt a flexible business model that requires all of the key components to be validated using empirical, customer-facing discovery methods. To get a sense of these key components, let’s take a look at a tool called the Business Model Canvas.

^{**} Kirkpatrick, David. *The Facebook Effect: The Inside Story of the Company That Is Connecting the World*. Simon & Schuster, 2011.

^{††} Blank, Steve and Bob Dorf. *The Startup Owner’s Manual*. Wiley, 2012.

In their seminal book *Business Model Generation*,^{‡‡} authors Alexander Osterwalder and Yves Pigneur deconstruct each of the nine essential building blocks of a business model so that visionaries can systematically think through the logic of how the company will eventually make money. Blank also refers to this tool in his own work on business-model creation. What's relevant to us in this book is how many of these components align with the UX strategy for a digital product. They are as follows (see also Figure 2-3):

Customer segments

Who are the customers? What are their behaviors? What are their needs and goals?

Value propositions

What value (either qualitative or quantitative) do we promise to deliver?

Channels

How will we reach our customer segment? Is it online or offline?

Customer relationships

How are we going to acquire and retain our customers?

Revenue streams

How does the business earn revenue from the value proposition? Are the customers going to pay for it? Or are there other options?

Key resources

What unique strategic assets must the business have to make the product work? Is it content, capital, or patents? Is this something we must develop?

Key activities

What uniquely strategic things does the business do to deliver its proposition? Are we optimizing an outdated business process? Are we creating a platform to bring customers together to transact?

Key partnerships

What partnerships and suppliers do we need in order to deliver our value proposition?

^{‡‡} Osterwalder, Alexander and Yves Pigneur. *Business Model Generation*. Wiley, 2010.

Cost structure

What are the major costs that will be incurred to make our business model work? Are we trying to cut costs by throwing out the thrills? Are there fixed costs that won't go away?

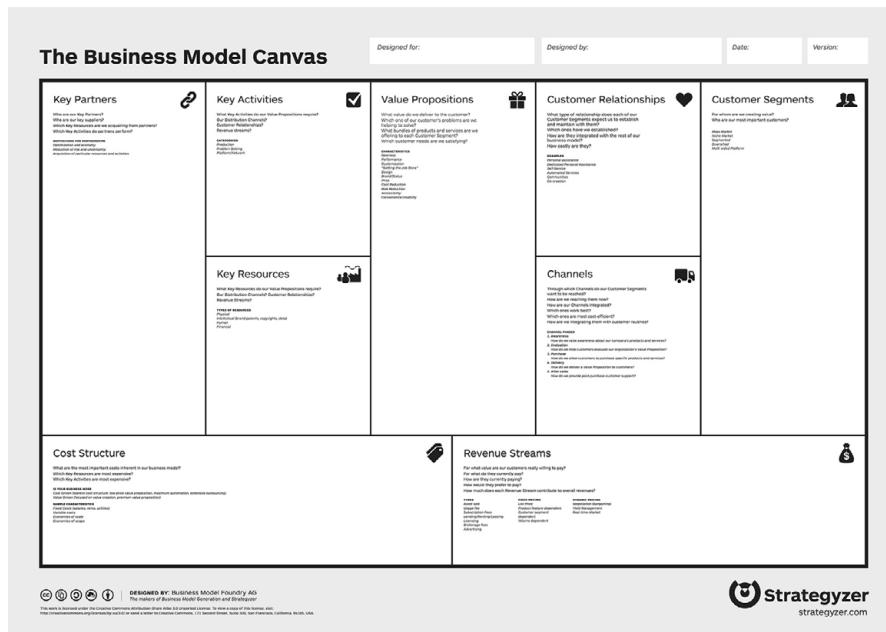


FIGURE 2-3

Business Model Canvas showing the nine essential building blocks of a business model

By using the canvas, product makers collect all their hypotheses about their product into one place. They then revise it as they move through the discovery phase, and it's something you'll see as we develop all the techniques in this book. For this tenet, however, it is another place in which we can see how business strategy and UX strategy really intersect. So many of the concerns of the Business Model Canvas—customer segments, value propositions, revenue streams, and customer acquisition and retention—are elements that are essential to creating a product's user experience, which as you've learned, is key to our competitive advantage.

When you don't see these connections, you can potentially end up in the same position as our software engineer in Chapter 1. His business model relied on an affluent customer segment to provide the company's

revenue stream, but he had not correctly identified that segment before he built his product. If he had not come in contact with that user during my team's customer discovery, he might have pushed ahead with a lengthy and expensive campaign to blitz media and online advertising outlets. This, as my team's UX strategy proved, would have been very problematic because the campaigns wouldn't have reached out to the user segment actually interested in the value proposition.

This leads us to how the Business Model Canvas also calls out the importance of collaboration among stakeholders and team members in the discovery phase. Categories such as key resources and partnerships aren't something that a digital product manager or UX designer should think up in a vacuum. Rather, these categories are where the stakeholders can offer a wealth of information and leads. Other categories, such as key activities, customer segments, and value propositions, will more likely rely on the guidance of the digital team to lead the stakeholders to the best product. But the digital product team must also recognize that these same categories need input from actual users before a hypothesis can be changed to a fact, which is what our UX strategy research demonstrated to the software engineer.

We need to recognize that building a business strategy isn't about formulating and executing a perfect plan. Instead, it's about being able to research what's out there, analyze the opportunities, run structured experiments, fail, learn, and iterate until we devise something of value that people truly want. Also, as the product scales and the market evolves, the business strategy must be nimble. For a new product, a strategy probably revolves around just getting enough product/market fit to raise financing, or grabbing enough market share so that its customer base is the competitive advantage. But, for a more mature company, the strategy is about building out the company's core value proposition while trying to keep the company's infrastructure and internal processes in place. It is in this way that what might have been the business model or competitive advantage in the early life cycle of the product might not be the same in later phases. Nevertheless, in chasing this moving target, companies must continue to experiment with varied offerings so that they can scale, remain competitive, and continue to offer value to users in an ever-changing marketplace.

Tenet 2: Value Innovation

As digital product inventors, we must be hyperaware of all the changing digital market dynamics. We must understand how and why people use their digital devices and what defines a successful and a failed UX. This is because a user's first contact with the interface generally determines success or failure. It provides the user with their first impression of your value innovation, and it is value innovation that disrupts or creates new mental models for people. We definitely want to do that.

Before we dig into value innovation, let's discuss the word "value." The word is used *everywhere*. It's found in almost all traditional and contemporary business books since the 1970s. In *Management: Tasks, Responsibilities, Practices*,⁵⁵ Peter Drucker discusses how customer values shift over time. He gives an example of how a teenage girl will buy a shoe for its fashion, but when she becomes a working mother, she will probably buy a shoe for its comfort and price. In 1984, Michael Lanning first coined the term "value proposition" to explain how a firm proposes to deliver a valuable customer experience. For a business to generate wealth, it needs to offer a superior product to that of its competitors but at a manufacturing cost below what customers pay for it. That same year, Michael Porter defined the term "value chain" as the chain of activities that a firm operating in a specific industry performs in order to deliver a valuable product. Figure 2-4 illustrates a traditional value chain for a physical product manufacturer.



FIGURE 2-4

The value chain

That is the business process that Toyota uses to make vehicles and that Apple uses to make computers and devices. During each of the activities in this value chain of events, opportunities exist for firms to outperform their competitors. But, all those terms apply to physical products. By contrast, virtual products allow for a value chain to have faster repeat loops and in some cases for the activities to happen in parallel.

⁵⁵ Drucker, Peter. *Management: Tasks, Responsibilities, Practices*. HarperBusiness, 1973.

This is part of why traditional business-strategy principles do not perfectly map to digital product strategy. When producing digital products, we must continuously research, redesign, and remarket to keep up with the rapidly evolving online marketplace, customer values, and value chains that are required to keep our products in production.

This brings us to another challenge of designing digital products: the software, apps, and other things that users find on the Internet and use every day. As mentioned, a product needs to be valuable to customers to entice them to use it. It also needs to be valuable to the business so that the business can sustain itself. However, the Internet is full of digital products for which the users don't have to pay for the privilege of using them. If a business model is supposed to help a company achieve sustainability, how can you do that when the online marketplace is overrun with free products?

Value innovation is the key. In the book *Blue Ocean Strategy*,¹¹ authors W. Chan Kim and Renée Mauborgne describe value innovation as “the simultaneous pursuit of differentiation and low cost, creating a leap in value for both buyers and the company.” What this means is that value innovation occurs when companies align newness with utility and price (see Figure 2-5). Companies pursue both differentiation and cost leadership to create high-value and low-cost products for the customers *and* stakeholders. Consider how Waze found a sustainable business model—sharing its crowd-sourced data made it lucrative to other companies such as Google. Yet, to get the data, it had to provide a new kind of value to customers for mass adoption, and that value was based entirely on taking advantage of a disruptive innovation through the UX and business model.

¹¹ Kim, W. Chan and Renée Mauborgne. *Blue Ocean Strategy*. Harvard Business School Press, 2005.

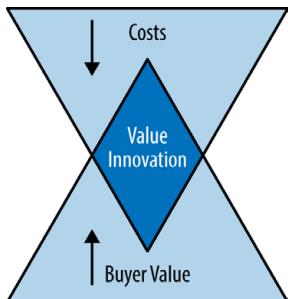


FIGURE 2-5

Value Innovation = The simultaneous pursuit of differentiation and low cost

Disruptive innovation is a term that was coined by Clayton M. Christensen in the mid-1990s. In his book *The Innovator's Dilemma*, he analyzed the value chain of high-tech companies and drew a distinction between those just doing *sustaining innovation* versus *disruptive innovation*. A sustaining innovation he described as any innovation that enables industry leaders to do something better for their existing customers.^{***} A disruptive innovation is a product that a company's best customer potentially can't use and therefore has substantially lower profit margins than the business might be willing to support. However, this is where disruptive innovation can blindside established competitors. Christensen says that disruptive innovation usually is "a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors."^{†††}

Innovative means doing something that is new, original, and important enough to shake up a market, and this leads us right back to the book *Blue Ocean Strategy*. In the book, the authors discuss their studies of 150 strategic moves spanning more than a 100 years and 30 industries. They explain how the companies behind the Ford Model T, Cirque du Soleil, and the iPod won because of how they entered *blue-ocean* markets instead of *red-ocean* markets. The sea of other competitors with similar products is known as a red ocean. Red oceans are full of sharks that compete for the same customer by offering lower prices and eventually turning a product into a commodity. In contrast, a blue ocean is uncontested territory; it is free for the taking.

*** <http://www.strategy-business.com/article/14501?pg=all>

††† <http://www.claytonchristensen.com/key-concepts/#sthash.47B9F4IW.dpuf>

In the corporate world, the impulse to compete by destroying your rivals is rooted in military strategy. In war, the fight typically plays out over a specific terrain. The battle gets bloody when one side wants what the other side has—whether it be oil, land, shelf space, or eyeballs. In a blue ocean, the opportunity is not constrained by traditional boundaries. It's about breaking a few rules that aren't quite rules *yet* or even inventing your own game that creates an uncontested new marketplace and space for users to roam.

When we transpose *Blue Ocean Strategy* to the world of digital products, we must admit that there are bigger opportunities in unknown market spaces. A perfect example of a company that took advantage of a blue-ocean market is Airbnb. Airbnb is a “community marketplace” for people to list, discover, and book sublets of practically anything from a tree house in Los Angeles to a castle in France. What’s amazing about this is that its value proposition has completely disrupted the travel and housing industry (see Figure 2-6).^{***} Its value proposition is so addictive that as soon as customers try it, it’s hard to go back to the old way of booking a place to stay or subletting a property.



FIGURE 2-6

Airbnb in the news

Airbnb achieves this value innovation by coupling a killer UX design with a tantalizing value proposition. And, as I mentioned earlier, true value innovation occurs when the UX and business model intersect. In this case, they intersected in a blue ocean because of how Airbnb broke and reinvented some rules.

*** “NY official: Airbnb stay illegal; host fined \$2,400.” *C/Net*, May 20, 2013. <http://tinyurl.com/k7oyx3j>.

For example, Craig's List was a primary means for users to sublet before Airbnb, but it was a generally creepy endeavor. There were no user profiles. There was no way to verify anything about the host or guest in the transaction. Yet, that was the norm! Airbnb enabled a free-market sub-economy in which quality and trust were given high value in the UX, much like in Amazon, Yelp, and eBay. Airbnb's entire UX was built around the idea of ensuring that each guest and host was a good customer. It required its users to change their mental models. Formerly unwritten social etiquette now had to come into play if users were to host strangers or stay in a stranger's home and for both parties *to feel good about it*.

For instance, I just came back from a weekend in San Francisco with my family. Instead of booking a hotel that would have cost us upward of \$1,200 (two rooms for two nights at a 3.5 star hotel), we used Airbnb and spent half of that. For us, though, it wasn't just about saving money. It was about being in a gorgeous and spacious two-bedroom home closer to the locals and their foodie restaurants. The six percent^{¶¶¶} commission fee we paid to Airbnb was negligible. Interestingly, the corporate lawyer who owned this San Francisco home was off in Paris with her family. She was also staying at an Airbnb, which could have been paid for using some of the revenue (\$550-plus) from her transaction with us. Everybody won! Except, of course, the hotels that lost our business.

Airbnb's business strategy is that they cater to both sides of their two-sided market—the people who list their homes and those who book places to stay. They offer incredible value through feature sets like easy calendaring tools, map integration for browsing, and, most crucially, a seamless transactional system that had not been previously offered by other competitors like VRBO, Homeaway, or Craig's List. Ultimately Airbnb offered a more usable platform that minimized the risk of dealing with scary people coupled with fair-market value pricing. All of this added up to serious disruption through value innovation for all customers and stakeholders in the online *and* offline experience. That's why it is winning so decisively.

^{¶¶¶} The service fee that guests pay on Airbnb varies from 6 to 18 percent, based on the subtotal.

There are many other products causing widespread disruption to the status quo through their combined value innovation of cost leadership and differentiation in blue-ocean marketplaces. And through their UX strategies, they are ultimately making people's lives easier, bringing together customers in new ways and smashing mental models. Companies such as Airbnb, Kickstarter, and Eventbrite have completely upended how people rent homes, fund business ventures, and organize events, respectively. In fact, Eventbrite is how I tested my hypothesis that there were people out there with a thirst for knowledge about UX strategy. Using its interface, I quickly set up a 60-seat lecture at the price of \$40 per person, and sold it out. If I didn't have Eventbrite to experiment with as a promotional platform, there might have been no book for Jaime Levy. Thank you Eventbrite for enabling the one value innovation that other platforms like Meetup failed to offer: the ability to host paid ticketed events.

Tenet 3: Validated User Research

Not realizing a product's value is one of the primary reasons why that product will fail. Stakeholders are dreamers in that they assume what is valuable to their customers instead of verifying it. Much like Kevin Costner in the movie *Field of Dreams*, these entrepreneurs believe that if they build it, they [the users] will come. But the truth is that any product is a risk. Remember our software engineer at the beginning of this book? His assumptions about what his customers wanted turned out to be wrong. His heart was in the right place. His idea was timely, different, very innovative, and even had a unique and sustainable business model. Nonetheless, the users didn't come. And when my team eventually went out and asked his target users, we discovered that they wouldn't pay for the product as it was being positioned.

User research is how you verify that you're on the right track with your value proposition. There are lots of ways to do it—ethnographic field studies, contextual inquiries, focus groups, diaries and journals, card sorting, eye-tracking, personas, and more. I don't want to talk about any of these traditional methods. Instead, I want to talk about *Lean Startup*.

It's weird to admit, but before 2011 when Eric Ries' *Lean Startup*^{¶¶¶} (which you must read) went critical mass, founders didn't make it their mission to confront customers "early and often." The empirical, fast-moving, and transparent nature of Lean Startup riffed on ideas from Steve Blank's customer development methodology^{****} and the highly theoretical *Design Thinking* approach. Sure, organizations had UX designers around to do "user-centric" design (as opposed to engineer-centric), but Lean Startup made conducting validated user research a make-or-break aspect of moving forward on a product. Lean Startup forced user research to become measurable.

This leads us to our third tenet—validated user research. "Validation" is the secret sauce of the Lean Startup business approach. Validation is the process of confirming that a specific customer segment finds value in your product. Without validation, you are simply *assuming* that customers will find use for your product. Validated user research goes beyond just observing and establishing empathy for potential users. It is a process based on a reality-check that focuses on direct feedback from interaction with users. It helps your team to determine if the vision of your product is a dream or a potential nightmare.

Eric Ries popularized the term Minimum Viable Product (MVP). It simply means learning if potential customers want your product by building just the core features of your value proposition. This is far different from traditional product development in which building a prototype was often a simulation to show potential investors the future product. By getting customer buy-in on your value proposition early, you are de-risking your product. And if users don't like what they see, we need to either "pivot" to a different customer segment or pivot to a different problem that our value proposition can address.

Iterations like the MVP require your team to conduct research and gain validation before developing a solution. It helps verify that your team is targeting the *right* customer (something our startup in Chapter 1 failed to do) and not just a general persona. When you've validated a specific pain point that needs addressing, you can continue to add features and then test those features using the same research methods. This is

^{¶¶¶} Ries, Eric. *Lean Startup*. HarperBusiness, 2011.

^{****} Blank, Steve. *The Four Steps to the Epiphany*. K&S Ranch Press, 2005.

known as the Lean Startup feedback loop of *build-measure-learn*. Use your research to validate your decisions and ensure that the product vision is aligned with the end user's needs.

Validated user research is a collaborative process that should involve as many members of the product team as possible. Collaboration will actually help organically build consensus on the value proposition and any pivots that follow. Now, this might sound naïve, given that we are all working in different environments with a range of folks with dynamic personalities who are in various positions of power. In an enterprise environment, there are typically many stakeholders who each have a say on the product requirements based on their personal agenda or preference. When I work for agencies, the product requirements are typically locked in stone during a requirements-gathering phase that I'm not involved in. For me to suggest doing validated user research or creating an MVP to test during the design phase is blasphemy because it's counterintuitive to the agency model. The last thing an account executive wants to hear from his UX resources are ways to cut the project fee down for his client.

If you happen to find yourself in this familiar position, that's the exact moment that you need to become *intrapreneurial*. Intrapreneurship is the act of behaving like an entrepreneur while working within a large organization. You need to decide to take the fate of the product into your own hands through assertive risk-taking and innovation. Stand up and ask for the extra week or two to conduct validated user research. If you get a "no" or are too afraid to ask, it's time to start working off-hours. The worst thing that can happen is that you will discover something about yourself and/or start looking for ways to improve your own work process.

The bottom line is that confronting your target customers is nonnegotiable. We must learn as quickly as possible if the idea we are working on is stupid and worthless. We need to have an open mind to experiment and to fail. That's right, we are betting. And the odds are against us. In the end, though, this approach is more cost-effective and efficient.

Tenet 4: Killer UX Design

In *Lean Entrepreneur*†††† Patrick Vlaskovits and Brant Cooper advocate, “If you are doing best practices, you are not innovating.” This is a provocative statement, because established interaction design patterns help make consistent user experiences. Then again, there is no harm in breaking a rule or two through experimentation to make a killer user experience.

The “user experience” (UX) is how a human feels when using the interface of a digital product while attempting to accomplish a task or goal. Yes, we can say a door handle is an interface and go off the nondigital highway into the world of 100 percent physical products. But in practice, the term “user experience” refers to whether a person has a good or bad time trying to utilize a digital product.

Traditionally (if I dare use that word for a discipline barely two decades old), UX design is associated with deliverables for development and design execution—site maps, wireframes, process/task flows, and functional specifications. Recruiters for enterprises and agencies identify UX design with the job titles that create these deliverables, including interaction designer, information architect, and UX designers. These definitions are used by large enterprises and agencies and are pretty much how UX design is currently practiced. Yet, what ultimately happens in this “traditional” system is that the UX designer and therefore the UX design are often more focused on the issues of user engagement and design rather than customer development and business-model generation.

The common problem that many product makers don’t realize is how much their UX decisions are tied to customer acquisition. Just think about any transactional website or even a simple sign-up process. The UX design should be very concerned with barriers to entry, which can prevent validated leads who have previously engaged with the product from converting to customers. We’ll talk more about this in Chapter 9. Interfaces and user flows should be geared toward the desired response of the user. It’s all about engagement.

†††† Vlaskovits, Patrick and Brant Cooper. *Lean Entrepreneur*. Wiley, 2013.

This is what distinguishes a novice UX designer from a killer UX designer. Killer UX designers know how to guide the value innovation of a product in the following ways:

- They work collaboratively with stakeholders and teammates at the idea's inception. Then, the UX designer can be involved in designing structured experiments for validation. These experiments need to be focused on how successful the value proposition can be communicated to the customer from the moment the customer opens the landing page. Using measurable results, design decisions can be made based on real evidence rather than hunches.
- They help determine the key moments and features that are absolutely critical to your product. Chapter 6 focuses on tactics for helping you discover value innovations, concentrating on the primary utility of the product. We explore techniques such as storyboard-ing that will weave key experiences together in simple and elegant ways. We look at ways to poach and cherry-pick features from both competitors and noncompetitors so that we can put them together in new ways.
- They learn everything about the existing market space to identify UX opportunities that can be exploited. This allows your team to find ways to create a leap in value by offering something that makes peoples lives more efficient.
- They talk directly to potential users or existing power users of the product to discover and validate its primary utility with respect to the problem that must be solved.
- They weave the UX through all touch points—online and offline—enabling an experience that is *frictionless*. This is especially relevant in products such as Airbnb and Uber in which the transaction begins on the Internet, is fulfilled in the real world, but then loops the user back to the interface to write reviews.

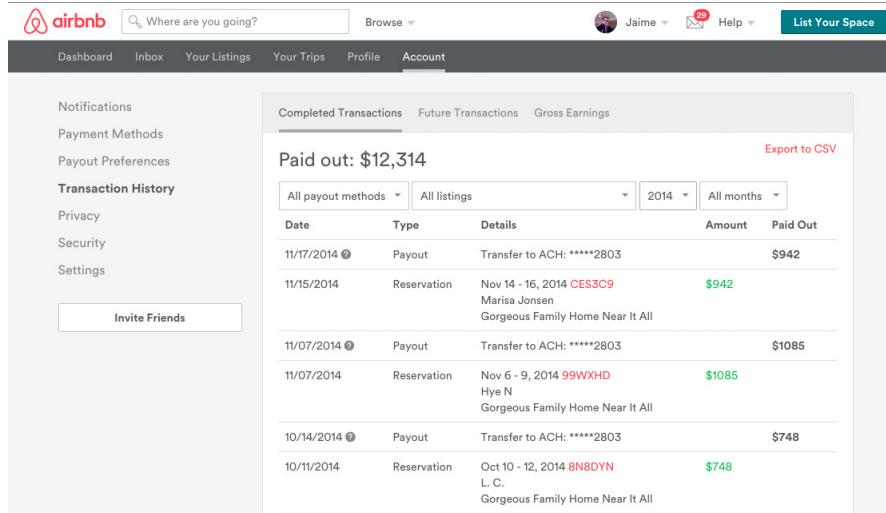
You can't merely "design think" your way to a killer UX design. It's only when the UX is informed by and affects the other three tenets that mental models are broken. Disruption erupts!

Over the course of the book, I will discuss several case studies of products that have killer user experiences. These are UX designs that didn't just "happen" through good luck or "genius design." They're killer through the manifestation of the tenets. It's only with practice and

mindfulness that we will come to understand the product as a sum of both its tangible and intangible parts. The examples include the following companies.

Airbnb

The listing service that is disrupting the travel industry (Figure 2-7).



The screenshot shows the Airbnb account dashboard. The top navigation bar includes the Airbnb logo, a search bar, a 'Browse' dropdown, a user profile for 'Jaime' with a notification badge (29), a 'Help' dropdown, and a 'List Your Space' button. Below the navigation is a secondary navigation bar with links: Dashboard, Inbox, Your Listings, Your Trips, Profile, and Account (which is highlighted). On the left, a sidebar contains links for Notifications, Payment Methods, Payout Preferences, Transaction History (which is also highlighted), Privacy, Security, and Settings. A 'Invite Friends' button is located at the bottom of the sidebar. The main content area is titled 'Completed Transactions' with sub-links for 'Future Transactions' and 'Gross Earnings'. A summary line says 'Paid out: \$12,314' with a 'Export to CSV' link. Below this is a table of transaction history with columns: Date, Type, Details, Amount, and Paid Out. The table lists several entries, including transfers to ACH and reservations for stays like 'Nov 14 - 16, 2014 C53C9' and 'Nov 6 - 9, 2014 99WXHD'.

Date	Type	Details	Amount	Paid Out
11/17/2014	Payout	Transfer to ACH: *****2803	\$942	
11/15/2014	Reservation	Nov 14 - 16, 2014 C53C9 Marisa Jonsen Gorgeous Family Home Near It All		\$942
11/07/2014	Payout	Transfer to ACH: *****2803		\$1085
11/07/2014	Reservation	Nov 6 - 9, 2014 99WXHD Hye N Gorgeous Family Home Near It All		\$1085
10/14/2014	Payout	Transfer to ACH: *****2803		\$748
10/11/2014	Reservation	Oct 10 - 12, 2014 8NBDYN L. C. Gorgeous Family Home Near It All		\$748

FIGURE 2-7

Airbnb's killer UX

Uber

The ridesharing application that is disrupting the taxi-service industry (Figure 2-8).

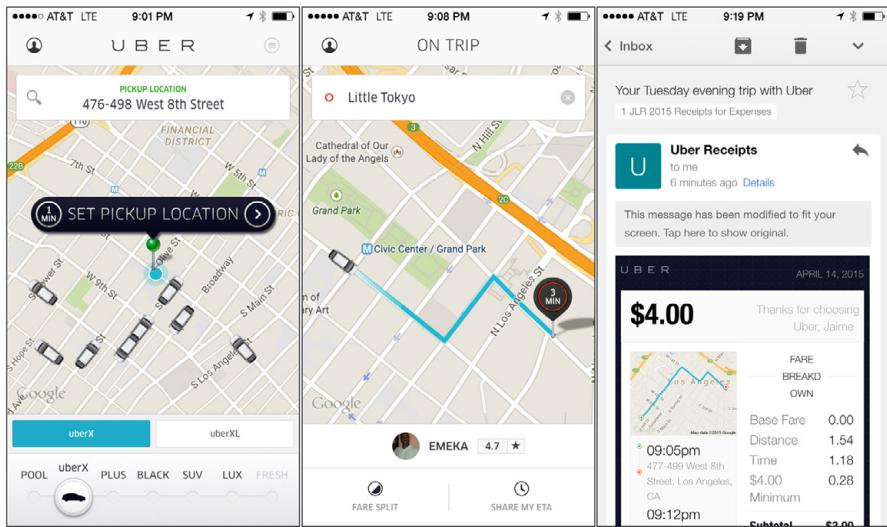


FIGURE 2-8

Uber's killer UX

Waze

The map application that is disrupting how people get from Point A to Point B in their cars (Figure 2-9).

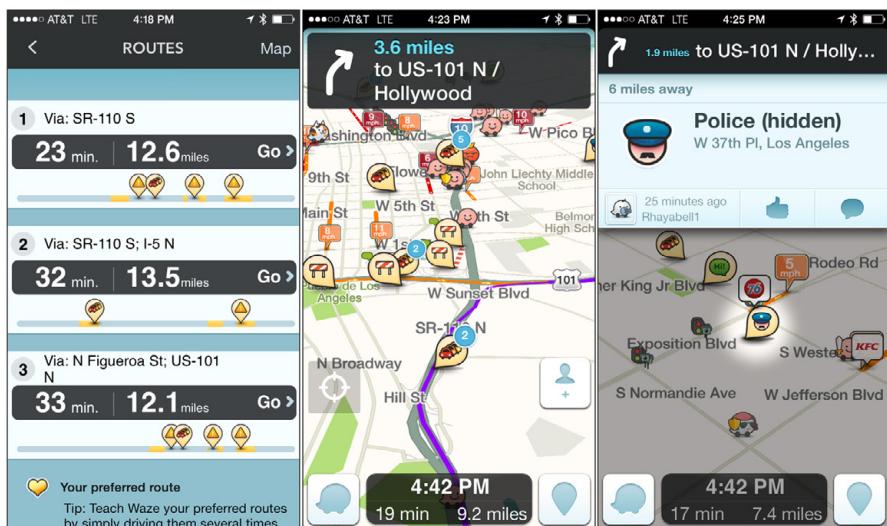


FIGURE 2-9

Waze's killer UX

Tinder

The dating app that is threatening former dating-site disruptors such as OkCupid and Eharmony (Figure 2-10).



FIGURE 2-10

Tinder's killer UX

These products all got to where they are not by execution of a static business plan or a two-week UX discovery phase, but through experiments, failure, and iterations over months and sometimes years. It was the insights born out of structured strategic meanderings that blossomed into awe-inspiring product interfaces. It's how the founders and teams behind-the-scenes took risks while assembling the building blocks of their products' business models. They fine-tuned their value innovation and acquired fervent customers, which led to a competitive advantage such that they now swim in a blue ocean.

Top 10 Not-UX Strategies!

1. A killer idea for a new product!
 2. A laundry list of features!
 3. A thoroughly researched game plan for which all possible scenarios have been considered and is ready for implementation. No need for customer feedback because you are 100 percent certain you have nailed it!
 4. A creative permutation of trending buzzwords that were just used by another startup that raised financing (for instance, peer-to-peer sharing economies).
 5. A generic set of motivational statements (such as Go Team Challenge Conquer).
 6. An arrogant statement from some expert—“Our product sprung from the genius of Professor I.M. Awesome, the visionary of Social Lean Disruption.”
 7. A hypothesis that has nonvalidated risky assumptions—“Well, all women do like pink.”
 8. A grandiose vision that doesn’t align with its core values that your company has no capability of delivering (for instance, a patent-pending, new-method-of-discovery dream).
 9. A vague affirmation that sounds like a good Hallmark card—“You, too, can achieve Social Lean Disruption.”
 10. The North Star.
-

Recap

UX strategy is a way of thinking. It’s not a means of formulating and executing a perfect plan; rather, it’s about being able to research what’s out there, analyze the opportunities, run structured experiments, fail, learn, and iterate until you devise something of value that people truly want. While devising a UX strategy, you will need to take risks and accept failure. You’ll learn how to fail smartly by doing small-structured experiments to validate that your strategy is moving your team in the right direction.

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Analytics Frameworks

Over the years we've seen a number of frameworks emerge that help us understand startups and the changes they undergo as they grow, find their markets, and help startups acquire customers and revenue. Each framework offers a different perspective on the startup lifecycle, and each suggests a set of metrics and areas on which to focus.

After comparing and contrasting a number of these frameworks, we've created our own way to think about startups, and in particular the metrics that you use to measure your progress. We'll use this new framework throughout the book—but first, let's take a look at some of the existing frameworks and how they fit into Lean Analytics.

Dave McClure's Pirate Metrics

Pirate Metrics—a term coined by venture capitalist Dave McClure—gets its name from the acronym for five distinct elements of building a successful business. McClure categorizes the metrics a startup needs to watch into acquisition, activation, retention, revenue, and referral—AARRR.*

Figure 5-1 shows our interpretation of his model, describing the five steps through which users, customers, or visitors must progress in order for your company to extract all the value from them. Value comes not only from a

* <http://www.slideshare.net/dmc500hats/startup-metrics-for-pirates-long-version>

transaction (revenue) but also from their role as marketers (referral) and content creators (retention).



Figure 5-1. Even pirates need metrics, says Dave McClure

These five elements don't necessarily follow a strict order—users may refer others before they spend money, for example, or may return several times before signing up—but the list is a good framework for thinking about how a business needs to grow (see Table 5-1).

Element	Function	Relevant metrics
Acquisition	Generate attention through a variety of means, both organic and inorganic	Traffic, mentions, cost per click, search results, cost of acquisition, open rate
Activation	Turn the resulting drive-by visitors into users who are somehow enrolled	Enrollments, signups, completed onboarding process, used the service at least once, subscriptions
Retention	Convince users to come back repeatedly, exhibiting sticky behavior	Engagement, time since last visit, daily and monthly active use, churns
Revenue	Business outcomes (which vary by your business model: purchases, ad clicks, content creation, subscriptions, etc.)	Customer lifetime value, conversion rate, shopping cart size, click-through revenue
Referral	Viral and word-of-mouth invitations to other potential users	Invites sent, viral coefficient, viral cycle time

Table 5-1. Pirate Metrics and what you should track

Eric Ries's Engines of Growth

In *Lean Startup*, Eric Ries talks about three engines that drive the growth of a startup. Each of these has associated *key performance indicators* (KPIs).

Sticky Engine

The sticky engine focuses on getting users to return, and to keep using your product. It's akin to Dave McClure's retention phase. If your users aren't sticky, churn will be high, and you won't have engagement. Engagement is one of the best predictors of success: Facebook's early user counts weren't huge, but the company could get nearly all students in a university to use the product, and to keep coming back, within a few months of launch. Facebook's stickiness was off the charts.

The fundamental KPI for stickiness is customer retention. Churn rates and usage frequency are other important metrics to track. Long-term stickiness often comes from the value users create for themselves as they use the service. It's hard for people to leave Gmail or Evernote, because, well, that's where they store all their stuff. Similarly, if a player deletes his account from a massively multiplayer online game (MMO), he loses all his status and in-game items, which he's worked hard to earn.

Stickiness isn't only about retention, it's also about frequency, which is why you also need to track metrics like time since last visit. If you have methods of driving return visits such as email notifications or updates, then email open rates and click-through rates matter, too.

Virality Engine

Virality is all about getting the word out. Virality is attractive because it compounds—if every user adds another 1.5 users, your user base will grow infinitely until you've saturated all users.*

The key metric for this engine is the *viral coefficient*—the number of new users that each user brings on. Because this is compounding (the users they bring, in turn, bring their own users), the metric measures how many users are brought in with each viral cycle. Growth comes from a viral coefficient of greater than one, but you also have to factor in churn and loss. The bigger the coefficient, the faster you grow.

* It's never really this simple; churn, competitors, and other factors mean it's not really infinite, of course.

Measuring viral coefficient isn't enough. You also need to measure the actions that make up the cycle. For example, when you join most social networks, you're asked to connect to your email account to find contacts, then you're given the option to invite them. They receive emails, which they might act upon. Those distinct stages all contribute to virality, so measuring actions is how you tweak the viral engine—by changing the message, simplifying the signup process, and so on.

There are other factors at play with virality as well, including the speed with which a user invites another (known as the *viral cycle time*) and the type of virality. We'll dive into these later in the book.

Paid Engine

The third engine of growth is payment. It's usually premature to turn this engine on before you know that your product is sticky and viral. Meteor Entertainment's *Hawken* is a multiplayer game that's free to play, but it makes money from in-game upgrades. Meteor is focusing on usage within a beta group first (stickiness), then working on virality (inviting your friends to play), and finally payment (players buying upgrades to become competitive or enhance the in-game experience).

Getting paid is, in some ways, the ultimate metric for identifying a sustainable business model. If you make more money from customers than it costs you to acquire them—and you do so consistently—you're sustainable. You don't need money from external investors, and you're growing shareholder equity every day.

But getting paid, on its own, isn't an engine of growth. It's just a way to put money in the bank. Revenue helps growth only when you funnel some of the money generated from revenue back into acquisition. Then you have a machine that you can tune to grow the business over time.

The two knobs on this machine are *customer lifetime value* (CLV) and *customer acquisition cost* (CAC). Making more money from customers than you spend acquiring them is good, but the equation for success isn't that simple. You still need to worry about cash flow and growth rate, which are driven by how long it takes a customer to pay off. One way to measure this is *time to customer breakeven*—that is, how much time it will take to recoup the acquisition cost of a customer.

Ash Maurya's Lean Canvas

We looked at the Lean Canvas in Chapter 3, when we talked about deciding what problem you should solve. See the sidebar “How to Use a Lean Canvas” for some tips on putting it into practice.

How to Use a Lean Canvas

Unlike a traditional business plan, you should use and update the Lean Canvas continuously. It's a "living, breathing" plan, not a hypothetical tome of nonsense that you throw out the minute you start actually working on your startup. Once you've filled out the Lean Canvas (or most of it), you start running experiments to validate or invalidate what you've hypothesized.

In its simplest form, think of each box as a "pass/fail": if your experiments fail, you don't go to the next box; rather, you keep experimenting until you hit a wall completely or get to the next step. The only exception is the "Key metrics" box, which is meant to keep a record of the most important metrics you're tracking. You don't run experiments on this box, but it's important to fill it out anyway because it's definitely open to debate and discussion.

Each of the boxes in Ash's canvas has relevant metrics you need to track, as outlined in Table 5-2 (the canvas actually has a box for metrics, which should get updated each time you focus on something different in the canvas). These metrics either tie your one-page business model to reality by confirming each box, or they send you back to the drawing board. The individual metrics may change depending on your type of business, but the guidelines are valuable just the same. We'll share more details later in the book on the key metrics that matter based on your type of business, as well as benchmarks you can aim for.

Lean Canvas box	Some relevant metrics
Problem	Respondents who have this need, respondents who are aware of having the need
Solution	Respondents who try the MVP, engagement, churn, most-used/least-used features, people willing to pay
Unique value proposition	Feedback scores, independent ratings, sentiment analysis, customer-worded descriptions, surveys, search, and competitive analysis
Customer segments	How easy it is to find groups of prospects, unique keyword segments, targeted funnel traffic from a particular source
Channels	Leads and customers per channel, viral coefficient and cycle, net promoter score, open rate, affiliate margins, click-through rate, PageRank, message reach

Lean Canvas box	Some relevant metrics
Unfair advantage	Respondents' understanding of the UVP (Unique Value Proposition), patents, brand equity, barriers to entry, number of new entrants, exclusivity of relationships
Revenue streams	Lifetime customer value, average revenue per user, conversion rate, shopping cart size, click-through rate
Cost structure	Fixed costs, cost of customer acquisition, cost of servicing the nth customer, support costs, keyword costs

Table 5-2. Lean Canvas and relevant metrics

Sean Ellis's Startup Growth Pyramid

Sean Ellis is a well-known entrepreneur and marketer. He coined the term *growth hacker* and has been heavily involved with a number of meteoric-growth startups, including Dropbox, Xobni, LogMeIn (IPO), and Uproar (IPO). His Startup Growth Pyramid, shown in Figure 5-2, focuses on what to do *after* you've achieved product/market fit.



Figure 5-2. Like building, real pyramid, startup growth is back-breaking labor

The question this poses a of course, is how do you know if you've achieved product/market fit? Sean devised a simple survey that you can send customers (available at survey.io) to determine if you're ready for accelerated growth. The most important question in the survey is "How would you feel if you could no longer use this product or service?" In Sean's experience, if 40% of people (or more) say they'd be very disappointed to lose the service, you've found a fit, and now it's time to scale.

The Long Funnel

In the early days of the Web, transactional websites had relatively simple conversion funnels. Visitors came to the home page, navigated to the product they wanted, entered payment information, and confirmed their order.

No more. Today's funnel extends well beyond the front door of a website, across myriad social networks, sharing platforms, affiliates, and price-comparison sites. Both offline and online factors influence a single purchase. Customers may make several tentative visits prior to a conversion.

We call this the Long Funnel. It's a way of understanding how you first come to someone's attention, and the journey she takes from that initial awareness through to a goal you want her to complete (such as making a purchase, creating content, or sharing a message). Often, measuring a long funnel involves injecting some kind of tracking into the initial signal, so you can follow the user as she winds up on your site, which many analytics packages can now report. Figure 5-3 shows the Social Visitors Flow report in Google Analytics, for example.



Figure 5-3. Where your paying customers waste most of their time before they buy from you

What's more, overlapping traffic sources can show how much a particular platform influenced conversions, as shown in Figure 5-4.

There were 1,385 total conversions

 Conversions: 1,385

 Assisted Conversions: 357

Multi-Channel Conversion Visualizer

See the percentage of conversion paths that included combinations of the channels below. Select up to four channels.

Channel	% of total conversions
<input checked="" type="checkbox"/> Direct	37.98%
<input checked="" type="checkbox"/> Social Network	29.60%
<input checked="" type="checkbox"/> Referral	19.64%
<input checked="" type="checkbox"/> Email	12.49%
<input type="checkbox"/> Organic Search	8.38%

Direct & Social Network & Referral & Email: 0.14% (2)

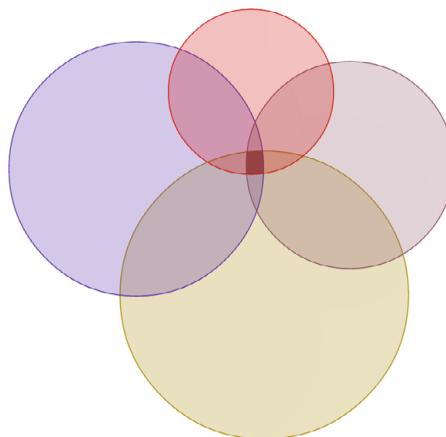


Figure 5-4. Sometimes it takes a lot of peer pressure to acquire a customer

We tracked our own long funnel during the process of launching the Lean Analytics Book website.* We didn't have a hard "goal" such as a purchase, but we did have a number of things we wanted visitors to do: sign up for our mailing list, click on the book cover, and take a survey. By creating custom URLs for our proponents to share, we injected a signal into the start of the Long Funnel, and were able to see how our message spread.

We learned, for example, that author and speaker Julien Smith's followers were less likely to fill out the survey than Eric Ries's and Avinash Kaushik's followers, unless they were returning visitors, in which case they were more likely to do so. This kind of insight can help us choose the right kind of proponent for future promotional efforts.

* <http://leananalyticbook.com/behind-the-scenes-of-a-book-launch/>

The Lean Analytics Stages and Gates

Having reviewed these frameworks, we needed a model that identified the distinct stages a startup usually goes through, and what the “gating” metrics should be that indicate it’s time to move to the next stage. The five stages we identified are Empathy, Stickiness, Virality, Revenue, and Scale. We believe most startups go through these stages, and in order to move from one to the next they need to achieve certain goals with respect to the metrics they’re tracking.

Figure 5-5 shows the stages and gates of Lean Analytics, and how this model lines up with the other frameworks. A good portion of the book is structured by our stages, so it’s important to understand how this works.

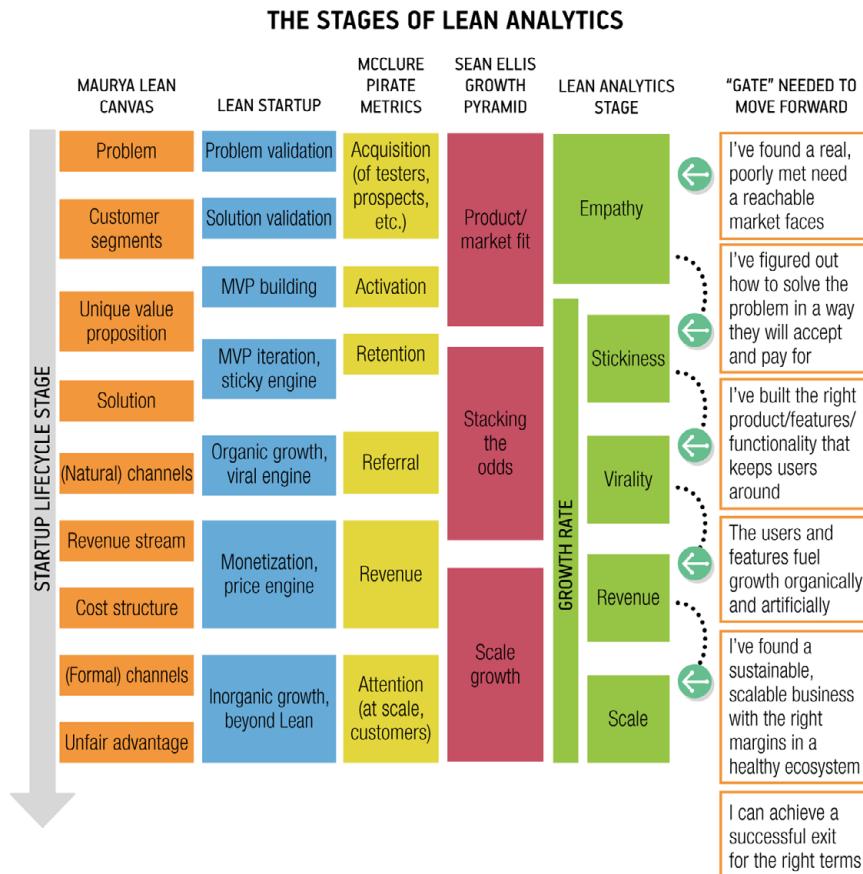


Figure 5-5. Frameworks, frameworks everywhere

Ultimately, there are a number of good frameworks that help you think about your business.

- Some, like Pirate Metrics and the Long Funnel, focus on the act of acquiring and converting customers.
- Others, like the Engines of Growth and the Startup Growth Pyramid, offer strategies for knowing when or how to grow.
- Some, like the Lean Canvas, help you map out the components of your business model so you can evaluate them independent of one another.

We're proposing a new model called the Lean Analytics Stages, which draws from the best of these models and puts an emphasis on metrics. It identifies five distinct stages startups go through as they grow.

While we believe the Lean Analytics Stages represent a fairly simple framework for understanding your startup's progress, we recognize that it can still look overwhelming. And even with our framework, you'll still use the other frameworks as well, so there's a lot to digest. That's why you should put all of this aside (for now!) and focus on the One Metric That Matters, which we'll cover in the next chapter.

What Business Are You In?

How you get and make money drives what metrics you should care about. In the long term, the riskiest part of a business is often directly tied to how it makes money.

Many startups can build a product and solve technical issues, some can attract the right (and occasionally large) audiences, but few make money. Even giants like Twitter and Facebook have struggled with extracting money from their throngs of users.

There's no more iconic symbol of a startup than the lemonade stand, and with good reason—it's a simple, entrepreneurial, low-risk way to learn how businesses operate. And like a lemonade stand, while it might be reasonable and strategic to delay monetization—giving away lemonade for a while to build a clientele—you have to be planning your business model early on.

If we asked you to describe the business model of a lemonade stand, you'd probably say that it's about selling lemonade for more than it costs to make it. Pressed for more detail, you might say that costs include:

- Variable costs of materials (lemons, sugar, cups, water)
- One-time costs of marketing (stand, signage, cooler, bribing a younger sibling to stand in the street)
- Hourly costs of staffing (which, let's face it, are pretty negligible when you're a kid)

You might also say that revenue is a function of the price you charge, and the number of cups sold.

Now let's suppose that you're asked to identify the risky parts of the business. They include the variability of citrus futures, the weather, the foot traffic in your neighborhood, and so on.

One thing we've noticed about almost all successful founders we've met is their ability to work at both a very detailed, and a very abstracted, level within their business. They can worry about the layout of a page or the wording of an email subject one day, and consider the impact of one-time versus monthly recurring sales the next. That's partly because they're not only trying to run a business, they're also trying to discover the best business model.

To decide which metrics you should track, you need to be able to describe your business model in no more complex a manner than a lemonade stand's. You need to step back, ignore all the details, and just think about the really big components.

When you reduce things to their basic building blocks in this way, you come up with only a few fundamental business models on the Web. Interestingly, all of them share some common themes. First, their aim is to grow (in fact, Paul Graham says that a focus on growth is the one defining attribute of a startup).^{*} And second, that growth is achieved by one of Eric Ries's fundamental Engines of Growth: an increase in stickiness, virality, or revenue.

Each business model needs to maximize the thrust from these three engines in order to flourish. Sergio Zyman, Coca-Cola's CMO, said marketing is about *selling more stuff to more people more often for more money more efficiently*.[†]

Business growth comes from improving one of these five “knobs”:

- **More stuff** means adding products or services, preferably those you know your customers want so you don't waste time building things they won't use or buy. For intrapreneurs, this means applying Lean methods to new product development, rather than starting an entirely new company.
- **More people** means adding users, ideally through virality or word of mouth, but also through paid advertising. The best way to add users is when it's an integral part of product use—such as Dropbox, Skype, or a project management tool that invites outside users outsiders—

* <http://paulgraham.com/growth.html>

† <http://www.zibs.com/zyman.shtml>

since this happens automatically and implies an endorsement from the inviting user.

- **More often** means stickiness (so people come back), reduced churn (so they don't leave), and repeated use (so they use it more frequently). Early on, stickiness tends to be a key knob on which to focus, because until your core early adopters find your product superb, it's unlikely you can achieve good viral marketing.
- **More money** means upselling and maximizing the price users will pay, or the revenue from ad clicks, or the amount of content they create, or the number of in-game purchases they make.
- **More efficiently** means reducing the cost of delivering and supporting your service, but also lowering the cost of customer acquisition by doing less paid advertising and more word of mouth.

About Those People

Business models are about getting people to do what you want in return for something. *But not all people are equal.* The plain truth is that not every user is good for you.

- Some are good—but only in the long term. Evernote's freemium model works partly because users eventually sign up for paying accounts, but it can take them two years to do so.
- Some provide, at best, free marketing, and while they may never become paying users, they may amplify your message or invite someone who will pay.
- Some are downright bad—they distract you, consume resources, spam your site, or muddy your analytics.

When you get a wave of visibility, few of the resulting visitors will actually engage with your product. Many are just driving by. As Vinicius Vacanti, co-founder and CEO of Yipit, recalls in a blog post inspired by his company's 2010 launch:*

Was that our big launch? Why didn't more people sign up? Why didn't people complete the sign-up flow? Why weren't people coming back? Now that people covered our startup, how are we supposed to get more press? Why aren't our users pushing their actions to Facebook and Twitter? We got some users to invite their friends but why aren't their friends accepting the invite?

* <http://viniciusvacanti.com/2012/11/19/the-depressing-day-after-you-get-techcrunched/>

The key here is analytics. You need to segment real, valuable users from drive-by, curious, or detrimental ones. Then you need to make changes that maximize the real users and weed out the bad ones. That may be as blunt as demanding a credit card up front—a sure way to reject curious users who don't have any intention of committing or paying. Or it may be a subtler approach, such as not trying to reactivate disengaged users once they've been gone for a while.

If you're a developer of a game that users play once, or an e-commerce site stocking rarely purchased items, that's fine—just get your money up front. If you're a SaaS provider with low incremental costs for additional users, freemium may work, as long as you clearly separate engaged from casual users. If you expect buyers to purchase from you often, you need to make them feel loved. You get the picture.

Segmenting real users from casual ones also depends on how much effort your users have to put into using the application. Some products collect information passively: Fitbit logs walking steps; Siri notices when you've arrived somewhere; Writethatname analyzes your inbox for new contacts. Users don't have to do much, so it can be hard to tell if they've "checked out." It's easier to find disengaged users if they have to actively use the product.

Consider the aforementioned Fitbit, a tiny life-logging device that measures steps, from which it calculates calories burned, miles walked, stairs climbed, and overall activity.

Fitbit users can simply record their steps with a device in their pocket, they can use it to sync data to the company's hosted application, they can visit the portal to see their statistics and share them with friends, they can manually enter sleep and food data to augment what's collected passively, and they can buy the premium Fitbit offering to help them reach their health goals.

Each of these use models represents a different tier of engagement, and Fitbit could segment users across these five segments. And it should: it's perfectly acceptable for a Fitbit user to only use the clip-on device to record the number of steps taken per day, without ever uploading that information, but as a result the company won't be able to monetize that user beyond the initial purchase (through on-site ads, premium subscriptions, or selling aggregate user data, for example). The value of that user is significantly lower. Predicting revenues accurately relies on an understanding of how its different user segments employ the product.

As a startup, you have a wide range of payment and incentive models from which to choose: freemium, free trial, pay up-front, discount, ad-funded, and so on. Your choice needs to match the kind of segmentation you're doing, the time it takes for a user to become a paying customer, how easy it

is to use your service, and how costly an additional drive-by user is to the business.

Not all customers are good. Don't fall victim to customer counting. Instead, optimize for *good* customers and segment your activities based on the kinds of customer those activities attract.

The Business Model Flipbook

A product is more than the thing you buy. It's the mix of service, branding, fame, street cred, support, packaging, and myriad other factors you pay for. When you purchase an iPhone, you're also getting a tiny piece of Steve Jobs's persona.

In the same way, a business model is a combination of things. It's what you sell, how you deliver it, how you acquire customers, and how you make money from them.

Many people blur these dimensions of a business model. We're guilty of it, too. Freemium isn't a business model—it's a marketing tactic. SaaS isn't a business model—it's a way of delivering software. The ads on a media site aren't a business model—they're a way of collecting revenue.

Later in the book we're going to outline six sample businesses. But before we do that, we want to talk about how we came up with them. Think of one of the flipbooks you had as a kid—the kind where you could combine different body parts on each page to make different characters.

You can build business models this way, but instead of heads, torsos, and feet, you have several aspects of a business: the acquisition channel, selling tactic, revenue source, product type, and delivery model.

- The **acquisition channel** is how people find out about you.
- The **selling tactic** is how you convince visitors to become users or users to become customers. Generally, you either ask for money or you provide some kind of scarcity or exclusivity—such as a time limit, a capacity limit, the removal of ads, additional functionality, or the desire to keep things to themselves—to convince them to act.
- The **revenue source** is simply how you make money. Money can come from your customers directly (through a payment) or indirectly (through advertising, referrals, analysis of their behavior, content creation, and so on). It can include transactions, subscriptions, consumption-based billing charges, ad revenue, resale of data, donations, and much more.
- The **product type** is what value your business offers in return for the revenue.

- The **delivery model** is how you get your product to the customer.

Figure 7-1 shows these five aspects, with a variety of models and examples for each one. Remember that this is only a set of examples—most businesses will rely on several acquisition channels, or experiment with different revenue models, or try various sales tactics.

ACQUISITION CHANNEL	<ul style="list-style-type: none"> • Paid advertising • Search engine mgmt. • Social media outreach • Inherent virality • Artificial virality • Affiliate marketing • Public relations • App/ecosystem mkt. 	<ul style="list-style-type: none"> • Banner on Informationweek.com • High pagerank for ELC in kids' toys • Active on Twitter (i.e., Kissmetrics) • Inviting team member to Asana • Rewarding Dropbox user for others' signups • Sharing a % of sales with a referring blogger • Speaker submission to SXSW • Placement in the Android market
SELLING TACTIC	<ul style="list-style-type: none"> • Simple purchase • Discounts & incentives • Free trial • Freemium • Pay-for-privacy • Free-to-play 	<ul style="list-style-type: none"> • Buying a PC on Dell.com • Black Friday discount, loss leader, free ship • Time-limited trial such as Fitbit Premium • Free tier, relying on upgrades, like Evernote • Free account content is public, like Slideshare • Monetize in-app purchases, like Airmech
REVENUE MODEL	<ul style="list-style-type: none"> • One-time transaction • Recurring subscription • Consumption charges • Advertising clicks • Resale of user data • Donation 	<ul style="list-style-type: none"> • Single purchase from Fab • Monthly charge from Freshbooks • Compute cycles from Rackspace • PPC revenue on CNET.com • Twitter's firehose license • Wikipedia's annual campaign
PRODUCT TYPE	<ul style="list-style-type: none"> • Software • Platform • Merchandising • User-generated content • Marketplace • Media/content • Service 	<ul style="list-style-type: none"> • Oracle's accounting suite • Amazon's EC2 cloud • Thinkgeek's retail store • Facebook's status update • Airbnb's list of house rentals • CNN's news page • A hairstylist
DELIVERY MODEL	<ul style="list-style-type: none"> • Hosted service • Digital delivery • Physical delivery 	<ul style="list-style-type: none"> • Salesforce.com's CRM • Valve purchase of desktop game • Knife shipped from Sur La Table

Figure 7-1. Just like the flipbooks you had as a kid, with more words

Lots to Choose From

There is an abundance of “pages” you can put into the flipbook. The team at Startup Compass, a startup dedicated to helping companies make better business decisions with data, identifies 12 revenue models: advertising, consulting, data, lead generation, licensing fee, listing fee, ownership/hardware, rental, sponsorship, subscription, transaction fee, and virtual goods. Venture capitalist Fred Wilson has a document listing a vast number

of web and mobile revenue models, many of which are variants on six basic ones we'll list later in the book.*

Startup Compass also suggests some “fundamental” financial models that combine several pages from the flipbook: search, gaming, social network, new media, marketplace, video, commerce, rental, subscription, audio, lead generation, hardware, and payments.

You can use these “pages” to create a back-of-the-napkin business model. For example, Figure 7-2 shows a sample business model flipbook for Dropbox.

BUSINESS ASPECT	FLIPBOOK PAGE(S)	DROPBOX EXAMPLE
ACQUISITION CHANNEL	<ul style="list-style-type: none">Inherent viralityArtificial virality	<ul style="list-style-type: none">Sharing files with othersFree storage when others sign up
SELLING TACTIC	<ul style="list-style-type: none">Freemium	<ul style="list-style-type: none">Limited-capacity accounts are free; subscribe when you need more
REVENUE MODEL	<ul style="list-style-type: none">Recurring subscription	<ul style="list-style-type: none">\$99/year, monthly fees, enterprise tiers
PRODUCT TYPE	<ul style="list-style-type: none">Platform	<ul style="list-style-type: none">Storage-as-a-service with APIs, collaboration, synchronization tools
DELIVERY MODEL	<ul style="list-style-type: none">Hosted serviceDigital delivery	<ul style="list-style-type: none">Cloud storage, web interfaceDesktop client software

Figure 7-2. Turning the flipbook pages to Dropbox

There's another advantage of stating business models in a flipbook structure like this: it encourages lateral thinking. Each turn of a “page” is a pivot: what would it mean to offer Dropbox as a physical delivery? Or to charge up front for it? Or to rely on paid advertising?

Six Business Models

In the coming chapters, we're going to look at six business models. Each model is a blend of these aspects, and we've tried to mix them up enough to give you a taste of some common examples. But just like a kid's flipbook, there's a huge variety: from the aforementioned list, there are over 6,000 permutations, and our list of aspects isn't by any means exhaustive.

* <https://hackpad.com/Ch2paBpUyIU#Web-and-Mobile-Revenue-Models>

As if that weren't confusing enough, you can employ several at once: Amazon is a transactional, physical-delivery, SEM (search engine marketing), simple-purchase retailer, but it's also running sub-businesses such as user-generated content in the form of product reviews. So unlike those relatively simple children's books, your business can quite easily be a many-headed monster.

In the face of this complexity, we've decided to keep our six business models simple. We'll talk about several aspects of those businesses, and the metrics that matter most to companies of each sort. Think of it as opening the business model flipbook to a particular "page"—one in which you see elements of your own business.

- If you're running an e-commerce business where you sell things to customers, turn to Chapter 8.
- If you're delivering SaaS to users, turn to Chapter 9.
- If you're building a mobile application and using in-app purchases to generate revenue, head to Chapter 10.
- If you're creating content and making money from advertising, you'll find details on media sites in Chapter 11.
- If your primary focus is getting your users to generate content on your platform the way Twitter, Facebook, or reddit do, turn to Chapter 12.
- If you're building a two-sided marketplace where buyers and sellers can come together, check out Chapter 13.

Most businesses fall into one of these categories. Some won't, but they have close parallels in the real world. A restaurant is transactional, like e-commerce; an accounting business offers a recurring service, like a SaaS company, and so on. Hopefully, you'll find a model that's close enough for you to learn important lessons about analytics and apply them to your business, as we review the stages of growth in Chapter 14 and beyond.

EXERCISE | Pick Your Business Model

In the following chapters we go through six sample business models. Find yours and write it down, then list all the metrics we define in that business model and see how well that aligns with what you're tracking. For the metrics that you're tracking, put down the values as they stand today, if you haven't already. If your business overlaps on a couple of models (which isn't uncommon), then grab metrics from each of those models and include them in this exercise.

THE LEAN STARTUP SERIES

2nd Edition

Ash Maurya

RUNNING LEAN

Iterate from Plan A to a Plan That Works

O'REILLY®

Eric Ries, Series Editor

Get Ready to Measure

You need not only the ability to visualize your customer lifecycle, but also the ability to measure it.

The Need for Actionable Metrics

Even though the terrain before product/market fit is riddled with qualitative learning, you still need actionable metrics to be able to visualize and measure your customer lifecycle.

The objective before product/market fit is *not* as much about optimizing for conversion and *all* about quickly identifying and troubleshooting hot spots in your customer lifecycle.

Up until now, you have made a number of product decisions based on what customers have told you. It's time to start measuring what they do.

What Is an Actionable Metric?

An actionable metric is one that ties specific and repeatable actions to observed results.

The opposite of actionable metrics are vanity metrics (like web hits or the number of downloads), which only serve to document the current state of the product but offer no insight (by themselves) into how you got there or what to do next.

A warning flag that indicates you might have a vanity metric on your hands is when the numbers don't go anywhere but up and to the right every month.

Put another way, things like web hits or downloads are elements of sub-funnels that make up the larger macro metric that matters, such as acquisition and activation.

It's not what you measure, but how.

Understanding the difference between a vanity metric and a macro metric is the first step. In order to make your metrics actionable, you have to additionally make them accessible (through simple reports) and auditable (by being able to go behind the numbers).

The three A's of metrics are: Actionable, Accessible, and Auditable.

—Eric Ries

I'll go into some detail regarding how you do that in the next few sections, and then I'll outline the steps for building a conversion dashboard.

Metrics Are People First

Eric Ries popularized the meme of “metrics are people too” for the purpose of making your metrics auditable, but I don’t believe it goes far enough.

While I am a big proponent of building a metrics-driven culture, there is a lot more to building a great product than numbers. For starters, *you have to be able to go to the people behind the numbers.*

The ideal conversion dashboard is part analytics and part customer relationship management.

Here's why:

Metrics can't explain themselves.

When you first launch a product or new feature, lots of things can and do go wrong. Metrics can help you identify where things are going wrong, but they can't tell you why. You need to talk to people for that.

Don't expect your users to come to you.

When users first use your product, they aren't yet invested in your solution. They usually start out interested, but they are skeptical and their motivation decays quickly when things go wrong. In other words, you can't expect users to promptly send in a bug report or pick up the phone and call you when they need help. They might do this, but it's more likely that they'll simply abandon your product and leave. The burden of quickly identifying problems and reaching out to your users is yours.

Not all metrics are equal.

You've been very selective about who you've interviewed up until now. Once you launch, you won't be able to control who uses your product. In addition to your target early adopters, you might be visited by bots, curious onlookers, and maybe even other undiscovered target customers. When you just look at numbers, you get an averaging effect that can be greatly skewed if you don't yet have a lot of traffic (or the right traffic). You need a way to segment your metrics into different buckets.

Simple Funnel Reports Aren't Enough

The funnel report is a powerful analysis tool. It's simple to understand and lends itself well to visually depicting a conversion dashboard. But most third-party implementations of funnel reports are better suited at tracking micro-level funnels, like landing page conversions, than macro-level funnels, like your customer lifecycle.

Micro-level funnels are characterized by short lifecycle events typically measured in minutes, while macro-level funnels are characterized by long lifecycle events typically measured in days or months.

Simple funnel reports work by letting you specify a reporting period over which the number of key event occurrences are counted and visualized. This approach doesn't work when the intervals between events fall outside the reporting period.

To illustrate these problems, let's consider an example for a downloadable product that uses a 14-day trial.

Figure 10-1 shows an example of what a typical funnel report might look like.

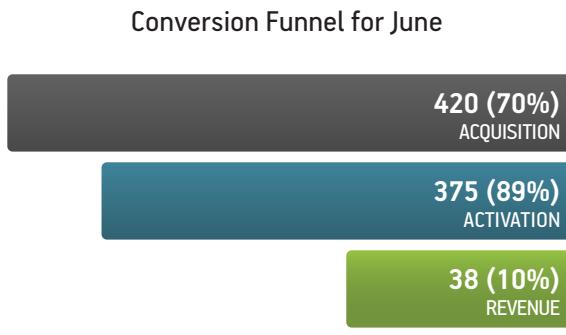


Figure 10-1. *Typical funnel report*

In Figure 10-1, the “acquisition” and “activation” events are short lifecycle events, while the “revenue” event is a long lifecycle event.

This poses the following issues:

Inaccurate conversion rates

The numbers reported for the revenue event most likely include purchases made in May and exclude purchases made in July, which skews the overall conversion rates.

Dealing with traffic fluctuations

This skewing of numbers is further exacerbated by any fluctuations in traffic. If signups go down in July, your conversion rates will appear to be better when they may not be.

Measuring progress (or not)

Another problem with this sort of reporting is that your product is also constantly changing. It is hard, if not outright impossible, to tie back observed results (good or bad) to actions you took in the past, such as launching a new feature.

Segmenting funnels

Over time, you will probably run a split test or need to segment your funnel to isolate one group of customers from another. You can't do this with a simple funnel report.

Say Hello to the Cohort

So, while funnels are a great visualization tool, funnels alone are not enough. The answer is to couple funnels with cohorts.

Cohort analysis is very popular in medicine, where it is used to study the long-term effects of drugs and vaccines:

A cohort is a group of people who share a common characteristic or experience within a defined period (e.g., are born, are exposed to a drug or a vaccine). Thus a group of people who were born on a day or in a particular period, say 1948, form a birth cohort. The comparison group may be the general population from which the cohort is drawn, or it may be another cohort of persons thought to have had little or no exposure to the substance under investigation, but otherwise similar. Alternatively, subgroups within the cohort may be compared with each other.¹

¹ http://en.wikipedia.org/wiki/Cohort_study

We can apply the same concept of the cohort or group to users and track their lifecycle over time. For our purposes, a cohort is any property that can be attributed to a user. The most common cohort used is “join date,” but as we’ll see, this could just as easily be the user’s “plan type,” “operating system,” “gender,” or something else.

Let’s see how cohort reports overcome the shortcomings with simple funnel reports.

The weekly cohort report (by join date) shown in Figure 10-3 was generated using the same data used in the simple funnel report earlier (which I show again in Figure 10-2 for comparison).

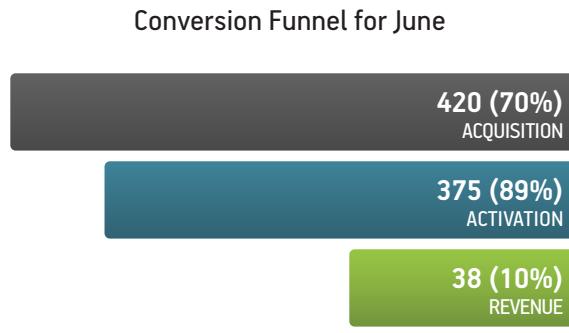


Figure 10-2. *Simple funnel report*

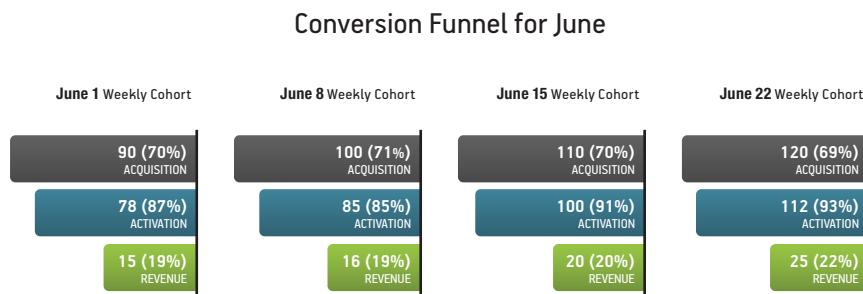


Figure 10-3. *Weekly cohort (by join date)*

You’ll notice immediately that while the acquisition and activation conversion numbers are close enough, the revenue conversion rates are very different.

Dealing with traffic fluctuations

Since all the events are tied back to the users that generated them, cohort reports handle fluctuations in traffic correctly.

Measuring progress (or not)

More important, though, the weekly cohort report visibly highlights significant changes in the metrics, which can then be tied back to specific activities done in a particular week.

Segmenting funnels

Since cohort reports are inherently built around grouping users, they can be used to segment your funnels longitudinally around any property you track.

How to Build Your Conversion Dashboard

There are lots of third-party analytics products on the market. I have cut my teeth on Google Analytics, KISSmetrics, and Mixpanel. Each tool has its strengths and weaknesses, but unfortunately I haven't found a single analytics solution (yet) that addresses all the needs I outlined earlier.²

Rather than getting bogged down on the specifics of each tool, I cover how I built my conversion dashboard from a functional perspective in the Appendix.

² USERcycle is my attempt at solving this problem.

THE LEAN SERIES

Jeff Gothelf with Josh Seiden

LEAN UX

Applying Lean Principles to
Improve User Experience

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Eric Ries, Series Editor

Vision, Framing, and Outcomes

If it disagrees with experiment, it's wrong.

Dr. Richard Feynman

Traditionally, UX design projects are framed by requirements and deliverables; teams are given requirements and expected to produce deliverables. Lean UX radically shifts the way we frame our work. Our goal is not to create a deliverable, it's to change something in the world—to create an outcome. We start with assumptions instead of requirements. We create and test hypotheses. We measure to see whether we've achieved our desired outcomes.

This chapter covers the main tool of outcome-focused work: the hypothesis statement. The hypothesis statement is the starting point for a project. It states a clear vision for the work and shifts the conversation between team members and their managers from outputs (e.g., “we will create a single sign-on feature”) to outcomes (e.g., “we want to increase the number of new sign-ups to our service”).

The hypothesis statement is a way of expressing assumptions in testable form. It is composed of the following elements:

Assumptions

A high-level declaration of what we believe to be true.

Hypotheses

More granular descriptions of our assumptions that target specific areas of our product or workflow for experimentation.

Outcomes

The signal we seek from the market to help us validate or invalidate our hypotheses. These are often quantitative but can also be qualitative.

Personas

Models of the people for whom we believe we are solving a problem.

Features

The product changes or improvements we believe will drive the outcomes we seek.

Let's take a look at each one of these elements in further detail.

Assumptions

The first step in the Lean UX process is to declare your assumptions. Every project starts with assumptions, but usually we don't explicitly acknowledge this fact. Instead, we try to ignore assumptions, or worse, treat them as facts.

Declaring your assumptions allows your team to create a common starting point. By doing this as a team, you give every team member—designer and nondesigner alike—the opportunity to voice his or her opinion on how best to solve the problem. Going through an assumptions declaration exercise gets everyone's ideas out on the whiteboard. It reveals the team's divergence of opinions and also exposes a broad set of possible solutions.

Declaring assumptions is the first step in the Lean UX process; see Figure 3-1.

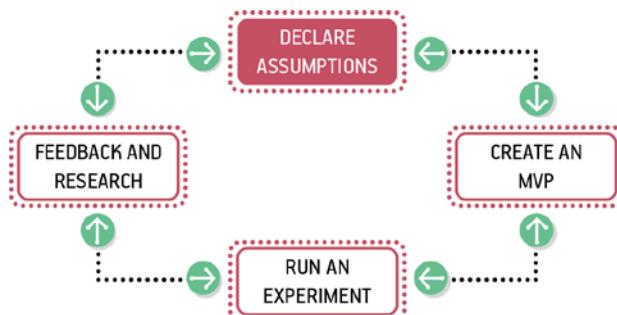


Figure 3-1. The Lean UX process, step 1

Method: Declaring Assumptions

Who

Declaring assumptions is a group exercise. Gather your team, making sure that all disciplines are represented, including any subject matter experts that could have vital knowledge about your project. For example, if you're handling a frequent customer complaint, it might be beneficial to include a customer service representative from your call center. Call center reps speak to more customers than anyone else in the organization, and will likely have insight the rest of the team won't.

Preparation

Give the team advance notice of the problem they will be taking on to give everyone a chance to prepare any material they need, or do any related research, before you begin. Important things to prepare in advance include:

1. Analytics reports that show how the current product is being used
2. Usability reports that illustrate why customers are taking certain actions in your product
3. Information about past attempts to fix this issue and their successes and failures
4. Analysis from the business stakeholder as to how solving this problem will affect the company's performance
5. Competitive analyses that show how competitors are tackling the same issues

Method: Problem Statement

The team needs to have a starting point for the exercise. I've found it helpful to start with a problem statement. (See the template for this statement later in this section.) The problem statement gives your team a clear focus for their work. It also defines any important constraints. You need constraints for group work. They provide the guardrails that keep the team grounded and aligned.

Problem statement template

Problem statements are made up of three elements:

1. The current goals of the product or system
2. The problem the business stakeholder wants addressed (i.e., where the goals aren't being met)
3. An explicit request for improvement that doesn't dictate a specific solution

Template

[Our service/product] was designed to achieve [these goals]. We have observed that the product/service isn't meeting [these goals], which is causing [this adverse effect] to our business. How might we improve [service/product] so that our customers are more successful based on [these measurable criteria]?

For example, here is a problem statement we used to begin a project at TheLadders, an online recruiting firm where I worked. (You'll see many more examples from TheLadders throughout this book.)

Our service offers a conduit between job seekers and employers trying to hire them. Through our service, employers can reach out to job seekers in our ecosystem with employment opportunities. We have observed that one critical factor affecting customer satisfaction is how frequently job seekers respond to employer messages. Currently, job seekers are replying to these communications at a very low rate. How might we improve the efficacy of our communication products, thus making employers more successful in their jobs and job seekers more satisfied with our service?

Problem statements are filled with assumptions. The team's job is to dissect the problem statement into its core assumptions. You can do that by using the following business assumptions worksheet. Note that some teams—especially teams starting from scratch—may not have a clear problem statement. That's okay. You can still try out the worksheet. You'll just have to expect that it may take longer to reach consensus on some of the questions.

Business Assumptions Worksheet

I like to use this worksheet (created by my partner Giff Constable) to facilitate the assumptions discussion. There are many ways to complete this worksheet. You can answer the questions as a team, simply discussing each answer. Or you can run a structured brainstorm/affinity mapping exercise for each question. However you do it, remember that it's important to give everyone a chance to contribute. Also, don't worry if you get to the end of the worksheet without clear agreement on all of the answers. The goal is to collect statements that reflect what you and your team think might be true. If you have strong disagreement on a point, capture the different perspectives.

Assumptions Worksheet

Business Assumptions

1. I believe my customers have a need to _____.
2. These needs can be solved with _____.
3. My initial customers are (or will be) _____.
4. The #1 value a customer wants to get out of my service is _____.
5. The customer can also get these additional benefits _____.
6. I will acquire the majority of my customers through _____.
7. I will make money by _____.
8. My primary competition in the market will be _____.
9. We will beat them due to _____.
10. My biggest product risk is _____.
11. We will solve this through _____.
12. What other assumptions do we have that, if proven false, will cause our business/project to fail? _____.

User Assumptions

1. Who is the user?
2. Where does our product fit in his work or life?
3. What problems does our product solve?
4. When and how is our product used?
5. What features are important?
6. How should our product look and behave?

You may discover that some of these questions don't apply to your project. That's okay—you can adapt the questions to your situation as you see fit. If it's early in the life of your product, you'll probably spend more time on the business assumptions. If you've got a mature product, you'll probably focus your energies on the user assumptions. The point is to cast a broad net and look for assumptions in all dimensions of your project.

When you've completed the worksheet, you will have a list of assumption statements. Your next step is to prioritize these assumptions.

Prioritizing assumptions

The reason we declare assumptions at the start of our work is so that we can identify project risks. Once you have a list of assumptions, you need to figure out which ones are the riskiest so that you can work on them first.

Lean UX is an exercise in ruthless prioritization. Understanding that you can't test every assumption, how do you decide which one to test first? I like to create a chart like the one in Figure 3-2, and use it to map out the list of assumptions.

The goal is to prioritize a set of assumptions to test based on their level of risk (i.e., how bad would it be if we were wrong about this?) and how much understanding we have of the issue. The higher the risk and the more unknowns involved, the higher the priority to test those assumptions.

This doesn't mean that assumptions that don't make the first cut are gone forever. Keep a backlog of the other assumptions you've identified so you can come back to them and test them if and when it makes sense to do so.

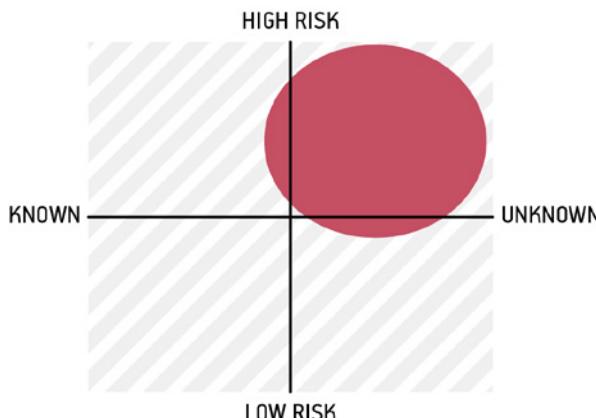


Figure 3-2. Prioritization matrix

Hypotheses

With your prioritized list of assumptions in hand, you're ready to move to the next step: testing your assumptions. To do that, transform each assumption statement into a format that is easier to test: a hypothesis statement.

Generally, hypothesis statements use the format:

We believe [this statement is true].

We will know we're [right/wrong] when we see the following feed-back from the market:

[qualitative feedback] and/or [quantitative feedback] and/or [key performance indicator change].

You can see that this format has two parts. A statement of what you believe to be true, and a statement of the market feedback you're looking for to confirm that you're right.

Expressing your assumptions this way turns out to be a really powerful technique. It takes much of the subjective and political conversation out of the decision-making process and instead orients the team toward feedback from the market. It also orients the team toward users and customers.

Subhypotheses: Breaking the Hypothesis Down into Smaller Parts

Sometimes—if not most of the time—you will discover that your hypothesis is too big to test with one test. It will contain too many moving parts, too many subhypotheses. When this happens, I find it helpful to break the hypothesis down into smaller and more specific parts. Though there are many ways to do this, for product work I have found that this format is very helpful:

We believe that

[doing this/building this feature/creating this experience]

for [these people/personas]

will achieve [this outcome].

We will know this is true when we see

[this market feedback, quantitative measure, or qualitative insight].

The first field is completed with the feature or improvement you're considering making to your product. The second field describes exactly which of your target customers will benefit from this feature. The last field speaks to the benefit those customers will get from that feature. The final statement ties it all together. This is the statement that determines whether your hypothesis was true. What market feedback will you look for to indicate that your idea is correct? This feedback could be a quantitatively measured usage of a feature, an increase in a business metric, or a qualitative assessment of some sort.

It's not all numbers! It's worth noting that there's been a lot of backlash in the design world against measurement-driven design. The argument is that by reducing every design decision to factors that can be measured, we take the delight and soul out of our products. I actually agree with this perspective, which is why I think it's so important to include qualitative feedback in your success criteria. Are people delighted by a design? Do they recommend your product to their friends? Do they tweet about it? When you look for success metrics, remember that it's not all numbers.

Let's take a look at an example of how this works by going back to the problem statement we looked at earlier from TheLadders:

Our service offers a conduit between job seekers and employers trying to hire them. Through our service, employers can reach out to job seekers in our ecosystem with employment opportunities. We have observed that one critical factor affecting customer satisfaction is how frequently job seekers respond to employer messages. Currently, job seekers are replying to these communications at a very low rate. How can we improve the efficacy of our communication products, thus making employers more successful in their jobs and job seekers more satisfied with our service?

One assumption we make in this problem statement is that recruiters will use a new channel (TheLadders) to engage with candidates. This is not a proven fact and needs to be tested. How would we write the hypothesis for that statement? Let's take our template and fill it out:

We believe that

creating an efficient communication system within TheLadders' product experience

for recruiters and employers

will achieve a higher rate of contact success and an increase in product satisfaction.

We will know this is true when we see an increase in the number of replies from job seekers to recruiter contacts and an increase in the number of messages initiated by recruiters in our system.

The Importance of Benchmarks

Remember, none of your metrics will be meaningful if you don't have a benchmark in place prior to writing your hypotheses. That benchmark—the current state of the metrics you're using to determine your idea's success—needs to be captured ahead of time to ensure that the team knows what it's targeting.

Completing Your Hypothesis Statements

To create your hypothesis statements, start assembling the building blocks. Put together a list of *outcomes* you are trying to create, a definition of the *personas* you are trying to service, and a set of the *features* you believe might work in this situation. Once you've got all of this raw material, you can put them all together into a set of statements. Let's take a closer look at each of these elements.

Outcomes

When you're creating hypotheses to test, you want to try to be very specific regarding the outcomes you are trying to achieve. I discussed earlier how Lean UX teams focus less on output (the documents, the drawings, even the products and features that we create) and more on the outcomes that these outputs create: can we make it easier for people to log into our site? Can we encourage more people to sign up? Can we encourage greater collaboration among system users?

Together with your team, look at the problem you are trying to solve. You probably have a few high-level outcomes you are hoping to achieve (e.g., increasing signups, increasing usage, etc.). Consider how you can break down these high-level outcomes into smaller parts. What behaviors will predict greater usage: more visitors to the site? Greater click-through on email marketing? Increasing number of items in the shopping cart? Sometimes it's helpful to run a team brainstorm to create a list of individual outcomes that, taken together, you believe will predict the larger outcome you seek.

Figure 3-3 shows an example from Giff Constable, in which an executive leadership team brainstormed and then voted on which key performance indicators (KPIs) the company should pursue next. After consolidating to the list shown in the photo, each executive was given four M&Ms. As long as they managed not to eat their votes, these executives were able to vote (with candy) for each metric they felt was most important. Ties were broken by the CEO.



Figure 3-3. KPI prioritization with candy

Personas

Designers often create models called personas to represent the users of their systems. If your team already has a well-defined set of personas, the only thing you need to consider at this point is which ones you will be using in your hypothesis statements. If you don't yet have personas, this section explains how to create personas for the Lean UX process.

Proto-Personas

Designers have long been advocates for the end user. Lean UX is no different. As we make assumptions about our business and the outcomes we'd like to achieve, we still need to keep the user front and center in our thinking.

Most of us learned to think about personas as a tool to represent what we learned in our research. It was often the case that we created personas as the output of lengthy, expensive research studies. The problem with personas that are created this way is the assumption that this is the only way to create personas, as well as the tendency to regard personas created through this process as untouchable because of all of the work that went into creating them.

In Lean UX, we change the order of operations in the persona process. When creating personas in this approach, we start with assumptions and then do research to validate our assumptions. Instead of spending months in the field interviewing people, we spend a few hours creating

proto-personas. Proto-personas are our best guess as to who is using (or will use) our product and why. We sketch them on paper with the entire team contributing—we want to capture everyone’s assumptions. Then, as we learn from our ongoing research, we quickly find out how accurate our initial guesses are, and how we’ll need to adjust our target audience (and persona)—and thus our design.

Using Proto-Personas

A team we were working with in New York was building an app that improved the Community-Supported Agriculture (CSA) experience for New York City residents. CSA is a program that allows city residents to pool their money and purchase an entire season’s worth of produce from a local farmer. The farmer then delivers his crops, weekly, to the members of the CSA. Many subscribers to the CSA are men and women in their late twenties and early thirties who need to juggle a busy work life, an active social life, and a desire to participate in the CSA.

The team assumed that most CSA consumers were women who liked to cook. They spent about an hour creating a persona named Susan. But when they went out into the field to do research, they quickly learned that the overwhelming majority of cooks, and hence the potential users of their app, were young men. They returned to the office and revised their persona to create Timothy (Figure 3-4).



Figure 3-4. *Proto-persona example*

Timothy proved to be a far more accurate target user. The team didn’t waste any more time refining ideas for the wrong audience. They were now focused on an audience that, while still not perfect, was far more correct than their initial assumptions.

Persona Format

We like to sketch proto-personas on paper using a hand-drawn quadrant, as in Figures 3-5 and 3-6 (start by folding a sheet of paper into four boxes). The top-left quadrant holds a rough sketch of the persona and his or her name and role. The top-right box holds basic demographic information. Try to focus on demographic information that predicts a specific type of behavior. For example, there may be cases in which the persona's age is totally irrelevant yet their access to a specific device, such as an iPhone, will completely change the way they interact with your product.

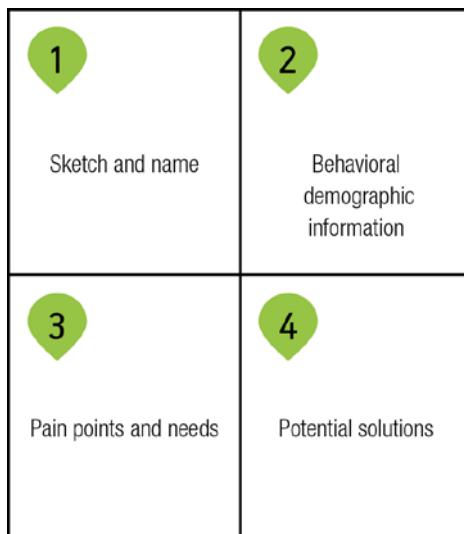


Figure 3-5. *Blank persona template*

The bottom half of the proto-persona is where we put the meat of the information. The bottom-left quadrant contains the user's needs and frustration with the current product or situation, the specific pain points your product is trying to solve, and/or the opportunity you're trying to address. The bottom-right quadrant contains potential solutions for those needs. You'll use the bottom-right quadrant to capture feature and solution ideas.

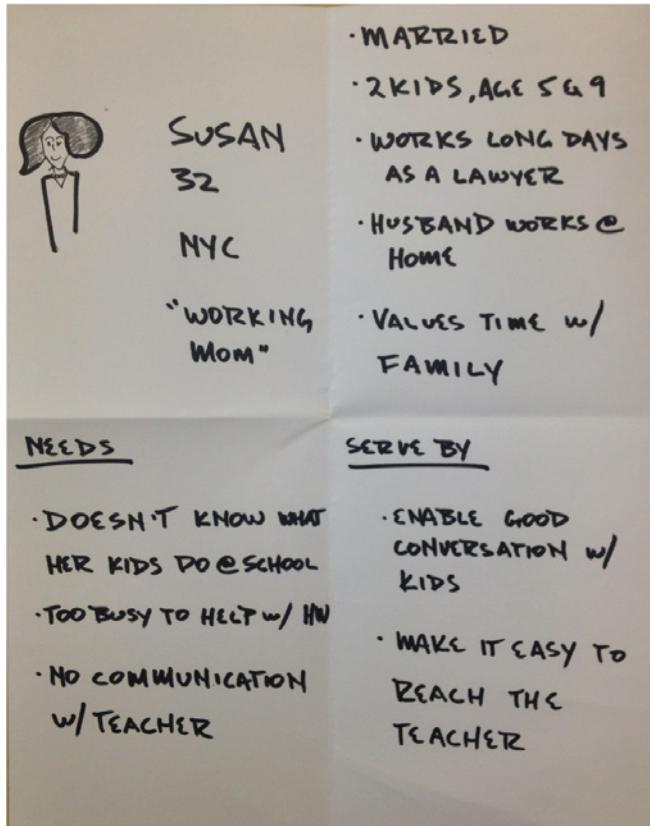


Figure 3-6. Completed persona template

Persona Creation Process

As with the other elements of the hypothesis statement, we like to start the persona creation process with a brainstorm. Team members offer up their opinions on who the project should be targeting and how that would affect each potential user's use of the product. Once the brainstorming is complete, the team should narrow down the ideas to an initial set of three or four personas they believe are most likely to be the target audience. Try to differentiate the personas around needs and roles rather than by demographic.

Features

Once you have a list of outcomes in mind and have focused in on a group of users, it's time to start thinking about what tactics, features, products, and services you can put in place to achieve those desired outcomes. Typically, everyone on the team has a strong opinion at this stage—after all, features are the most concrete things we work with, so it's often easiest for us to express our ideas in terms of features. Too often, though, our design process starts when someone has a feature idea, and we end up working backward to try to justify the feature. In Lean UX, features exist to serve the needs of the business, the customer, and the user.

Feature Brainstorming Process

Employing the same techniques described earlier, we like to create feature lists by brainstorming them as a team. We're looking for features we think will drive customer behavior in the desired direction. Have each team member write each idea, using a thick marker, on a sticky note. When time is up, ask everyone to post their notes to the wall and have the group arrange them into themes.

Assembling Your Subhypotheses

With all of your raw material created, you're ready to organize this material into a set of testable hypotheses. We like to create a table like the one in Figure 3-7 and then complete it by using the material we've brainstormed.

As you write your hypotheses, consider which persona(s) you're serving with your proposed solutions. It's not unusual to find solutions that serve more than one persona at a time. It's also not unusual to create a hypothesis in which one feature drives more than one outcome. When you see that happening, split the hypothesis into two parts—you want each statement to refer to only one outcome. The important thing to remember in this whole process is to keep your ideas specific enough so that you can create meaningful tests to see if each of your ideas hold water.

We will	for	In order to achieve
[create this feature]	[this persona]	[this outcome.]

Figure 3-7. Hypothesis creation table

When your list of hypotheses is complete, you're ready (finally!) to move on to the next step: design. If you've done the process to this point with your whole team (and I strongly recommend that you do), you'll be in great position to move forward together. This process is a very effective way to create a shared understanding and shared mission across your whole team.

Conclusion

In this chapter, we discussed how we can reframe our work in terms of outcomes, which is a vitally important Lean UX technique: framing our work with outcomes frees us (and our teams) to search for the best solutions to the problem at hand. We also looked at the process of declaring outcomes. In order to achieve these, we start with the project's problem statements and then acknowledge our assumptions, then transform these assumptions into hypotheses. We also showed how to write hypothesis statements that capture intended features, audience, and goals, and that are specific enough to be tested. You'll end up with statements that will serve as the roadmap for the next step of the Lean UX process: collaborative design.

In the next chapter, we define collaborative design and how it differs from traditional product design. We'll discuss specific tools and techniques that empower teams to design together and demonstrate how designing together is the beginning of the hypothesis validation process.

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Chapter 2

Business Matters

Introduction

Smart data practices are key when it comes to having a strategic impact in any business.

If you have a great user experience, then you have the foundation of a great business. User centered design and activity data analytics are both focused on working out whether your idea of a successful, rewarding and repeat-worthy experience aligns with the views of your intended or current customer base. In a monopoly environment, a business can offer unsatisfying service and still seem apparently successful. Thankfully, today's competitive landscape means the company that provides a better service will win.

Data capture, management and analysis is the best way to bridge between design, user experience and business relevance. A data aware approach to design is a good foundation for cross-functional collaboration within your business, whether large, medium or small. It's also an excellent way to have impact upon and create alignment between design and business goals, focusing on the critical part of any business: providing the best possible service to your customers and clients, understanding their goals and concerns, and addressing their frustrations. A user centered design practice centralizes empathy and customer understanding, and as such, is best positioned to also work to define and design the right measures that accurately reflect the customer experience.

Being user focused and data aware means you and the people you work with should also be *actively* contributing to the creation of meaningful business goals that are focused on the greatest asset of any business: users, clients and customers.

Our bottom line: don't just design the user experience, sketch out what data you will need that will help you test your design. Design the data capture, analysis and questions *as part* of your design process. Be clear about the data that will best help you measure and articulate the effect of your design on your customers and then through that to the business.

In this chapter we will give you one take, based on our experiences of how data in combination with design can impact business.

Thinking about your business

As you can imagine, the kind of business you're in will influence how you measure the health of your business. Business "health" is an extremely complex concept, that includes myriad different measures, that roll up into a "bottom line" that defines whether the business is viable or not. Such measures include engineering analytics (service delivery and robustness metrics), business analytics (which in the end is about balancing profit and loss), markets and competitiveness, and so on. Ultimately though, whether you are focused on one audience or many, the dynamic quality of the market today means our focus, what customers – "users" – do, is key.

We kick off this chapter by first asking you to take a step back and to reflect on the fundamentals of your business. We ask three questions in this section:

- 1) What kind of business are you?
- 2) What is your revenue model?
- 3) How mature is your business?

Your answers to these questions will determine the kind of data that you will want to collect.

What kind of business are you in?

The data you collect, the measures you define and the metrics you track will, to some extent, depend on the industry or space that you operate within. Though not a comprehensive list of business types, the following are some of the most common.

- **Transactional** – Companies are on selling goods to customers or creating a marketplace. Well-known examples are Amazon, eBay and Zappos.com.
- **User Generated Content (UGC)** – User generated content sites often, but not always, use social networks for content distribution. UGC sites rely on their users to create content that is stored, disseminated, annotated and mined by the service. That content might take many different forms whether it's video, blogs, audio files, images, commentary, and so on. The best known examples here are Twitter, Facebook, YouTube, Vimeo, Instagram and Flickr.
- **Media Sites** – Companies that provide access to curated media, such as news, music and video. Examples here are Hulu, Spotify and the NY Times.com.
- **Software as a Service (SaaS)** – Companies that provide a service or software for their customers, hosted by the company. Examples here include Salesforce.com, Intuit, Squarespace and Zendesk.

Once you have decided what kind of business you are in, looking at what competitors and others in your industry value will also provide you with important clues as to what might be of greatest value and thus what to focus on.

What is your revenue model?

The next question to ask yourself is about your revenue model. What is the primary source of revenue for your business? Some of the most common models are:

- **Production** - the primary source of revenue comes from selling goods.

- **Subscription** – your company collects a recurring fee for services or access to content and tools. Factors to consider here are how often does the subscription renew? Within the subscription model, some companies will use a **Freemium** pricing model where the service is free, but customers might pay for premium or proprietary features or functionality.
- **Advertising** – the primary source of income will be from advertising revenue. Advertisers might be charged for the number of times that their ads are seen or based on the number of times that their ad is clicked. You might also get revenue from advertisers that are looking to get exposure through sponsorship.
- **Pay as you go** – customers will pay for access to a service or content on a one off basis, as needed.

How mature is your business?

In addition to being thoughtful about the kind of business you are in, you'll also want to take into consideration the stage of growth your business is in. The maturity (or immaturity) of your business and your customer base will have a critical role in the way you apply a data aware framework. Here are some of the key considerations at various phases¹:

- **Young businesses** – in the earliest stages of a business, you'll be most concerned with establishing a presence and acquiring customers. You'll be focused on ensuring that you have a viable business so market fit might also be a consideration at this stage. A solid foundation between your product and the market is essential before scaling a business, and the best way to test this fit is to do carefully designed user testing of your product to go alongside more traditional marketing analytics.
- **Mid stage businesses** – after establishing that you have enough demand from customers for your product or service and that you are somewhat stable enough to keep these customers, your focus in this stage may switch from growth and acquiring customers to optimizing the relationship between your revenue and expenses. In order to do this, you will need to find out what aspects of your product or service offering is returning robust and reliable results, and if there are opportunities for growth.
- **Mature businesses** - if your business is at a fairly mature state then it's likely that you are more concerned with retention of your customers, protecting them and not losing ground to new competitors. In order to do this, you will need to find out which aspects of your product are not working as well as which are and ask yourself, where am I losing potential or actual customers.

With all three of the areas we outline above, you will find that placing yourself into any of those groups is not clear cut. Some UGC businesses might also have a transactional component to them. You might be a new business, but that doesn't mean that you shouldn't care about retaining the customers you have.

¹ <https://hbr.org/1983/05/the-five-stages-of-small-business-growth>

Business influences on data, measures and metrics

Naturally, the kind of business you're in has a huge impact on what metrics and data it makes sense for you to collect, manage and report. The considerations of the businesses are very different across different industries, but there may be overlap. Customer/user engagement, for example, is something that all businesses care about.

A basic engagement measure is the Active User (AU). The idea is to capture how many people use your product or service on a daily or monthly basis. Business reports often include summaries of Daily Active Users (DAU) and Monthly Active Users (MAU), potentially across many categories if the nature of the business is complex. Of course, defining "active" can get complicated. It can vary dramatically from company to company, and can change within a company over time. For example, to Wikipedia, an active user may be someone who contributed to more than one article. According to the Wall Street Journal, Twitter considers a user active if they log in once a month. For a social platform, an active visitor is someone who has come back to the platform at least once within 30 days. For an ecommerce platform, a metric like active browsing 2 days out of 7 may be the metric the business considers successful. For a news media outlet, active engagement with stories once a day may be sufficient.

Drilling deeper we can define "engagement" metrics that address and measure a broader spectrum of user activities. The amount of a user profile that is filled out could be one such measure. Engagement for a social network may mean number of contacts, numbers of connections or communications made with those contacts, time spent on site, volume of content posted, produced and/or consumed and so on. For an ecommerce site, engagement means transactions (purchases, sales, returns, refunds and so on). For a business with an online presence where revenue is drawn from advertising, clicks (which are a proxy for interest piqued) and conversions (transactions that include purchase for example) may be the best metric of success.

The definition and characterization of "active" for business health and longevity is a prime example of a metric that needs user centered design thinking, and design expertise in the creation of measures that will deliver meaningful results and therefore a meaningful and business relevant set of metrics.

Business types: positive and negative measurements

Let's take a more structured look at the kinds of things that different businesses will measure. This is not meant to be a comprehensive list, but rather a structure that you might use to consider what measurements are key for your business. In this structure, we're looking at positive and negative measurements. Positive measurements are the factors that the businesses are looking to see trend upward and have positive impact on the business. Negative measurements are correlated to negative impact on the business and are things that businesses would look to reduce.

Table 2-1

Type of business	Example Positive Measurements	Example Negative Measurements
Transactional	<ul style="list-style-type: none">• Number of products viewed• Conversions (emails given,	<ul style="list-style-type: none">• Bounce rate (number of visitors who come to your

	shopping cart purchases, etc.)	site but leave without doing anything further)
User Generated Content	<ul style="list-style-type: none"> • Viral growth • Content submissions • New visitors 	<ul style="list-style-type: none"> • Attrition • Spam/Bad content
Media Sites	<ul style="list-style-type: none"> • Time engaged with content • Virality of content • Number of ads seen (in an ad supported model) 	<ul style="list-style-type: none"> • Abandonment • Disengagement
Software as a Service (SaaS)	<ul style="list-style-type: none"> • Retention • Productivity • Performance 	<ul style="list-style-type: none"> • Churn • Support calls • Refunds

Businesses overlap in various respects. To more closely illustrate how one might use the framework above, let's focus on businesses that centers on user generated content. UGC product metrics are primarily driven by audience and behavior. Audience numbers are relatively pervasive across different UGC sites, whereas behavioral metrics tend to be unique to the business being built. For example, many UGC sites have a SaaS-like component—that is, an area where users complete tasks such as writing and publishing a story, uploading an image, posting a video, and so on. However, the SaaS component of these sites merely supports the discussion and spread of content. Users creating content for other users is what sets these sites apart from a SaaS only business.

A business that is focused on user generated content aims to increase the number of content submissions from their users. The primary question is “How can we get our users to submit more content?” As a designer, you'll be trying to solve this business imperative through design, including understanding the trade-offs such as how increasing the number of content submissions may result in a decrease in quality and a poorer user experience. As a designer, you'll therefore need to craft a solution that encourages people to submit more content while keeping the content at an acceptable level of quality and ensuring content relevance. Being able to articulate and ultimately measure how your design work directly impacts the unique goals of your business is one of the key benefits of taking a data aware approach to design.

Business types: critical moments

Depending on your business, there are also differences in what is and what is not critical to measure and monitor. It is useful to think about whether your product or service is critical for your primary target user group's activities. An emergency helpline for example need to be always available; it is critical that the helpline does not have "down time". A discretionary use, social sharing platform may be able to afford a small amount of down-time, without the results being critically negative for the users. However you're your business is a transaction-based marketplace, where personal allegiance is exceeded by customer satisfaction with an efficient transaction, the longer you have downtime, the more likely your audience will go elsewhere. The point here is that, what is critical to your business is where your resources will be allocated, and where your most fine grained and nuanced data gathering may need to be.

Take for example, the differences between what mattered to businesses and services like Twitter and Gmail in their early days. As we all know, critical for most businesses is "up time", that is making sure your services are available – a key part of the engineering analytics we mentioned above. The worst thing that can happen is when the services go down, that is are not available. We have all clicked through to a URL to see an error, and it is jarring.

When Flickr, the photo sharing site goes down, a playful image is shown with the message "Flickr is having a massage.", intended to let users know someone is working on the problem and the site will be available again soon. The message is personal and personable. In the early days of Twitter, the platform went down very, very often. The root cause came down to scale – too many people trying to use the product at once. The underlying technology couldn't support it, which lead to many users getting error messages. The error message was a picture created by Yiyi Lu, later dubbed the "Fail Whale" (see figure 2-1) by twitter user @qruish (Nick Quaranto)². Biz Stone, the co-founder of Twitter told an NPR interviewer that their idea was to convey "that it's a big job but we're all working together to do it." It was intentionally fun, but not "so jokey".

² <https://twitter.com/qruish/status/822613478>



Figure 2-1 The whale...

As a result, when Twitter used to go down, many people seemed to be delighted. Shouts of glee would hit walls on Facebook when Twitter went down. Business Insider, The Next Web, BBC News, Times Magazine and Read Write Web are all examples of publications that have called the Fail Whale “Iconic” at least once.³ In short, people love the fail whale, so much so that it has been the inspiration for jewelry⁴.

Figure 2-2 – Tweets from when Twitter was down.

Figure 2-3 Tweets from when Gmail is down.

By contrast, when a service like Gmail goes down, even in the early days, it caused anxiety. This is because they’re two fundamentally different kinds of business. Although it is now a central source of news and therefore more critical, Twitter started as a recreational, user generated content business. People’s livelihood generally does not depend on a UGC or social networking service especially for those in early stages, so downtime is more easily tolerated.

³ <https://www.google.ca/search?q=fail+whale+iconic&oq=fail+whale+iconic>

⁴ <https://www.etsy.com/ca/listing/60239227/hoist-fail-whale-necklace>

SaaS products like gmail are products people rely on. When it goes down, it means someone can't do something that they've generally paid (or are getting paid) to do.

The moral here isn't that it's more fun to work at Twitter than at gmail. The moral is that SaaS companies care about things like performance and user experience. Social networks care about completely different things, like sharing, return visits, or reducing spam content.

Metrics for different business stages

Drilling a little deeper into the stage where you are in your business, one of the most common frameworks for growth is looking at the “customer funnel” through what have been called “AARRC” metrics. These letters stand for Acquisition, Activation, Retention, Referral, Revenue and Conversion. In detail:

- **Acquisition** – How well is your business doing at acquiring new users? If your business is relatively new, then you might be most focused on building up this part of your customer funnel – acquiring new users to your service or product.
 - Examples of typical acquisition metrics include – number of new users/day or week, number of sign-ups, etc.
- **Activation** - How do you know if the user you just acquired is really going to stick around? What do you measure to gain confidence that they are going to actively use your product or service on an ongoing basis?
 - When measuring activation, a good way to approach it is to think of the key value that you want to make sure your customers get exposure to in their first usage of your product or service. Usually this gives you a great way to measure activation: Is it sharing something to another person? Is it registering more of their friends? Is it playing a song or watching a video? Is it uploading something to your service?
- **Retention** - How do you understand if your users will be coming back to you on a regular basis and that you are creating a sustainable business? Retention is fundamentally about continuing to build your user base, retaining your customers. There's no sustainable way to grow your customer base if you have a leaky bucket and therefore retention is very often a key metric for many companies.
 - Typical retention metrics might look at how many new users remain active 2 weeks after first using your service/product or 1 month after using your service/product. You may want to tie the timing of your retention numbers directly to the length of your trial period.
- **Referral** – this looks at how many people are referring your product or service to others. It's a good predictor of growth and typical metrics looked at here might be shares, viral coefficient or NPS (net promoter score).
- **Revenue** – this is the fairly obvious measurement of how much revenue your product or service is generating. In as much as most businesses aspire to eventually be self-sustainable, revenue is a key metric to track. You might look at revenue growth over different periods of time.
- **Conversion** - This is most relevant for businesses that have a free trial or a freemium model and it refers to converting your customers from a free customer to a paying one. With conversion metrics, you may want to consider what time period you'd like your customers to convert in - do you want them to convert as

fast as possible or is it ok if they are a free customer for a long time before deciding to pay?

Depending on the kind of business you're in and the maturity of your company, some of these stages in the customer funnel will have different levels of importance for you. Good data-driven decision making isn't *even possible* at certain stages in the development of a company. Early-stage companies have, in most cases, far more pressing issues than split testing the color of a button. They may also not have access to good, robust and reliable data at scale. They may also be designing their metrics as they go or want to take leaps of creative inspiration that go counter to what the data say. In some cases, the data may also be focused around a local minima because the company simply hasn't been around long enough, or tried enough divergent variations to find their 'sweet spot' yet.

For example, if you are part of a start up that just launched you are most likely focused on getting new users and establishing your customer base. In this situation you would focus on acquisition and activation. The data that you collect and the kinds of experiences that you create will most likely be around trying to find insight into how you can improve this early part of the customer funnel.

If you're part of a company that has been around for a long time and has a substantial user base you're probably thinking about how you can retain the customers that you've worked so hard to get. You'll want to collect information about the retention and conversion sections of the customer experience as well and you'll want to understand what is working or not working for your customers. By understanding what data you're using to monitor the health of your business you'll be able to align your design thinking to the very same problem space and metrics that you're using to judge your business on.

Having a solid understanding of the different metrics that you can influence at the different stages of the customer funnel can also give you a perspective on the longer term consequences of your design. As an example - let's say that you are trying to optimize your sign up flow. Right now, you ask customers to fill in their password twice to confirm that they've entered it correctly. However, you believe that every extra step (no matter how seemingly small) causes friction for your user that you want to eliminate - so you devise a design that doesn't have the field to repeat the password collection. You might find that this actually works, and you are getting more users to complete the flow so the metric of # of users who sign up increases. However, if you think about the full customer funnel, you might start to find that the users who didn't have to enter their password were more likely to call customer support to retrieve their password or that they didn't come back because they couldn't remember it and didn't bother to return. In this situation, you may have successfully increased one part of the funnel, but without considering the full set of metrics that are relevant to your business you may choose metrics that satisfy a local goal but harm the overall business goal. This is why it's key to plan ahead and make sure that you understand how the suite of metrics related to your business relate to each other and potentially interact.

Other relevant business metrics

There are other business metrics that are really important to track when driving a holistic, user centered data aware design framework. Two worth highlighting are:

- Net Promoter Score (NPS), which we mentioned in brief above
- Customer Lifetime Value (CLV)

Net promoter score – the net promoter score or NPS has become a fairly common way for companies to measure satisfaction and the general sentiment that their customers have. It's based on the question, "How likely are you to recommend this service/product to a friend or colleague." This is measured on a 10 point scale. The score is calculated by taking the number of promoters of a brand or company (those who rate it 9 or 10) and subtracting the percentage of people who are detractors (those who rate it 0-6).

Customer Lifetime Value – the customer lifetime value helps you to measure the amount of profit that your company will derive from a customer. CLV is a metric that many companies will optimize for by ensuring that they are attracting and retaining the customers that will provide the most value for them in the long term.

As businesses today develop ecosystems, it's going to be increasingly important that you think about all the inputs from various devices, locations and experiences that contribute to the full picture of how your business is doing and what is important to that business. Collecting data from a single source (whether it be a platform or a market) will not give you an accurate impression of the health of your business and you might find yourself optimizing for the wrong things. The emergence of the internet of things and new cross-device and platform experiences means that we will be generating new sources and new forms of measure and metrics that should all be taken into account when considering the input to your designs.

Focused metrics

It is important to be clear about what are, for your business, *key* metrics that you and your cross functional partners can focus on driving. As we've pointed out in this chapter, being aware and recognizing all the variables around the type of metrics you may care about from a business point of view can help. But it's easy to get caught up in a long list of everything that you could possibly measure and care about - so make sure that you have carefully selected the metrics that you think are most representative of what you need to focus on for your business to be successful and that you are not picking too many. Be disciplined about identifying what you need to improve. Everyone has a limited amount of time and resources, so you will want to keep the team focused on driving the metrics that really matter and not getting caught up in moving things that aren't key or won't impact your business.

These metrics should be fairly stable; resist changing them month over month.

- You should **ALWAYS** be monitoring and measuring your company key metrics. Tracking these metrics on everything you do will help to keep you thinking about the larger picture so that you don't fall into the trap of over optimizing for one piece of the puzzle rather than the whole thing.

- Ask yourself: Are you selecting metrics that get you to focus on the right things? The metrics that you pick to focus on will affect your behavior and the kind of solutions you design. If you focus on click through of a button, you will make designs that only focus on the button. If you focus on improving the retention metric, you will think of designs that improve the overall user experience.
- Some companies have tried the exercise of having “one key metric” – the bottom line metric that if that was the one thing to be measured it would reflect the business health. Think about what would be your businesses’ one metric and how you might design your experiences to impact that metric.

Why spend so much time on metrics?

There are three key reasons why we think metrics matter.

1. Alignment
2. Focus
3. Consistency (for future learning)

Ensuring that you and anyone else you work with are all in agreement about which metrics matter most for your business will keep you aligned. There are many times (not just in a data aware environment) where teams can get distracted or waste time because they don’t realize that they are solving different problems. By having a clearly defined and objective measurement of success like a specific set of metrics - it can help to ensure that you and your partners are aligned and have the same goal. You have agreement that you are trying to impact the same thing in your business.

Having commonly defined metrics can also help to ensure that you stay focused. It’s very easy to think of additional things that you want to change about your customer experience. You start to layer in feature after feature and improvement after improvement, without being disciplined about making sure that those improvements tie back clearly to your original goal.

Finally, by having clear metrics you also allow for consistency over time. Hopefully, you aren’t changing the metrics for success all the time. Occasionally these metrics will change, but ideally, that’s the exception and not the rule. This way, if you are working on a series of explorations and you have a consistent set of metrics that you’re using to measure them against, then you actually get to understand what kind of impact (delta) you can expect to get from certain kinds of design changes. You can compare results from one design to another. Metrics should provide you with a solid framework for ideation. By knowing what metrics you want to affect, you should be focusing on the kinds of ideas that will actually have impact on the things you measure and consider to be important. By having all of your design explorations evaluated by the SAME metrics you can compare their impact against each other and have a good baseline so that all of your ideas are being judged on a level playing field.

Summary/Key Takeaways

Understanding your business and the maturity of your company (early stage, growing or established) are critical factors in determining the measures and the metrics that will best reflect how your designs are impacting your business goals.

Common metrics and measures help to align and focus your work, and ultimately they should tie directly back to the user experience. It is important to think carefully about the customer journey with your product(s) for different user groups. What is the customer experience that you're trying to drive and how does that relate to some of the business metrics that your company cares about?

You want to make sure that everyone in your team agrees ahead of time on how you are measuring the success or failure of your design. It's important to iron out any differences at the beginning of your project and to continue to build alignment at every step of the process. That means aligning on the key metrics at the company and business level.

- To do this you'll talk to key stakeholders, CEOs and other people who craft the product vision. It's best if you actually do this together so that you have complete buy in and understanding of what the key metrics are at all levels of your organization. If you were to share the metrics you think are most important back to the CEO will he or she agree that those metrics are an accurate way to measure their vision?
- It's also good to build alignment with not just the top people in your organization, but also the people who are building the actual product. If they buy into the way you are measuring success then they will make better tradeoffs and push for the right decisions as the product gets built. Once you've built alignment on the key metrics – it's not likely you'll need to do this again unless your business model shifts.

Finally and critically, you should always try to put yourself in a situation where a good customer experience will be reflected in good metrics. When you start to find that you are creating bad designs in order to move your metrics you should question the metrics you need to stop and assess what it is that you are doing wrong. As a designer, you are advocating for the customer experience first and foremost, a successful business should be giving its customers a great experience.

Questions to ask yourself

- What kind of business is your company in?
 - What are the positive and negative metrics that matter most to your business?
- What stage of maturity is your business at?
 - Are you starting up (i.e. acquiring new users?) or are you a more established business and care about retaining existing users? Or is it some combination of those two?
- What does success look like and how are you measuring it?
- Who is the audience you hope to affect?
 - What do you know about them as a demographic? Their habits?
- What are you trying to accomplish? What is your goal and **what does success look like?**
 - What is the customer behavior that you want to encourage?
 - Are you trying to directly increase a metric that is important to your business (e.g. getting more people to sign up, getting your customers to return more often to your product?)
 - What will you do to encourage the user behavior that you are seeking?

- **How are you measuring success?**
 - Which metrics are you going to look at to understand if the impact you hope to make through design is the right one or will have a big enough impact?
 - How or will you measure or factor in user sentiment? Will you use surveys, focus groups, and interviews?
- How do the various measures and metrics relate to each other?
 - How are you ensuring that a positive result in a specific arena (e.g., password setting) does not have down-stream negative consequences on the business?
 - How do your behavioral and usage measures relate to the attitudinal measures reflected in your customer satisfaction surveys, NPS surveys and user verbatims?
- If you had just one metric to measure the health of your business, what would it be?

All of the above questions are implicated by the business you're in and the way you approach gathering data on your design and your experience will have clear impact on your business. In Chapter 4, we'll revisit a number of these questions as we begin to offer some more specific and practical advice about how you apply a data aware framework to design.

Early Release

RAW & UNEDITED

Org Design for Design Orgs

BUILDING AND MANAGING IN-HOUSE TEAMS

Peter Merholz & Kristin Skinner

Chapter 2

Realizing the Potential of Design

Companies are investing in design in order to manage the software-driven complexity of their businesses. There's a sense that design makes things 'better,' by making them more attractive, more desirable, and easier to use. However, many, and probably most, of the people responsible for bringing design into their organizations have only a rudimentary understanding of what it can deliver. They perceive design primarily as aesthetics, styling, and appearances.

We ended the last chapter with a Steve Jobs quote about design, so let's begin this one with perhaps his most famous statement on the matter:

"Most people make the mistake of thinking design is what it looks like. People think it's this veneer – that the designers are handed this box and told, 'Make it look good!' That's not what we think design is. It's not just what it looks like and feels like. Design is how it works."¹

Jobs' definition is inspiring, but hard to make actionable. For our purposes, we prefer the definition from noted user experience expert Jared Spool, who wrote, "Design is the rendering of intent." He continues, "The designer imagines an outcome and puts forth activities to make that outcome real."² This might seem vague or abstract, but that's purposeful – it points out that 'design' is happening all the time, in a variety of contexts, whether or not we think of it as that. For a company to better deliver on its own intentions, it benefits from incorporating mindful design throughout its activities.

Rob Brunner, founder of product design consultancy Ammunition (best known for their work on Beats by Dre), gave a presentation at the 2016 O'Reilly Design Conference titled "Design is a process, not an event,"³ where he shared what he saw in the evolution of design. He points out that until recently, design was seen as a step in a chain (Figure 2-1):

Figure 2-1. How product development and delivery has been typically handled.

What is becoming clear, is that design is not a standalone event, but a process that works best when infused throughout a product development lifecycle (Figure 2-2).

Figure 2-2. Design plays a role throughout product development and delivery.

¹ "The Guts of a New Machine", *The New York Times*, November 30, 2003, <http://www.nytimes.com/2003/11/30/magazine/30IPOD.html>

² http://www.uie.com/articles/design_rendering_intent/

³ <https://www.youtube.com/watch?v=hx8NjT09Phc>

All Design is Service Design

As every company becomes a services firm, it follows that the opportunity for design is to make every part of that service experience more intentional. An emerging discipline called service design reframes how organizations utilize design. Historically, design has been focused on the creation of things, whether in service of marketing (advertising, branding, packaging) or product (industrial design, software design). Service design applies many of the same practices, but pulls back from this emphasis on artifacts, instead assuming a broader view in an effort to understand the relationships between people (customers, front-line employees, management, partners) and the activities they take part in. Artifacts are no longer considered on their own, but as tools in a larger service ecosystem.

At the heart of service design is the customer journey. Mapping these journeys begin before the customer even knows about a company, traces their interactions with the company across different touchpoints, and ends when that customer moves on from the relationship. This mapping provides an alternate perspective on service delivery from how organizations are typically structured. It reveals that a customer interacts with marketing, sales, product, and support in a manner that's impeded by departmental silos. It also highlights how certain touchpoints get overloaded with poorly aligned interactions. For example, a company might use email:

- to deliver marketing and promotions
- to extend certain product experiences (daily updates, results of saved searches, etc.)
- for technical or customer support communications

If not coordinated well, the customer is overrun by email, and may choose to simply ignore that channel altogether, thus inhibiting the organization's ability to successfully interact.

This has implications for organizational structure. For example, many companies have separate marketing and product design teams. However, to a customer, marketing and product are simply points along the same journey, often delivered in the same media – web browser, mobile app, and email – and would benefit from coherence in the team that designs them. Such coherence should be total, and a journey mindset shows how design can support things that it typically is not involved with, such as sales and customer support.

This book is not a how-to on service design. For that, we recommend *This is Service Design Doing* by Stickdorn and Schneider, and *Service Design: From Insight to Implementation* by Polaine, Løvlie, and Reason. Our point is to recognize that design shouldn't be limited to marketing and product efforts, but instead infused throughout the entire service. Wherever the customer and your organization interact, that touchpoint will be improved by design's intentionality, and this has implications on the shape of the design team.

The Double Diamond

To frame design's ability to contribute broadly, we use the Double Diamond (figure 2-3), a diagrammatic model of product definition and delivery.⁴

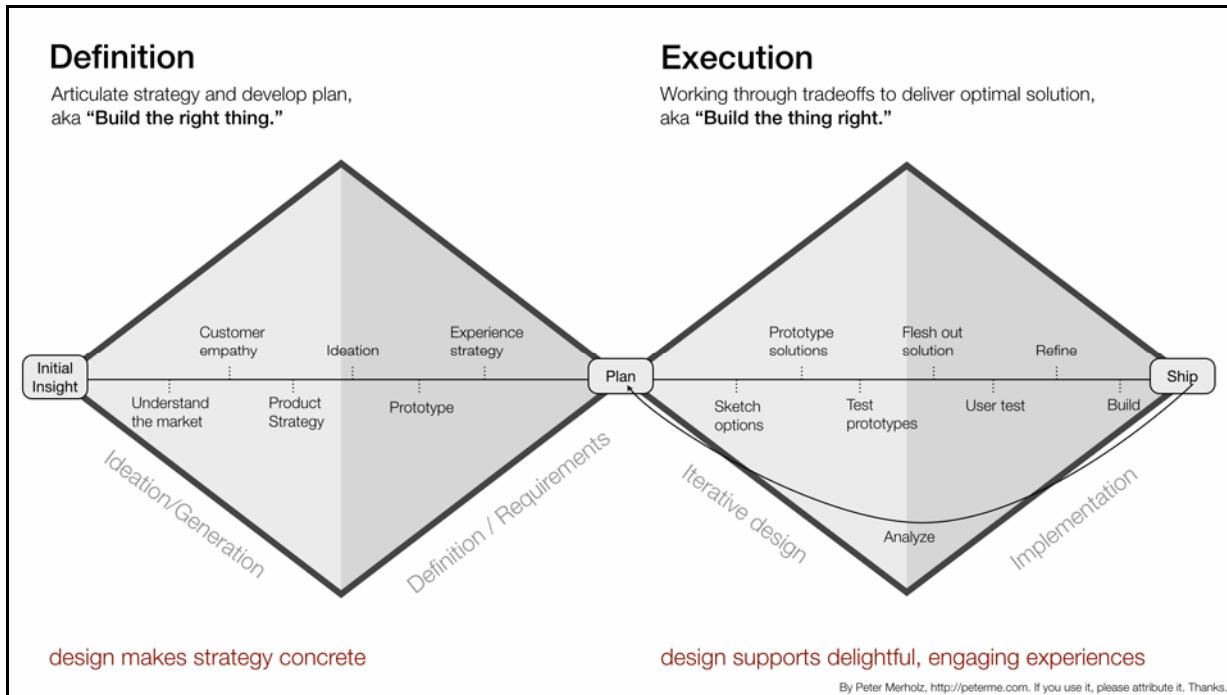


Figure 2-3. The Double Diamond model of product definition and delivery.

It's a bit of a simplification, and shouldn't be construed as a strict process. Still, it's serves to depict how designers best approach and solve problems. The first diamond, Definition, addresses the steps needed to articulate a strategy and develop a plan for your offering. The second diamond, Execution, is about implementing that plan.

Too often, project teams settle for linear thinking, where the team leader's first idea is taken as the solution, and teams just march toward its implementation. The genius of the diamond shape is that it shows, for both definition and execution, that the team first engage in divergent thinking that broadens the possibility space, before turning a corner and practicing the convergent thinking that narrows in on a specific solution.

Design Defines

In most organizations, designers are not engaged until the second diamond, when strategic and planning decisions have already been made, and their role is to execute on a set of requirements or a creative brief. While service design encourages a broader role throughout the entire customer experience, it may still remain quite superficial and execution oriented. If

⁴ The UK Design Council came up with the Double Diamond after studying how designers actually work (<http://www.designcouncil.org.uk/news-opinion/design-process-what-double-diamond>). We've modified it to be more specific to technical product and service organizations.

organizations are going to embrace all that design has to offer, this must involve influencing product and even corporate strategy.

Since at least the advent of Taylorism, the predominant mode of business strategy has been analytical. Reduce processes and practices to their elemental components, and squeeze the most out of them. Even product marketing, which should be rooted in creativity and user experience, instead relies on practices such as market segmentation and sizing, surveys to assess consumer sentiment and satisfaction, and product requirements that focus on Cost of Goods Sold (COGS) and the Four P's (Product, Price, Promotion, and Place).

This stereotypically “left-brained” approach has served business well for quite a while, but has run aground of the connected services economy. Services are predicated on relationships with and between people, a combinatorial messiness that goes unaddressed by these analytical means. What's called for are more ‘right-brained’ approaches that are holistic, instead of analytical, that are generative, instead of reductive, and that are empathetic. It happens that these are qualities found in designers and design teams, and businesses are realizing that bringing design into the definition conversation (the first diamond) provides better balance in their thinking.

Design makes strategy concrete

When strategy focuses on optimization, directives can be written as a set of metrics, such as improving conversion rates or increasing engagement. When it's about delivering products to market segments, directives are a list of features and the audiences they serve. But when it's about creating new offerings in an uncertain market context, such reductive approaches fall short. If you remain in the abstraction of spreadsheet formulas or bullet-pointed requirements on PowerPoint decks, four issues arise:

1. Tradeoffs or conflicts are not apparent, and so a chosen strategy might actually be unworkable;
2. Each stakeholder has their own, unstated understanding of what that strategy means, and their misalignment is not evident until the building process, which is late for them to resolve the conflict
3. What's being developed doesn't accord with the vision stakeholders had in their heads;
4. Internal teams are not motivated by abstractions, and may deliver tepid work that satisfies the requirements, but goes no further.

Bringing the design activities of user research, sketching, ideation, and rapid prototyping into strategy work ensures these issues won't arise⁵. Low-fidelity sketches quickly make apparent shortcomings in an incoherent or incomplete strategy. Even if the strategy is solid, by making it concrete, you ensure that all stakeholders have a shared understanding of the implications of that strategy. If there are issues with the strategy, they get addressed in this early stage, when iteration is cheap, and not during development, when making changes can be quite costly. And

⁵ This is often referred to as “design thinking.” We feel it is simply “design.”

by embodying the strategy in a clear vision, project teams have a compelling, motivating goal to attain, a “north star” that encourages them to deliver better than they’ve ever delivered before.

But design shouldn’t be limited to just embodying a strategy established by the business. Design practices should actively contribute to and shape the strategy. Because sketching and ideation are relatively inexpensive, design employs divergent thinking to explore a range of options, feeling them out, or even putting them in front of customers to gauge acceptance. In this way, design makes apparent solutions that had not yet even been considered, and does so in a way that can garner meaningful external feedback.

Even with all these obvious benefits, many organizations resist making strategy concrete. By remaining in abstraction as long as possible, hard decisions do not have to be made. Trade-offs do not have to be realized, and everyone can believe that their pet idea will see it through. When design contributes to strategy, it challenges this mindset, and forces stakeholders to commit.

Customer-centered planning

In between the two diamonds exists the project plan. The plan typically contains two parts: 1) a vision for where the product is ultimately headed (informed by the strategy work), and 2) a series of steps to realize that vision, sometimes called a roadmap or backlog.

It might seem like a small thing, but how that plan is shaped can be crucial for the offering’s overall success. These plans are typically organized by importance to the business and effort. Features are scored across these two criteria, and then ranked. And then the teams plow through the list.

The shortcoming of this approach is illustrated in this diagram (Figure 2-4) drawn by agile coach Henrik Kniberg⁶:

⁶ Henrik explains the diagram in detail here: <http://blog.crisp.se/2016/01/25/henrikkniberg/making-sense-of-mvp>

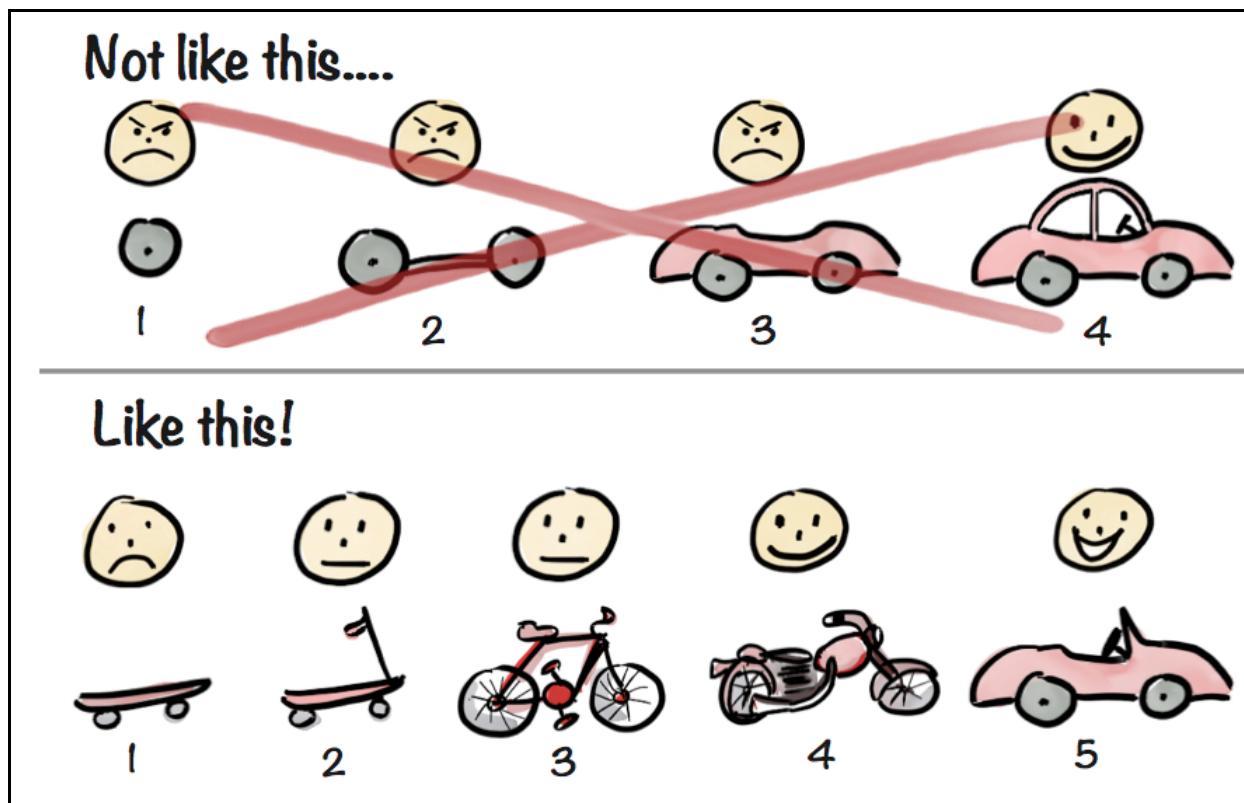


Figure 2-4. Henrik Kniberg's drawing of a preferred product development approach.

When releasing products or services in an iterative and accretive fashion, it's important to keep in mind the customer's experience every step of the way. So, even though the first row gets to the ultimate release faster, it does so by sacrificing user happiness at each earlier release. This means, in practicality, users won't stick around for that ultimate release. They will have moved on to other options.

The second row takes longer, but makes sure that at every stage, there's a holistic experience. The initial experience might not be what the customer wants, but as the organization learns through successive releases, they deliver more happiness sooner. Also, through that learning, the organization can correct course, and realize a different ultimate delivery that serves their customers even better than their original vision. Design's role in this process is to bring that empathetic perspective that understands what customers will find desirable, and in so doing influence the roadmap to reflect that.

The bulk of design is execution

We've dwelled on strategic and planning matters because these are not widely understood, and are essential for design to deliver to its fullest extent. That said, the bulk of an organization's design effort (80-90%) will be within that second diamond of execution. A shortcoming of the Double Diamond diagram is that it suggests that for every act of definition, there is an act of execution. In fact, after the creation of a plan, execution occurs iteratively, knocking down elements of the roadmap with each pass (Figure 2-5).

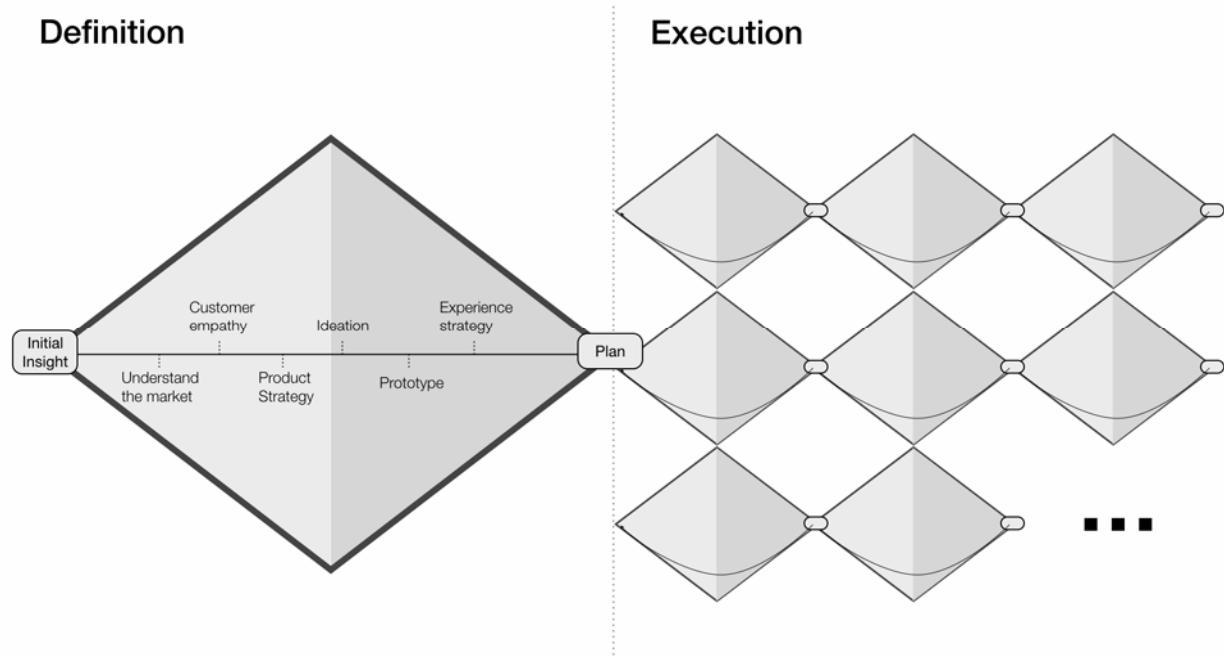


Figure 2-5. Definition occurs once in a while, and execution occurs iteratively against the established plan.

The specific design practices shift when going from definition to execution. When informing strategy, design is more generalized, drawing on user research, sketching, and prototyping. A sketch might represent a software interface, a piece of marketing collateral, or a physical object. The shift to execution brings with it a focus on specific design disciplines. Designing for software, designing for marketing and communications, and designing for physical products are quite distinct practices, and require specialists well-versed in those media.

Bringing Design In-House

The history of business and design is typically one of clients and design firms. Bell Laboratories and Henry Dreyfuss, IBM with Paul Rand and the Eames Studio, Apple and Frogdesign. Design was an outsourced specialty, needed in a tightly defined fashion, usually for logos and products.

At the rise of the Web, most companies handled the need for design through external vendors. They didn't have capabilities in-house, and weren't sure it was worth that kind of investment. 20 years in, it's clear that we are in a new normal. The shift to networked software and multi-touchpoint services has created a fundamentally chaotic and unpredictable environment that requires continuous delivery.⁷

Design can no longer be a specification that is handed off, built, and never seen again. It needs to be embedded within the strategy and development processes, and its practitioners must be deeply familiar with the company's mission, vision, and practices. To make this work with an outsourced partner is possible, but very expensive, and raises concerns about an external firm's

⁷ For a remarkable explanation of the dynamics of this shift, read Jeff Sussna's *Designing Delivery*.

alignment with the company's values and ideals. It's simply more straightforward to build in-house design competencies that are organizationally and operationally conjoined with functions such as marketing, engineering, and support.

The Three-Legged Stool

This continuous delivery requires changes within product teams. Historically, authority in product development lived with the product manager, the representative of the business, who took in an understanding of market needs, articulated a set of requirements, and gave that to teams to build. For software products, the technology became too complex to locate all decisions in a single product manager – delivering quality work meant that people with technical depth also be given authority. This lead to teams with joint product and engineering leadership. As we enter a world of connected software and services, the primacy of relationships and need for quality user experience cannot be addressed only through technical and business expertise. Designers should no longer be handed briefs and requirements, but instead ought to be part of the conversation earlier to make sure that their empathetic perspective is represented. The reality of contemporary product and service delivery is a messy one, and requires the productive tension between business, technology, and design. Think of them as the three legs that the offering rests upon.⁸ (Figure 2-6) If any leg is deficient, what is delivered will be wobbly.

Figure 2-6. The three-legged stool of product and service development and delivery.

The Expanded Role of Design

Pulling all this together, we arrive at an expanded role for design. For decades, the typical operating mode for design was to receive a brief or requirements from 'the business', and execute on that.

The rise of software lead to more complex products, and a subsequent realization that many requirements didn't make sense when taking an empathetic design perspective into account. Designers created the discipline of user experience to compensate for this shortcoming, developing a set of methods (user research, usability testing, personas, workflows, wireframes) and fostering a user-centered mindset that helped manage this complexity and make it understandable to people.

It then became clear that these practices are useful not just in the execution of a product, but can meaningfully contribute to its definition, and designers found themselves part of the strategic conversations about what should be built. Design had earned its long-sought-after "seat at the table."

⁸ This three-legged stool is inspired by the one found in Donald Norman's book *The Invisible Computer*. His is similar, but meaningfully different.

And from that vantage point, it has become clear that the frontier for design is to play a role not only in every stage of development from idea to final offering, but to be woven into every aspect of the service from marketing to product to support. The challenge is that most organizations are structured and run in a way that inhibits this potential. In subsequent chapters, we'll show how to establish, organize, and evolve a design team that can realize this expanded mandate.

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Sidebar: Design and “User Experience”

It is common, when discussing design as we have, to also refer to “user experience.” In fact, many would call the kind of software design we’re discussing “user experience design.” We have two reasons we’re avoiding this specific association between design and user experience.

The first reason is that when you try to find or articulate a definition of “user experience design,” things get muddier, not clearer. Most of the time, people “user experience design” to mean “interaction design with some information architecture”, and focus on the creation of workflows and wireframes. Some of the time, though, UX design is expected to include user research and strategy, and other times it’s associated with visual interface design. Throughout this book, we avoid “user experience design” in favor of referring to specific disciplines.

The second reason is that by automatically lumping design with user experience, it gives short shrift to all the other disciplines that contribute to the user experience. A user’s experience is the emergent outcome of numerous contributions, including design, but also engineering (technical performance has a huge impact on user experience), marketing (how expectations are managed affect the user experience), and customer care (a bad experience can become a good one if handled well). If a single team is labeled as the primary keeper of the user experience, that absolves other departments from concerning themselves with it. User experience must be everyone’s responsibility.

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