

# **Product Discovery**

The Product Discovery & Development Process:

- “Product development is a complex task, and it [involves all the activities performed to develop a product from ideas to launch](#) in the market. It is tough to generalize the activities of product development.”
- “We know that all the big products [start with an idea](#) where someone has a vision and creates a roadmap to implement it. And between the idea and the roadmap comes the strategy, which connects vision with our roadmap, and then we develop the product and launch it in the market.”
- “To answer these questions, we typically propose a discovery project with [a small, dedicated team that will run some research, ideation and validation](#) with potential end users. If the idea is validated, we then offer a whole new contract with a bigger development team to actually build and deliver the product.”
- “In essence, the discovery phase (or business discovery stage or scoping phase) of a project is all about the research and the project’s scope defining. In other words, it is a preparatory stage of your project, when you collect and analyze information, research your audience and intended market. Technically, the business discovery page leads to the system requirements specification (SRS), including details needed for development. Given the project’s scope, the discovery phase can take from one week to two months. Usually, the scoping phase involves the project manager, business analyst, and account manager. Depending on the project, [UI/UX designers, developers, and team leads can join the discovery phase to help with wireframes prototypes, SRS, or scope assessment](#). A couple of meetings are required initially, and then the later process does not need constant input from your side.”
- “...[creating products is absolutely full of uncertainty](#), right, but when we start out building something, when we start out really exploring something, we don't know what's the right direction to go in very often and we have to take the time to do that research, to do that analysis, to talk to our customers, to experiment, to really understand that, so product strategy needs to enable it and you can't do that if it's a plan, so product strategy is not a plan...”

Creating a Business (not a Project)

- “There are only [two things you have to know about business: build something users love, and make more than you spend](#). If you get these two right, you'll be ahead of most startups. You can figure out the rest as you go. You may not at first make more than you spend, but as long as the gap is closing fast enough you'll be ok. If you start out underfunded, it will at least encourage a habit of frugality. The less you spend, the easier it is to make more than you spend. Fortunately, it can be very cheap to launch a Web-based application.”
- “...so I think there's all the logical stuff... [you got to prove that there's actually something broken and painful, then you have to prove that you can actually create a thing that makes it better and fixes it otherwise you're not creating any value, then you have to kind of prove or have line of sight to like a business model where you're actually a company not a project, and then eventually you have to have a way to like scale it and acquire and serve those customers in a way that you know makes sense](#), so those all need to happen otherwise there isn't a business...”

# **Product Writing Tips**

## Story Structure (“lede”)

- **Structure using 4 sentence paragraphs:**
  - Thinking in paragraphs instead of sentences helps you find a way to convey a whole concept.
    - Sentence 1: Start with a key message in the “lede” (a sentence which summarizes the most important facts).
    - Sentence 2-3: Expand on the key message.
    - Sentence 4: Wrap up with the last sentence to set the stage for the next paragraph. This helps you to make each paragraph logically complete and connected with the rest of the text.
  - Use **less than 30 words per sentence**.
- **Use the Inverted Pyramid:** Journalists start most of their stories with the “lede” sentence which summarizes the most important facts. All following sentences support the lede with more information, and readers who are short on time only need to skim the main and paragraph ledes to learn everything they need. Inverted Pyramid is a great way to help people who skim — and most of your readers probably do. You can apply the Inverted Pyramid on the document, section, paragraph or slide level.
- **Craft the narrative:** You may not think about the narrative when crafting a short email, but writing a longer document makes it treacherously easy to veer off track and engage in a self-indulgent exploration of business vernacular without actually saying anything of substance and value.
  - A way out of this is to answer the question: how does the key message of the current section of my document support the key message in the previous section?
  - Another good way to structure your thoughts is to make each section of the document self-contained. Self-contained sections that build on each other and use the Inverted Pyramid principle help readers who skim grasp enough context about what’s going on even if they choose to read less than half of the document.

## Active Voice

- **Use active voice instead of passive voice:** While the passive voice adds words to sentences, it also distances readers from what’s happening. Use the active voice whenever you can for crisper, more concise writing.
  - Active voice: "The award-winning chef prepares each meal with loving care"
    - The subject performs the action
    - The subject is usually the actor in the sentence
  - Passive voice: "Each meal is prepared with loving care by the award-winning chef"
    - The subject receives the action
    - The action becomes more important than the subject
  - An easy test to spot passive voice is by adding “by zombies” after the verb of a sentence. If the sentence still makes sense, it’s written in the passive voice (“it was decided by zombies to launch...”).
  - No: I was given a raise by my boss.
  - Yes: My boss gave me a raise.

## Clarity

- **Be clear about deadlines:**
  - State exactly when it is instead of using “soon” or “next week”
  - If you don’t know something, state by which date you will follow up and what you will follow up with

## Grammar Rules

### Nouns

- **Don’t chain  $\geq 3$  nouns together:** More than three nouns in a row breeds confusion for readers — plus, a cluster of nouns technically makes the first two nouns into adjectives. Delete unessential words or introduce a preposition to clarify the meaning.
  - No: Company vacation rollover policy
  - Yes: Company policy on vacation rollover
- **Replace nouns with verbs:** Many times, writers unnecessarily water down sentences by using phrases that could be single words.
  - No: I made a decision to exercise daily.
  - Yes: I decided to exercise daily.

### Pronouns

- **Use “we” sentences:**
  - “we accomplish [x]”
  - “we are delayed by 1 week”
- **Skip relative pronouns:** Relative pronouns like “that” or “who” modify nouns, which means you can typically swap them out for adjectives.
  - No: The family searched for houses that had four bedrooms.
  - Yes: The family searched for four-bedroom houses.

### Verbs

- **Replace “to be” verbs:** If you’re using a verb like “is” or “are,” experiment with putting stronger verbs in their place. “To be” verbs sound lifeless and flat, and they don’t show any action.
  - No: The parent and teenager are in a state of disagreement about the curfew.
  - Yes: The parent and teenager disagree on the curfew.
- **Replace “make” verbs:** Another common offender in wordiness: “make + adjective,” which writers often use in place of a verb that says the same thing more effectively. Verbs should always convey action.
  - No: Calcium makes the bones stronger.
  - Yes: Calcium strengthens the bones.

### Adverbs

- **Replace adverbs with stronger verbs:** Adverbs, which add detail to verbs, can often be replaced with a single, stronger verb. Since verbs are the “engine” of your writing, choose powerful and accurate ones instead of tacking “-ly” words on to dull verbs.
  - No: The child cried loudly.
  - Yes: The child screamed.
- **Avoid “currently”:** “Am,” “are,” and “is” imply “right now,” so using “currently” can make a sentence redundant.
  - No: I’m currently in a great mood.
  - Yes: I’m in a great mood.

### Adjectives

- **Hyphen for compound adjectives:**
  - Front-end developer (adjective)

- Developing the front end (noun)
- **Replace adjectives with data to tell an objective story:**
  - If something is faster, state **by how much**
  - If something is better, state **by what metric**
- **Turn prepositional phrases into adjectives:** When a prepositional phrase (they often start with “in” or “of”) describes the noun before it, try turning it into a one-word adjective instead.
  - No: CEOs **in the** tech sector
  - Yes: **Tech CEOs**
- **Think twice about intensifiers:** Using an intensifier like “**very**,” “**really**,” “**truly**,” or “**extremely**” is often a sign you just need to **choose a better adjective**.
  - No: It’s **extremely cold** outside.
  - Yes: It’s **freezing** outside.
- **Use positive description, not negative:** Instead of wasting words describing what something isn’t, describe what it is instead. Your writing will seem both more confident and concise.
  - No: The living room **lacks** sunlight.
  - Yes: The living room **is** dark.
- **[Better] Eliminate conjunctions:** If you’re using two adjectives to describe a noun, you can often cut out conjunctions and use a comma instead.
  - No: The **long and crowded** flight exhausted the flight attendants.
  - Yes: The **long, crowded** flight exhausted the flight attendants.
- **[Best] Avoid adjective strings:** If you have to use **more than two adjectives** to describe something, you should probably choose one stronger adjective instead. Not only will the description be more concise; it will probably be more accurate.
  - No: The customers are **happy and excited** about today’s product launch.
  - Yes: The customers are **thrilled** about today’s product launch.

#### Trim Fat

- **Use common words:** If you’re not writing a scientific study or a legal document, you can probably simplify your language. Choose simple, easy-to-understand words whenever possible.
  - No: My **core competency** relates to getting **buy-in** from **all stakeholders**.
  - Yes: I like to ensure that everyone agrees.
- **Avoid technical jargon, abbreviations, acronyms, domain-only terms:** If you do include them, explain them the first time they appear so you can reference them later.
- **Remove “that” (de que) when you can:** Unnecessary “thats” are like fat in a sentence. They just clutter your writing, and nine times out of ten, you can cut them.
  - No: I hope **that** my colleagues enjoy my presentation.
  - Yes: I hope my colleagues enjoy my presentation.
- **Don’t start sentences with “there”:** Starting a sentence with “**there**” isn’t just wordy. It also buries the real meat of the sentence. Instead of beginning with “**there**,” **try flipping the sentence around and starting with a noun**.
  - No: **There is** a common thought among the students that school days should be shorter.
  - Yes: The students think school days should be shorter.
- **Avoid defining your own writing:** Do you have to define something you write? Chances are, you should just choose a less confusing word. The same principle applies on the

sentence level. If you have to add an additional sentence to clarify an idea (typically, writers use “in other words”), cut the first sentence altogether.

- No: **My emotions got the best of me. In other words**, I was angry.
- Yes: I was angry.
- **Cut wordy phrases:** Wordy phrases don’t accomplish anything except bulking up your word count and distracting readers from the point. Exchange the multi-word phrases below with the following simpler, less clunky alternatives.
  - No: **In order to** use their time effectively, the employees worked through lunch.
  - Yes: **To** use their time effectively, the employees worked through lunch.
  - Examples:
    - in order to → to
    - due to the fact that → because
    - on account of → because
    - in the event that → if
    - a large number of → many
    - the vast majority of → most
    - in spite of the fact that → although
    - in most cases → usually
    - with regard to → regarding
    - at the present → now
    - during the course of → during
    - after the fact → afterward
    - in terms of → in or for
    - in the midst of → amidst
    - so as to → to
    - in advance of → before
    - after the fact → after

## **Product Sense**

Product Sense (Big Swings); made up of 3 components (user understanding, domain expertise, creative actions)

- “...let's use a cricket analogy here... product thinking operates at the level of batting and [product sense operates at the level of individual shots that you can make](#), so that's perhaps one way to think about product thinking and how it kind of fits overall into the product sense and product management discipline...”
- “...product sense is the skill that [enables you to do effective product thinking](#)...”
- “...product sense is essentially three different things combined: [cognitive empathy, domain expertise, and creativity](#)...”

Cognitive Empathy (aka “User Understanding”)

- “...cognitive empathy is essentially a way to [understand what the user really wants: what their fears are, what their hopes and aspirations are, what they're really trying to achieve, what job they're trying to hire your product to do, etc](#), so that's cognitive empathy...”

Domain Expertise (some companies don’t require this)

Creativity (aka “the Actions you take”)

- “...the creativity part enables you to, based on domain expertise and cognitive empathy, generate solutions that are compelling and viable, and so that's why creativity is a part of product sense, because that's [the generative part where you come up with interesting non-obvious solutions...](#)”

## **Business Goals: Revenue**

Business Goals; Outcomes (e.g: 2x signups, 10x revenue)

- “...so if we think about this meal kit delivery company, right, their vision was that they wanted to be the most convenient meal kit delivery on the market... so taking that, right, we needed to line around this vision, in this challenge, in order to get there... [we needed to double acquisition](#), that was the business goal, because we needed to stay in business obviously, so now my team is set up to go figure out how do we do that...”
- “...my team is looking at this and saying “okay, [if we're gonna double acquisition what is standing in our way of doubling acquisition](#)”, why are people not signing up”, so we started breaking it down to our sign up funnel, right, and on our sign up funnel we went through and we realized that people were getting in there but they were falling off on one specific step, and coming from e-commerce I'd expect it to be where you pay, right, because people will balk when you pay, but it wasn't, it was when they started to enter their address, so they knew what the price was, they knew what the product was, they selected it, now they're falling off when they enter their address and I'm going that's really really weird, but we did the analysis and we found that if we really target increasing conversion rate when people land in the funnel we can get really close to our goal we had tons of people coming to the website they just weren't making it through, so our marketing efforts were perfect, right, there we're doing really really well, but people are falling off, so we took this and we revisited it and we put it into our strategy framework and we said that in order to reach our goal of doubling acquisition we're first going to increase the conversion rate across all the platforms by a certain percentage by the end of q2, so that became the goal that our team went after, right, so the team I was coaching they said that's it, this is what we concentrate, on let's figure out how to actually hit it...”
- “So we start with ambitions, and okay, you have all these ambitions... I wanted to be a top business school professor. I wanted to be on Fortune directors. I wanted to drive a Morgan Drophead Plus 4. I wanted to climb the great mountains of the world. I wanted to learn to fly an aircraft. I wanted to marry a beautiful woman and have successful children. I wanted to have a townhouse in Paris. All and all, I had a lot of ambitions. That's not strategy. We all have ambitions, and every company should have ambitions. If we look at all those ambitions, and let's say I'm 25 years old, well, what's keeping me from reaching them all? “Well, I'm not ready to join Fortune directors. I'm not experienced enough.” Okay, so I put that over here. “I can't afford the penthouse.” Okay, put it over here. “How about the ambitions that you have any chance of making progress?” So now, well, beautiful woman. “Yeah, I don't know any, maybe I ought to meet a few.” “Well, you can do something about that.” [So which of your ambitions can you begin to make progress towards reaching, and what's holding you back? What are the barriers? What are the problems? So I approach the question of the problem now through the filter of the ambition](#), that these ambitions, fine, let's accept them all, and which one can you actually make some progress on today? And what's making that hard? What are the challenges?



So you're choosing a challenge. You're choosing, of the possible challenges you could face up to, you can't do them all. So there's a focus thing. You're choosing which challenge to focus on, and that challenge has to be, A, important, and, B, it has to be achievable. It has to be something that you can address. It has to be an addressable challenge.”

- “It’s important to [identify an actual known user or business problem](#) to form hypothesis statements from. Although hypothesis statements are an exercise in educated guessing, without a focus point it’ll be hard to identify when the hypothesis statement has been proven true or false.”
- “Consider this example of a business objective and a measurable, key result. Suppose your product currently requires 30 days for a new customer to onboard. But in order to scale effectively, management believes this needs to be reduced to three hours or less. That’s a good example of a business objective for one or more product teams: “Dramatically reduce the time it takes for a new customer to go live.” And one of the measurable key results would be “Average new customer onboarding time less than three hours.”” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Good product strategy [identifies leading and lagging indicators of success](#), whether they are metrics or milestones. Bad product strategy either ignores success indicators or misses the leading indicators.”
- “Good product strategy [optimizes for long-term business results](#). Bad product strategy optimizes for near-term consensus.”
- “...[this, for instance, is a set of goals](#): we’re going to move into international markets, we’re going to go live in 96 countries by the end of the year, and in Q1 we’re going to get in all our top priority regions...”
- “...you don’t have to create these goals, but [you better be working within those goals](#) and product needs to serve that...”
- “...your [product strategy is not the goals themselves](#), this is actually a pretty common fail case where we’ll say ‘product strategy is to achieve X metric, and then Y and then Z’ well that’s not actually a strategy, it doesn’t tell us how we’re going to accomplish that, it’s not a plan of action of coherent steps...”
- “Good product strategy [clearly presents its positive effect on the company, in terms of the company metrics impacted and the assets created or amplified](#). It recommends an increased investment only when said investment outweighs the opportunity cost for the company. Bad product strategy doesn’t provide a rigorous point of view on company-level upside.”

Business Model: How do you make money?

- “If you're not familiar, a [business model is a fancy term for how you make money](#).”
- “The term business model refers to [a company's plan for making a profit](#).”
- “SaaS businesses actually make up 31 of the top 100 YC companies, transactional businesses make up 22 percent of the top 100 YC companies, and marketplaces actually make up 14 so just with these three business models: [SaaS, transactional, and marketplaces it makes up 67 percent of the top 100 YC companies](#). On the flip side with business models like advertising and e-commerce they barely register on the top 100 YC companies list.”

1) Monthly recurring payments: ideal for when providing something that provides ongoing value; and used  $\geq 1x$  every 30 days

Subscription: (SaaS [Software-as-a-Service]; Companion Product Bundles)

- “...there's SaaS business models, which is software as a service, which is [cloud-based subscription software that customers pay either monthly or annually in order to access the software...](#)”
- “Subscription-based business models strive to attract clients in the hopes of luring them into long-time, loyal patrons. This is done by [offering a product that requires ongoing payment, usually in return for a fixed duration of benefit](#). Though largely offered by digital companies for access to software, subscription business models are also popular for physical goods such as monthly reoccurring agriculture/produce subscription box deliveries.”
- “Charge [different rates for discrete levels of a service](#).”
- “Charge [a subscription fee to gain access to a service](#).”
- “[Grant members access to a network, charging both membership fees](#) and advertising.”
- “The subscription model is newly popular, though it has long been used for publications like magazines and newspapers. [Subscription businesses provide an ongoing product or service to end users for a set price](#). The subscription could be daily, weekly, monthly, or yearly. Digital companies like Netflix and Spotify use this business model, as do software and app providers, and online service providers. The advantage of this type of model is that you can get ongoing revenue streams without having to repeat sales.”
- “Aptly named after the product that invented the model, this business model aims to sell a durable product below cost to then generate high-margin sales of a disposable component needed to use that product. Also referred to as the "razor and blade model", [razor blade {companion product bundle} companies may give away expensive blade handles with the premise that consumers need to continually buy razor blades in the long run](#).”
- “Offer the [high-margin razor below cost to increase volume sales of the low-margin razor blades](#).”

Advertising: paid for ad views

- “Get [a large group of people to contribute content for free](#) in exchange for access to other people's content.”

AdSense (less revenue)

Mediavine: ~\$0.032 per view so 10k views = \$320 per month

- “How much I make on Mediavine: It varies from about \$8,500-10,000 USD per month, with about 250,000 monthly page views and mostly U.S. traffic ([U.S. traffic pays the most](#)).”
- “In order to be considered for Mediavine, its blog monetization criteria (or blog monetization eligibility) state that [your website must have](#) received 50K sessions in the previous 30 days (according to Google Analytics)... As 50,000 sessions isn't easy to hit, especially after Google's Helpful Content Update (which was anything but helpful for small publishers), Mediavine launched a program to help make monetizing your blog easier.”

Affiliate: paid for increasing conversions for someone else's product or service (e.g: video sponsorships)

- “Pay [royalties to some large organization for the right to sell your product exclusively to their customers](#).”
- “Affiliate business models are based on marketing and the broad reach of a specific entity or person's platform. [Companies pay an entity to promote a good, and that entity often receives compensation in exchange for their promotion](#). That compensation may be a fixed payment, a percentage of sales derived from their promotion, or both.”



- “The affiliate model is when [a business relies on third-party publishers to market and sell its product or service. Affiliates are responsible for driving sales](#). They receive compensation, usually in the form of a commission (percentage of the entire sale), from the seller or service provider. With affiliates, a business can enjoy an extensive reach and get customers from markets they would otherwise be unable to penetrate. The business typically provides free marketing materials to affiliates so that they display the proper brand identity when marketing.”

2) Transaction % payment for a provided product or a service: ideal for a marketplace

Marketplaces: between Buyer & Seller

- “...there's marketplaces, which [facilitate transactions between buyers and sellers](#); these are often referred to as two-sided marketplaces...”
- “...[marketplaces are really tough to get off the ground, they have a chicken and egg problem](#) where you can't just build your product and then sell it to customers, you actually need to solve for both sides of the marketplace, the supply and the demand, at the same time, in order to get customers...”
- “Marketplaces receive compensation for hosting a platform for business to be conducted. Although transactions could occur without a marketplace, this [business model attempts to make transacting easier, safer, and faster](#).”
- “...there's transactional business models that [facilitate transactions and take a cut of those transactions](#), these are often fintech companies...”
- “A brokerage business model connects buyers and sellers without directly selling a good themselves. Brokerage companies [often receive a percentage of the amount paid when a deal is finalized](#). Most common in real estate, brokers are also prominent in construction/development and freight.”
- “Bring together buyers and sellers, [charging a fee per transaction to one or another party](#).”

Bundles: of combined services or products

- “If a company is concerned about the cost of attracting a single customer, it may attempt to [bundle products to sell multiple goods to a single client](#). Bundling capitalizes on existing customers by attempting to sell them different products. This can be incentivized by offering pricing discounts for buying multiple products.”
- “Package [related goods and services](#) together.”
- “The Product-as-a-Service model (PaaS), also known as Product Service Systems, [bundles services with products that consumers have already purchased](#). A good example of this business model is an auto retailer offering an annual service membership for maintenance on a newly purchased car. The key advantage is to ensure sustainable income while also enhancing the customer experience. This business model can offer extra income streams to retailers.”

3) Single payment for temporary access to a product or a service

- “Rather than sell a product, [sell the service the product performs](#).”

1 Sale: selling a product or a service (e.g: E-commerce, Manufacturing)

- “Sell {the product} direct, [sidestepping traditional middlemen](#).”
- “A manufacturer is responsible for sourcing raw materials and producing finished products by leveraging internal labor, machinery, and equipment. A manufacturer [may make custom goods or highly replicated, mass-produced products and can sell what it makes to distributors, retailers, or directly to customers](#).”
- “The manufacturing model involves [the production of goods from raw materials or ingredients](#). This model can involve handcrafted goods or items mass-produced on an

assembly line. These businesses require access to raw materials and the skill, equipment, or labor force to make enough goods to be profitable. Manufacturers typically rely on wholesalers and distributors to sell their products.”

- “One of the more common business models most people interact with regularly is the retailer model. A retailer is the last entity along a supply chain. They often buy finished goods from manufacturers or distributors and interface directly with customers.”
- “In this model, the consumer interacts with the retailer and purchases items directly from them online or in a physical store. Retailers typically buy their products from wholesalers and resell them at a markup... This business model is one of the most straightforward to establish and understand. However, it is also the most competitive. You are likely to encounter many businesses selling similar products. You will need to compete with them on price, quality, or brand identity.”

Hourly Rates: offering Time-as-a-Service (e.g: PAYG [pay as you go]; contractors)

- “Instead of selling products, fee-for-service business models are centered around labor and providing services. A fee-for-service business model may charge an hourly rate or a fixed cost for a specific agreement. Fee-for-service companies are often specialized, offering insight that may not be common knowledge or may require specific training.”
- “Freelancers provide services for businesses or organizations. They typically work on a contract basis. While it is possible to operate as an independent freelancer, you can also learn how to scale a freelance business. You can hire other freelancers or subcontractors who can work on your contracts. With a scaled business, you can take on more contracts than you can handle alone and split the revenue between yourself and your subcontractors. The attraction of this type of business is the low overhead. You do not have to hire your subcontractors. You simply pay them after the client pays you.”
- “Instead of charging a fixed fee, some companies may implement a pay-as-you-go business model where the amount charged depends on how much of the product or service was used. The company may charge a fixed fee for offering the service in addition to an amount that changes each month based on what was consumed.”
- “Charge for actual, metered usage.”

Lease: renting out a product for partial or limited use

- “Rent, rather than sell, high-margin, high-priced products.”
- “Sell partial use of something.”

Franchise: renting out your brand

- “The franchise business model leverages existing business plans to expand and reproduce a company at a different location. Often food, hardware, or fitness companies, franchisers work with incoming franchisees to finance the business, promote the new location, and oversee operations. In return, the franchisor receives a percentage of earnings from the franchisee.”
- “The franchise model is another popular type of business framework. Many popular brands are franchises, including KFC, Dominoes, Jimmy John's, Ace Hardware, and 7-Eleven. In this model, you develop a blueprint for a successful business and sell it to investors or franchisees. They then run the business according to the franchise brand identity. In a sense, they are purchasing the brand and the blueprint and running the business. The attraction for business owners is that they do not have to worry about daily operations. Meanwhile, franchisees have a blueprint for success, which limits the risk of owning their business.”

Business Problems (Challenges): Which problems can you make progress on now? Which of

those problems makes it hard for us to achieve our goal?

- “...so we call these challenges, what [business challenges](#) are standing in our way, and then we break them into the product goals and initiatives, right, what things can we build with product or what problems can we tackle with product to actually solve that...”

## **Problem (Value)**

Problems / Opportunities

- “...the purpose of product discovery is to make sure we have some evidence that when we ask the engineers to build a production-quality product, it won't be a wasted effort.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Obsess over customers, not over competitors. Too many companies completely forget about their product strategy once they encounter a serious competitor. They panic and then find themselves chasing their competitor's actions and no longer focusing on their customers. We can't ignore the market, but remember that customers rarely leave us for our competitors. They leave us because we stop taking care of them.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “So in general, [all of my startups start with a problem](#). Think of a problem, a big problem, something that it's worth solving, something that the world will become a better place if you solve that and then ask yourself, so who has this problem? If you happen to be the only person on the planet with this problem, I can recommend you a therapist. Don't build a startup. It's way more expensive and takes way longer period of time to build a startup. But if a lot of people actually have this problem, what you really want to do next is go and speak with those people and understand their perception of the problem and only then start to build the solution. If you follow this path and your solution works, it's guaranteed that you're creating value.”
- “So for me, [it's usually personal frustration that leads me to start to think about it, whether or not we can change it](#). I hate traffic jams, right? I hate leaving money on the table, right? So there are many things that I ran into and I get frustrated and I tell myself, “No, no, no. There must be a different way to do that.” But in general, look, the problem itself needs to start from you, right? Something that really bothers you, something that you care about, and then it's the validations of the problem that you speak with many people, try to realize. Now if you'll tell me, oh, this is a B2B, then speak with many businesses, right? Speak with those that you believe actually do have this problem and I understand their perception. Once you validate that, then there are few things that you need to realize.”
- “...our job is to maximize value... we have customers on one side and we have businesses on the other and some have problems, wants, needs that we can fulfill with products and services, right, but it's not until we actually take away those problems and fulfill those wants and needs that the customer realizes value, [there is no inherent value in a feature that you ship until it solves a problem](#), until it fulfills a want or a need and that is when the customers realize value and in return they give us value in exchange in the form of money or data or whatever it is that your company runs on and that's how we get business value...”
- “...as product managers right our job is to figure out what products and services really [maximize those two things the customer value and the business value](#), that's our job is to optimize this system and figure out how we can produce the most value on these things and what we have to remember is that solving big problems, right, creates big value for

our businesses that's what we really have to focus on so at the end of the day if we want to make a value for our businesses we solve the problems for our users..."

- "The value comes from understanding why they want these features. You don't want to just collect feature requests. You aren't building the product by committee. But the motivations and constraints behind those requests are critical." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- "...so managing the backlog, doing those meetings, that's just one piece of what you do, but you still have to figure out what are we building, right, what is the best thing I could possibly build that creates value for both my business and my customers..."
- "Based on your diagnosis, what is the most critical solvable problem facing your company? Identify that upfront, and craft your strategy around solving it."
- "First, it's really important to understand the challenge, the problem. Diagnosis is not merely understanding the world, it's understanding the challenge you face. What makes it hard? So the question I ask the client is exactly that. What makes it hard?"
- "So if that's the core of it, what's the basic activity? What are you doing when you create a strategy? Well, you're diagnosing the situation. You're trying to figure out what's going on here? What's the nature of reality that you're dealing with? Now, humans can't understand all of reality. No one can. So part of what a diagnosis is, is a decision about what you're going to pay attention to and the hypothesis or several hypotheses about what's going on, how do things connect together. And that's the beginning of the diagnosis. And so diagnosis is an understanding of the situation that you're in."
- "My brother Dan started Create because he noticed a wide gap between the public perception of creatine and the very positive research on its effectiveness, realized that well-branded gummies would be a more palatable form factor than powders for most consumers, and recognized that his experience at Away, Parade, and Not Boring gave him the right skillset to build the brand. A little over six months in, he's at a \$6 million run rate. It seems to have been a good diagnosis. Most startups stop there, but a good startup diagnosis needs to go further."
- "If you are a search PM, "what the users are trying to do" is usually trying to find a document, product, webpage, or some information. They do that by providing a search query expressing their intent (often poorly). It's our job, as search PMs, to understand the technology to get those users to their documents. That doesn't mean that you need to be a machine learning expert (that's what the engineers are for!); your job is to understand the technology and what it enables for your users."
- "Every product or company starts with an idea. Ideas come from different sources like top management, individuals, existing customers, and internal teams. The ideation stage is about brainstorming sessions where we categorize the ideas based on the vision, market strengths & weaknesses, or other hypotheses. We don't eliminate any idea in this stage but collect as many ideas as possible and categorize them in detail."
- "Product Owners should not focus on defining solutions to implement; they should focus on building a shared understanding of a problem that is worthwhile to solve."
- "Typically, new products or features will start with "generative" experiments, where it's all about identifying and assessing customer pain points or problems.

Roads to take to Solve Problems

[NEW VALUE] (0-1);

Add NEW Value:

Solving the Struggling Moments, Problems, Challenges;

The “Why” users **want or need** a solution in order to achieve their JTBD?

What makes achieving the business goal & the user JTBD **hard**

→

What do users want or need in a solution in order to achieve their JTBD?

- “As for building something users love, here are some general tips. Start by making something clean and simple that you would want to use yourself. Get a version 1.0 out fast, then continue to improve the software, listening closely to the users as you do. The customer is always right, but different customers are right about different things; the least sophisticated users show you what you need to simplify and clarify, and [the most sophisticated tell you what features you need to add](#). The best thing software can be is easy, but the way to do this is to get the defaults right, not to limit users' choices. Don't get complacent if your competitors' software is lame; the standard to compare your software to is what it could be, not what your current competitors happen to have. Use your software yourself, all the time. Viaweb was supposed to be an online store builder, but we used it to make our own site too.”

[EXISTING VALUE] (Established Product);

Reduce Time to EXISTING Value (Doubling Down):

The “Why” users **LOVE** our current solution?

What makes achieving the business goal & the user JTBD **easy** with our existing product;

→

What do users love about your solution that helps them achieve their JTBD? (*if product is launched & there are users; e.g.: speed, keyboard shortcuts, etc.*)

- “As for building something users love, here are some general tips. Start by making something clean and simple that you would want to use yourself. Get a version 1.0 out fast, then continue to improve the software, listening closely to the users as you do. The customer is always right, but different customers are right about different things; [the least sophisticated users show you what you need to simplify and clarify](#), and the most sophisticated tell you what features you need to add. The best thing software can be is easy, but the way to do this is to get the defaults right, not to limit users' choices. Don't get complacent if your competitors' software is lame; the standard to compare your software to is what it could be, not what your current competitors happen to have. Use your software yourself, all the time. Viaweb was supposed to be an online store builder, but we used it to make our own site too.”
- “To understand why users loved Superhuman, we once again turned to the segment of those who would be very disappointed without our product. This time, we looked at their answers to the third question on our survey: “[What is the main benefit you receive from Superhuman?](#)”... After throwing the responses into a word cloud, some common themes emerged: the users who loved our product most appreciated Superhuman for its speed, focus and keyboard shortcuts. With this deeper understanding of the product's appeal, we turned our attention to figuring out how we could help more people love Superhuman.”
- “Always, always just talk to people first and deeply understand their willingness-to-pay (and sign up / activation) reasons. [Instrument the app first and foremost around those key areas and optimize those funnels before you do anything else](#). There's zero reason to instrument downstream of an app's funnel if people never make it far before churning, so start upstream first and spend most of your time there optimizing



each step at a time (e.g. landing page → sign up → onboarding / activation / WOW moments → willingness to pay test steps → retention steps → etc)”

## **Surface Problems (Research)**

How to Surface Problems? (*how to surface things you think are problems*);  
SURFACE PROBLEMS BY DOING RESEARCH

- “The way to get startup ideas is not to try to think of startup ideas. It's to [look for problems, preferably problems you have yourself](#). The very best startup ideas tend to have three things in common: they're something the founders themselves want, that they themselves can build, and that few others realize are worth doing. Microsoft, Apple, Yahoo, Google, and Facebook all began this way.”
- “As for building something users love, here are some general tips. [Start by making something clean and simple that you would want to use yourself](#). Get a version 1.0 out fast, then continue to improve the software, listening closely to the users as you do. The customer is always right, but different customers are right about different things; the least sophisticated users show you what you need to simplify and clarify, and the most sophisticated tell you what features you need to add. The best thing software can be is easy, but the way to do this is to get the defaults right, not to limit users' choices. Don't get complacent if your competitors' software is lame; the standard to compare your software to is what it could be, not what your current competitors happen to have. Use your software yourself, all the time. Viaweb was supposed to be an online store builder, but we used it to make our own site too.”

[!!!] [Start with the JTBD](#) [!!!]

1) Are you solving for a [MACRO JTBD](#) or a [MICRO JTBD](#)?

[MACRO JTBD]

[MICRO JTBD]

[Problems w/ EXISTING Solutions]

0) Growth: Users don't even *see* the product or features / Top of the Funnel (Growth Funnel)

1) Adoption: users don't adopt a product or a feature when the user is most likely to *want* to use it to finish their JTBD (in context of their JTBD)

2) Optimization: Friction (Time) to Aha! Moment - ~3 seconds to value

System Friction

Bugs

Performance related issues

Interaction Friction

- “Once you've minimized the steps needed to use a feature, [look at the remaining steps and see if you can reduce the effort required for each step, i.e. make each step simpler](#). Product teams know they need to do this, but in my experience they rely on a limited number of approaches, such as optimizing the UI flow, mimicking how similar flows are built in other popular apps so the flow feels more familiar to users, and clarifying the verbiage in the app. But there are many other approaches. Below are three additional methods that I've found to be very effective and should be used much more often than



they currently are.”

Step Friction: a point in the task flow

- “Most features have multiple steps. Every time you ask a user to click, tap, or type, even if it all happens in one screen, that’s a step. And when you start counting all these steps, you’ll realize that you’re asking your users to do a lot more than you realize. You need to [look at whether some of the steps can be removed](#).”

Input Friction: time it takes to complete a task during user flow

- “[Asking the user to enter information by typing is an overlooked but very real source of friction](#). You need to know exactly what to type (for example, if you want to share a Figma file with someone, you need to know the correct email address to type), and you have to deal with typos. Also, this friction is magnified if the typing needs to be done on a small mobile screen. Instead, explore where you can have users select something from a list with a click/tap.”
- “Another way to reduce effort is to [intelligently prefill default values](#).”

Navigation Friction (poor navigation)

Unnecessary Steps

- “Additionally, [misusing accordions, confirmations, dropdown menus, and other interactive UI elements](#) adds unnecessary steps and interactions.”

Hidden (hard-to-reach) Features

- “It’s not uncommon for companies to make it difficult for users to downgrade a paid plan or delete their accounts entirely. The hope is that the user will give up and keep their subscription. [Searching for hidden features is time-consuming and frustrating, leading to distrust in the product and brand](#).”

UI Friction

Cluttered UI

- “[Navigating cluttered layouts](#), unnecessary steps to complete a task, and inconsistent information requires a lot of mental effort.”

Communication Friction

Incorrect word choice

Poor instructions

- “[Vague instructions or messages](#) and poor presentation require a lot of time and cognitive effort to interpret the information. This inevitably results in high cognitive friction.”

Vague or ambiguous language

Inaccurate, incomplete, or insufficient documentation

- “By far [the most common challenge engineers face when working with a new API is inaccurate, incomplete, or insufficient documentation](#).”
- “Good API documentation is how engineers onboard using a new API. Just like with any other product or service, if our customers can’t get through onboarding, they won’t be able to use the product or service. [If an API isn’t well documented, engineers won’t be able to get value from the product](#).”

Cognitive Friction: reducing the mental effort required to understand and use a feature; learn from watching real user interactions

- “We can’t have a discussion about removing friction in your product without at least mentioning reducing cognitive friction, also known as cognitive load—that is, [reducing the mental effort required to understand and use a feature](#). To find out which of your features users struggle with, you need to grab a few new users and watch them try those features for the first time. These sessions are often painful to watch, but you’ll learn a ton.

- You'll uncover which concepts in your product are unfamiliar to your users.”
- “[Cognitive friction in UX occurs when](#) a user interface or feature forces users to stop and think, increasing cognitive load. It can also refer to instances where features aren't intuitive or don't function as they're supposed to.”

Hesitancy (the need to stop and think)

- “Have you ever seen a warning sign that tried to explain to you how to open a door? I encountered it a few times, and the situation always ended the same way. [For a moment, I lost confidence in my ability to open doors.](#)”

No Templates; examples that show the user what they can do

- “...providing examples and the difference here is [rather than telling them what to do we're more showing them what to do](#) so here's some cases where we have samples or examples in our own product with sage we're providing some seed questions for the user so they'll see some samples of the things that they can ask and they can use those directly and it helps them understand how to use Sage...”
- “...provide templates which are a bit different from examples because these are things that help you get started so in Miro for example when you first open the app it gives you [a long list of potential templates that you can use that will get you started](#) and save a lot of time...”

Unexpected Results: Mismatch between the outcome of an action and the expected result; conflict between our expectation and the way the interface works

- “Cognitive friction occurs when a user is confronted with an interface or affordance that [appears to be intuitive but delivers unexpected results](#). This mismatch between the outcome of an action and the expected result causes user frustration and will impair the user experience if not jeopardize it. User research can help uncover such problems and generate friction-free design.”
- “Imagine a mouse-operated graphical user interface (GUI) where selecting a folder icon requires two left clicks and opening it requires a right click. This isn't necessarily a bad way to control the GUI—however, it's completely counter-intuitive, as our experience with GUIs for decades leads us to expect that a single left click selects an icon and a double left click opens it. [The conflict between our expectation and the way the interface works](#) is called cognitive friction. As users will not be comfortable with the prospect of unlearning a conventional way of completing an action, they will reject such a design.”

Broken experiences

- “Broken links commonly cause cognitive friction. [Users think they're navigating to a specific feature, but the link either doesn't work or takes them elsewhere](#). Frustration compounds when there is no way to navigate back or they must repeat a task.”

Dead clicks

Logo in the upper left corner that doesn't link to homepage

- “A great example of it can be [a logo in the upper left corner](#) that is not hyperlinked or redirects us not to the home page but to the contact subpage.”

Insufficient Endpoint Coverage or Confusing Endpoint Design

- “[Every product has an underlying mental model of how it works. Good products are designed to match the mental model of the target customer](#). The same is true for APIs. Choosing what endpoints to offer is similar to choosing what functionality to offer in your product. How those endpoints interact with each other should also match the mental model of the target customer.”
- “When a developer wants to programmatically add a user to a calendar event, do they do

that by accessing the User endpoint or do they do it through the Events endpoint? There are two things to consider when making these types of decisions: 1) Your endpoint design should match the mental model of your target customer and 2) it should be consistent with the mental model you use in the graphical user interface (GUI) of the same product (if there is one). Since we are accustomed to adding guests to calendar events via the event itself, we should expose this functionality through the Events API, not the Users endpoint. [When the endpoint design doesn't match the mental model of the main product, it requires that developers work with two inconsistent mental models at the same time. They have to remember how specific functionality works in the GUI vs. how it works in the API. This is needless friction that should be avoided if possible.](#)"

#### Disregarding Industry Norms

- "...developers can struggle to adopt a new API because the API doesn't act according to their expectations. As we saw last week, REST is a standard that sits on top of HTTP. [That means there are expected norms that should be followed when you create a REST API.](#) These norms apply to how we define our endpoints. An endpoint should grant access to a resource. They apply when we define our methods. A PUT should replace a resource. A PATCH should partially update a resource. There are norms for how requests and responses should be structured. But many APIs do a sloppy job of following these norms. Endpoints map to actions instead of resources. PUTs act like PATCHes. Responses have incorrect status codes or status descriptors, are missing necessary headers, or include empty bodies when it's more appropriate to return a resource."

#### Empty States

- "...focus on [empty states](#) there's the first use empty state where there's nothing to see yet and you want to give the user some guidance on what to do next and here's an example from notion when you've just opened a new document and it guides you in the different ways you can start putting information into that document there's also the notion of a no results empty state where you've done a search for example and got no results back and we could provide them with some guidance on here are things you can do to get results next time..."
- "You know how it's usually easier to start with content that's close to what you want and edit it than it is to create new content from scratch? That's true for your users as well, which means that where possible, [providing users with a good starting point for any kind of content creation can reduce friction and increase engagement.](#) This "edit vs. create" idea applies to not just traditional text or image-based content but to anything the user needs to create or define."

#### Zero results page

Brand new document with no text

Empty search bar

Confusing Error Messages: describe what the error is and help users resolve it

- "...providing helpful [error messages that not only describe what the error is but also help you resolve it](#) so here's an example from Dropbox where the user has provided an incorrect email address and it alerts them to that and it also says what's missing that they're missing the at sign or here's an example from slack where the user went to upload a photo that was too large it tells them the photo was too large and it also tells them the maximum size that can be used when they try again..."
- "Like documentation, error code design is often an afterthought. But this is a big mistake. Error codes help a developer understand what they might need to do when something

goes wrong. [Sometimes unclear error codes are simply due to a lack of effort. Compare the following two error codes: 1\) Invalid field 2\) Expected an object for End Date.](#) The former tells you that one of the fields you sent in your request is invalid. But it doesn't tell you which field or why it was invalid. The latter tells us exactly which field is the issue (End Date) and what type of data it expects (an object). This description tells the developer exactly what needs to be fixed. Sadly, the former is far more common."

#### Emotional Friction

- "[Emotional friction](#) happens when asking users to complete an action rubs them the wrong way and elicits negative emotions in the user experience. This can include frustration, confusion, annoyance, or even fear. Negative emotions will likely cause users to abandon tasks or hesitate to use a product again."

#### Poor Feedback Mechanisms

- "The lack of a proper channel to collect feedback from users [makes them feel unheard](#), as their concerns are not resolved. This results in feelings of disappointment, leading to emotional friction."

#### 3) Retention (Re-Adoption); users don't return to the product / features

##### [Talking] w/ Everyone about Gaps in the World

- "The next best thing to an unmet need of your own is an unmet need of someone else. [Try talking to everyone you can about the gaps they find in the world. What's missing? What would they like to do that they can't? What's tedious or annoying, particularly in their work? Let the conversation get general; don't be trying too hard to find startup ideas. You're just looking for something to spark a thought. Maybe you'll notice a problem they didn't consciously realize they had, because you know how to solve it.](#) When you find an unmet need that isn't your own, it may be somewhat blurry at first. The person who needs something may not know exactly what they need. In that case I often recommend that founders act like consultants — that they do what they'd do if they'd been retained to solve the problems of this one user. People's problems are similar enough that nearly all the code you write this way will be reusable, and whatever isn't will be a small price to start out certain that you've reached the bottom of the well."

##### [What's the Catch?] Find Existing, Bad Solutions to Problems

##### [Value Chain] Map the Value Chain of the JTBD

- "...the companies that do well are the ones that use this kind of thinking to change their value chain. Think about furniture. For thousands of years, furniture was something that you described and then someone built, and then they delivered to your house. That was furniture. Then IKEA went, "Hey, if we flat pack this stuff and change the design, we can put it in containers, people can build it themselves at home." So [they took the value chain of furniture creation and they messed with it.](#) In that case, they delegated one of the stages of furniture creation to someone else. That completely changed the furniture industry. So that's not a one-off thing."
- "“There's an example, 1-800-MATTRESS in the States. They used to have this thing where... What's the one thing you care about that should be added to your product if you are trying to sell mattresses to New Yorkers? Delivery? Install? No, removal... It's really hard to get rid of a mattress in New York City. Some people would... Like, "Oh, yeah, we'll take away your old mattress." [So you just look at the value chain and you go, "Wait, I'm in business of delivering and selling mattresses." One step before you in the value chain is get rid of the old mattress. But if you just change your product and slide the value chain over by one block, "We include mattress removal."](#) They're like, "Oh, yeah,

these guys are going to replace our mattress. I don't want a new mattress. I want a replaced mattress." It's that kind of mindset.””

[OST] Opportunity Solution Tree in order to achieve the JTBD (Jobs to be Done);  
Map the User Journey to complete the JTBD

- “...there’s an underlying structure to discovery that we can use to guide our work. It starts with defining a clear outcome—one that sets the scope for discovery. From there, we must discover and map out the opportunity space—this is what gives structure to the ill-structured problem of reaching our desired outcome. It’s the all-important problem framing that opens up the solution space. And finally, we need to discover the solutions that will address those opportunities and thus drive our desired outcome.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “The root of the tree is your desired outcome—the business need that reflects how your team can create business value. Next is the opportunity space. These are the customer needs, pain points, and desires that, if addressed, will drive your desired outcome. Below the opportunity space is the solution space. This is where we’ll visually depict the solutions we are exploring. Below the solution space are assumption tests. This is how we’ll evaluate which solutions will help us best create customer value in a way that drives business value.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “The depth and breadth of the opportunity space reflects the team’s current understanding of their target customer. If our opportunity space is too shallow, it can guide us to do more customer interviews. A sprawling opportunity space, on the other hand, reminds us to narrow our focus. If we aren’t considering enough solutions for our target opportunity, we can hold an ideation session. If we don’t have enough assumption tests in flight, we can ramp up our testing.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “Take a closer look at all the steps of the user journey and [try to identify where there might be blocking points, frustrations or misunderstandings](#). User tracking refers to a more analytical approach to identify these blocking points, using tools tracking user behaviors on your product.”
- “Task flows — Illustrates the motivations and steps that a user takes to complete a task or accomplish a goal. [A user’s “Happy Path”](#).”
- “A user flow is a [diagram that displays the complete path a user takes to achieve a meaningful goal](#). The user flow lays out a user’s movement through the product, mapping out each step from the entry point to the final interaction.”
- “[A good user flow is](#): Linear: there is a clear direction and users do not have to repeat steps or go back and forth between them. There is a clear pathway between each step and group of steps. Simple: each step in the user flow corresponds to one specific action, goal, or screen. Comprehensive: each potential action, screen, decision, or input is clearly denoted within the user flow. Easy to follow: user flows can benefit all the stakeholders in a project, and should be designed so that they can be read and understood by any and all of them.”
- “User flows — Illustrates the motivations and steps a user takes to complete a task or accomplish a goal within a system. [Plus any \(and all\) alternate paths they can take within the system to reach the same destination](#).”
- “User flows are [essential for designers because they help us understand how users interact with our designs](#). By mapping out the steps a user takes to complete a task, we



can identify potential areas of friction and make changes to improve the overall experience. User flows also help us communicate our design ideas to stakeholders and developers.”

- “Customer Journey Maps — Illustrates the motivation and steps that a user takes to complete a task or accomplish a goal. [Plus their emotions and attitudes at each touchpoint throughout the process.](#)”
- “User Story Map is [a breakdown of the steps users must take to achieve their particular goals](#). We write down each activity on a separate sheet of paper and arrange it in a logical sequence. Noteworthy, it is not just a map showing “how the user uses our product.” It is a map of all activities users must perform to achieve their goals. Example. Suppose we have a company that manufactures pizza ovens. It is reasonable then to map the entire pizza preparation process, not just the baking phase. It is worth starting with ordering the ingredients, then collecting and preparing them, kneading the dough, baking, putting it on a plate, and handing it over to the waiter. People often focus only on the stories related to “operating the oven”. If so, you can miss many opportunities to improve the product and create a competitive advantage.”

#### 1) Root of Tree == JTBD / User Goal

- “You start by prioritizing your business need—creating value for your business is what ensures that your team can serve your customer over time.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “Business thought leaders have been advocating for managing by outcomes for decades. Peter Drucker, a renowned managerial thought leader, wrote about its benefits countless times<sup>12</sup>. Andy Grove, the former CEO of Intel, utilized the practice at Intel and wrote about it in his best-selling book High Output Management. More recently, Google, Google Ventures<sup>13</sup>, and John Doerr<sup>14</sup>, a venture capital partner at Kleiner Perkins, have popularized the topic again with their advocacy for objectives and key results (OKRs)<sup>15</sup>, one flavor of managing by outcomes. You’ll hear from prominent thought leaders in most industries and broadly across the technology sector (including from me) that shifting from dictating outputs to managing by outcomes is critical to a company’s success.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “When we manage by outcomes, we give our teams the autonomy, responsibility, and ownership to chart their own path. Instead of asking them to deliver a fixed roadmap full of features by a specific date in time, we are asking them to solve a customer problem or to address a business need.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “An outcome communicates uncertainty. It says, We know we need this problem solved, but we don’t know the best way to solve it. It gives the product trio the latitude they need to explore and pivot when needed. If the product trio finds flaws with their initial solution, they can quickly shift to a new idea, often trying several before they ultimately find what will drive the desired outcome.” ~ [Continuous Discovery Habits \(ebook\)](#)

Outputs: Business Outcomes (Lagging Indicators);

Don’t use Output Metrics for OST

- “Business outcomes start with financial metrics (e.g., grow revenue, reduce costs), but they can also represent strategic initiatives (e.g., grow market share in a specific region, increase sales to a new customer segment). Many business outcomes, however, are lagging indicators. They measure something after it has happened. It’s hard for lagging indicators to guide a team’s work because it puts them in react mode, rather than empowers them to proactively drive results. For Sonja’s team, 90-day retention was a



lagging indicator of customer satisfaction with the service. By the time the team was able to measure the impact of their product changes, customers had already churned.

Therefore, we want to identify leading indicators that predict the direction of the lagging indicator. Sonja's team believed that increasing the perceived value of tailor-made dog food and increasing the number of dogs who liked the food were leading indicators of customer retention. Assigning a team a leading indicator is always better than assigning a lagging indicator." ~ [Continuous Discovery Habits \(ebook\)](#)

Inputs: Product Outcomes (Leading Indicators);

Use Input Metrics for OST

- "As a general rule, product trios will make more progress on a product outcome rather than a business outcome. Remember, product outcomes measure how well the product moves the business forward. By definition, a product outcome is within the product trio's span of control. Business outcomes, on the other hand, often require coordination across many business functions. For example, suppose Sonja's team discovered that, in addition to some customers not understanding the value of tailor-made dog food and some dogs not liking the food, poor customer support response times and surprise price increases that occurred after their trial period ended also influenced their high churn rate. In this case, product, marketing, and customer support might need to coordinate their efforts to increase retention." ~ [Continuous Discovery Habits \(ebook\)](#)
- "Assigning product outcomes to product trios increases a sense of responsibility and ownership. If a product team is assigned a business outcome, it's easy for the trio to blame the marketing or customer-support team for not hitting their goal. However, if they are assigned a product outcome, they alone are responsible for driving results. When multiple teams are assigned the same outcome, it's easy to shift blame for lack of progress." ~ [Continuous Discovery Habits \(ebook\)](#)
- "This research suggests that product trios, when faced with a new outcome, should first start with a learning goal (e.g., discover the opportunities that will drive engagement) before being tasked with a performance goal (e.g., increase engagement by 10%). This approach can be particularly helpful because it's common to have uncertainty around the best way to measure your outcome. We often need to do some discovery to learn how to best measure a product outcome. For example, when Sonja's team started investigating retention as an outcome, they had no idea what they would uncover. Rather than spinning their wheels trying to define the perfect, specific, measurable retention metric, her team focused on learning what led to churn and used that knowledge to revise their metric over time." ~ [Continuous Discovery Habits \(ebook\)](#)

2) Map Opportunity Space

- "...the team should explore the customer needs, pain points, and desires that, if addressed, would drive that outcome. The key here is that the team is filtering the opportunity space by considering only the opportunities that have the potential to drive the business need." ~ [Continuous Discovery Habits \(ebook\)](#)
- "When working with an outcome for the first time, it can feel overwhelming to know where to start. It helps to first map out your customers' experience as it exists today. This trio started by mapping out what they thought was preventing their customers from submitting their applications. But they didn't do so by getting together in a room to discuss what they knew. Instead, they started out with each product-trio member mapping out their own perspective. This was uncomfortable at first. The designer had little context

for what might be going wrong. The engineer had a lot of technical knowledge but had little firsthand contact with customers. The product manager had some hunches as to what was going wrong but didn't have any analytics to confirm those hunches. They each did the best they could. Once they had each created their individual map, they took the time to explore each other's perspectives. The product manager had the best grasp of the "known" challenges—the customer complaints that made their way to their call center and through support tickets. The designer missed a few steps in the process but did a great job of capturing the confusion and insecurity that the customer might be feeling in the process. Because he was new to the company, he was able to view the application process from an outsider's perspective. The engineer's map accurately captured the process and added detail about how one step informed another step. This uncovered insights into how a customer might get derailed if an earlier step had been completed incorrectly. Each map represented a unique perspective—together they represented a much richer understanding of the opportunity space they intended to explore. The trio quickly worked to merge their unique perspectives into a shared experience map that better reflected what they collectively knew. Their map wasn't set in stone. They knew that it contained hunches and possibilities, not truth. But it gave them a clear starting point. They had made explicit what they thought they knew, where they had open questions, and what they needed to vet in their upcoming customer interviews." ~ [Continuous Discovery Habits \(ebook\)](#)

- "It's easy when working in a team to experience groupthink. Groupthink occurs when a group of individuals underperform due to the dynamics of the group. There are a number of reasons for this. When working in a group, it's common for some members to put in more effort than others; some group members may hesitate or even refrain from speaking up, and groups tend to perform at the level of the least capable member.<sup>19</sup> In order to leverage the knowledge and expertise in our trios, we need to actively work to counter groupthink. To prevent groupthink, it's critical that each member of the trio start by developing their own perspective before the trio works together to develop a shared perspective. This is counterintuitive. It's going to feel inefficient. We are used to dividing and conquering, not duplicating work. But in instances where it's important that we explore multiple perspectives, the easiest way to get there is for each product-trio member to do the work individually." ~ [Continuous Discovery Habits \(ebook\)](#)

1: Set the Scope by Focusing on a Question (using your Product Outcome - BEWARE a Scope (Question) that is too Narrow or too Broad for the Desired Outcome)

- "To get started, you'll want to first set the scope of your experience map. If you start jotting down everything you know about your customer, you'll quickly get overwhelmed. Instead, start with your desired outcome. The trio in the opening story was trying to increase application submissions, so they mapped out what they thought their customers' experience was as they filled out the application. They specifically focused on this question: "What's preventing our customers from completing their application today?" Their outcome constrained what they tried to capture." ~ [Continuous Discovery Habits \(ebook\)](#)
- "For example, if we worked at a streaming-entertainment company (e.g., Netflix, Hulu) and we were tasked with an outcome like "increase the average minutes watched," we might set our scope broadly: "How do customers entertain themselves today?" With this scope, we might capture everything we know about how customers choose, engage with, and consume streaming entertainment. But given the scope of the question, we might also

capture what we know about their behavior when socializing with friends, attending sporting events and concerts, reading books, and playing video games. This might be the right scope, if we are looking to explore adjacent markets. But for most teams, this scope is too broad.” ~ [Continuous Discovery Habits \(ebook\)](#)

- “However, we don’t want to define our scope too narrowly, either. If we define our scope as “How do customers entertain themselves using our service?” we rule out any inspiration we might get from how they use other streaming-entertainment services, how they entertain themselves through their cable or satellite-dish packages, or how they entertain themselves through services like Twitch and YouTube. If, however, we define our scope as “How do customers entertain themselves with video?” we constrain the scope, but not too much.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “Now you could easily argue that the scope should be “How do customers entertain themselves with video, music, and video games?” Or even, “How do customers entertain themselves online?” These options could all work. There’s not one right scope. The key is to have a conversation as a team about the scope that gives you room to explore while staying focused on your outcome. Once you’ve defined the scope of your experience map, you are ready to take an inventory of your individual knowledge before working to develop a shared understanding of what you collectively know.” ~ [Continuous Discovery Habits \(ebook\)](#)

## 2: Map the User Experience

- “Start with the scope of your experience map. Our product trio that opened the chapter started with the question, “What’s preventing our customers from completing the application today?” In our streaming-entertainment example, we might start with the question, “How do consumers entertain themselves with video?” When thinking about this question, don’t focus on your product. Instead, draw the experience of your customer. For example, our product trio didn’t draw a screen-by-screen wireflow of their application process. Instead, they drew the process as their customers perceived it. They captured where they got stuck, what went wrong, how they course-corrected, and where they eventually abandoned the process. In our streaming-entertainment example, we don’t want to draw a screen-by-screen flow of how to use Netflix. Instead, we want to think about the broader context. When and where does video play a role in a user’s life? How do they hear about content? How do they make decisions about what to do when? Who do they do it with? What challenges and obstacles do they face along the way?” ~ [Continuous Discovery Habits \(ebook\)](#)
- “The following is a simple experience map that might address the question, “How do customers entertain themselves with videos?” It starts with how someone might hear about content, who they share it with, the need to search for it, the challenges that might arise from trying to find it, the viewing experience, and, ultimately, success. As we learn about our customers, we’ll add far more detail to the map, including the myriad of ways people hear about content, the different services they might have to bounce between, the different devices they watch on, and so much more... Once each member of your trio has taken the time to inventory what they know, it’s time to explore the diverse perspectives on your team... Take turns sharing your drawings among your trio. As you explore your teammates’ perspectives, ask questions to make sure you fully understand their point of view. Give them time and space to clarify what they think and why they think it. Don’t worry about what they got right or wrong (from your perspective). Instead, pay particular

attention to the differences. Be curious. When it's your turn to share, don't advocate for your drawing. Simply share your point of view, answer questions, and clarify your thinking. Remember, everyone's perspective can and should contribute to the team's shared understanding. We saw in our opening story that the trio's shared map was stronger because they synthesized the unique perspectives on the team into a richer experience map than any of them could have individually created. Once you have a clear understanding of each team member's perspective, you are ready to start building a shared team perspective." ~ [Continuous Discovery Habits \(ebook\)](#)

- "As you work together to co-create a shared experience map, focus on synthesizing your work together rather than choosing the "best" drawing to move forward with. Start by turning each of your individual maps into a collection of nodes and links... Create a new map that includes all of your individual nodes... Collapse similar nodes together... Determine the links between each node... Add context..." ~ [Continuous Discovery Habits \(ebook\)](#)
- "These are two-dimensional maps, in which major user activities are arrayed along the horizontal dimension, loosely ordered by time from left to right. So, if there are a dozen major user activities, they would be along the top from left to right, generally in the order you would do them—or at least, if you were describing the overall system to someone else, the order in which you'd describe them. Along the vertical dimension, we have a progressive level of detail. As we flesh out each major activity into sets of user tasks, we add stories for each of those tasks. The critical tasks are higher vertically than the optional tasks... We can use this story map to frame our prototypes, and then as we get feedback on our prototypes and learn how people interact with our product ideas, we can easily update the story map to serve as a living reflection of the prototypes. As we finalize our discovery work and progress into delivery, the stories from the map move right into the product backlog." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### 3: The "Whys" [List of Struggling Moments & Hypotheses]

- "As you collect customers' stories, you are going to hear about countless needs, pain points, and desires. Our customers' stories are rife with gaps between what they expect and how the world works. Each gap represents an opportunity to serve your customer. However, it's easy to get overwhelmed and not know where to start. Even if you worked tirelessly in addressing opportunity after opportunity for the rest of your career, you would never fully satisfy your customers' desires. This is why digital products are never complete... It's easy, however, to bounce from one opportunity to the next, reacting to every need or pain point we hear about. Most product teams are devoted to serving their customers, and, when they hear about a need or a pain point, they want to solve it. But our job is not to address every customer opportunity. Our job is to address customer opportunities that drive our desired outcome. This is how we create value for our business while creating value for our customers. Limiting our work to only the opportunities that might drive our desired outcome is what ensures that our products are viable over the long run and not just desirable in the moment. Our goal should be to address the customer opportunities that will have the biggest impact on our outcome first. To do this, we need to start by taking an inventory of the possibilities." ~ [Continuous Discovery Habits \(ebook\)](#)
- "If we continue with our streaming-entertainment example, we might start with the following list of opportunities:

- I can't find anything to watch.
- I'm out of episodes of my favorite shows.
- I can't figure out how to search for a specific show.
- I don't know when a new season is available.
- The show I was watching is no longer available.
- I fell asleep, and several episodes kept playing.
- I want to watch my shows on my flight.
- I want to skip the show intro.
- Is this show any good?
- I want to know what my friends are watching.
- Who is that actor?
- I want to watch my shows on my train commute.

I don't know how to compare "I can't find anything to watch" with "I'm out of episodes of my favorite shows." These opportunities are not distinct. Running out of episodes of your favorite show is a reason why you might not have anything to watch. But it's not the only reason, so these aren't exactly the same, either. "I want to watch my shows on my flight" and "I want to watch my shows on my train commute" sound similar. Are these really the same opportunity? Maybe they can be combined into, "I want to watch on the go." That might be right. Unless planes and trains introduce different constraints. I may need to be completely offline on a plane, whereas, on a train, I may still have cell data. I might have access to a power outlet on a plane, but not on a train. If these context differences are important to the experience, these opportunities are similar, but not the same... "Is this show any good?" feels like a big, hard problem. How do we evaluate "good" for each individual viewer? "Who is that actor?" feels much easier. Should we always prioritize easy over hard? If so, when do we ever get to the hard problems that have the potential to differentiate us from our competitors and really drive our outcomes?" ~ [Continuous Discovery Habits \(ebook\)](#)

- "...so we went back to the beginning and we started trying to figure out how do we learn more about our customers, so our first obstacle is we don't understand why people are leaving, right, no idea why people are leaving, and because they were coming to our site and not giving us any information before they left right we didn't capture any of their emails or their phone numbers, we couldn't follow up with them, so how do we get this information?... what we could do is put a little bit of JavaScript on our site where people are falling off and when they go to leave it'll pop up and it'll say "what's stopping you from signing up today"... so within one week we had like 300 responses and then within one month we had thousands of responses, like everybody was writing in this tool box and telling us why they weren't signing up... so the biggest thing 33 percent rate other responses were "I can't find your food menu", "what food do you serve", right, like "do I even like it", and that was on the page but it was buried, right, "what's in the box", "how does this work", "do you give me salt", "do you give me milk", "do I have to buy eggs", right, like "how does this thing work", "I've never done a meal kit before", some people said "the price is too high", right, but it wasn't worded that way in the open text box, right, it said "I don't understand why you cost more than your competitors" so now it's a value question right how why why are you paying more for us if we're the same as everybody else and then there was other reasons, but 33 percent right said "I can't find that food menu", which is basic, right, just things that we should do, so we looked back and we said "[okay, now our obstacle is that people can't find the menu](#)", right, how do we



dig into why or how do we fix that, and if we went to the site, right, it was because the menu was hiding under this hamburger icon that was like up in this corner, right, and that was the only place that you can actually access the menu and only 2% of people clicked on it... so this little culprit is what's causing 33% of people not to sign up, so we did a test, right, we said we don't have a lot of pages on the site it's just a long scroll, what can we do in just a week, right, like one week, what can we do to expand that menu and see if that helps, and we believe this is a navigation problem, right, let's figure out how to tackle it, so we did this, we put menus up there because it was a separate page...let's A/B test it and figure out what happens, well the two weeks we tested this the conversion rate skyrocketed, right, it went out of the park because people could find the food it was good food, it was a good offering, we were just not telling people what we actually had, so then we went back to the drawing board and figured out how do we take all that feedback from customers and put it into a site with better navigation, so we broke it out we answered all of their questions and they were able to double acquisition by doing that by iterating through these versions of the website that actually solved the problems for users... by actually taking the time and understanding our users right and really focusing on experimentation we were able to do the best things for our users, so we were able to really solve their problem and hit our goals...”

### 3) Outline Opportunity Tree

- “Instead of managing an opportunity backlog, we’ll use an opportunity solution tree (introduced in Chapter 2) to help us map out and understand the opportunity space. The tree structure will help us visualize and understand the complexity of the opportunity space. Trees depict two key relationships —parent-child relationships and sibling relationships. Both will help us make sense of the messy opportunity space.” ~

[Continuous Discovery Habits \(ebook\)](#)

[Parent Nodes] User Experience Map Nodes

- “In Chapter 4, you learned how to visualize what you already know about your customers’ experience. The output of this exercise was an experience map that showcases what your customers do to address their needs today. You learned that the map can help direct the stories that you collect in your interviews. It can also help give structure to the opportunity space. Our goal is to identify distinct moments in time during your customers’ experience. Oftentimes this is as simple as mapping each node in your experience map to the top level of opportunities on your opportunity solution tree. However, if your team isn’t starting from a strong understanding of the customer experience, your map may not have distinct moments in time. It needs to evolve before you can identify them. Another approach to uncovering these distinct moments is to analyze the customer stories you are collecting in your interviews. In Chapter 5, I encouraged you to draw the stories that you heard. You do this by identifying the key moments in time that occurred during each story. If you take all of these drawings and start to label each key moment (or node), you’ll notice patterns across your unique stories. What nodes are showing up in story after story? How can you stitch the most common nodes together to create an experience map that represents the set of stories that you are collecting? You can then map these nodes to your top-level opportunities. With either strategy, the key is to make sure there is no overlap between the moments in time. Overlap will prevent us from working on one opportunity at a time. If we continue with



our streaming-entertainment case study, we might identify the following distinct moments based on our experience map from Chapter 4:

- Deciding to watch something
- Choosing something to watch
- Watching something
- The end of the watching experience

From these distinct moments in time, we could then create the following top level opportunities:” ~ [Continuous Discovery Habits \(ebook\)](#)

- “If your top-level opportunities represent distinct moments in time, then no opportunity should have two parents. If you are finding that an opportunity should ladder up to more than one parent, it’s framed too broadly. Get more specific. Define one opportunity for each moment in time in which that need, pain point, or desire occurs.” ~ [Continuous Discovery Habits \(ebook\)](#)

[Child Nodes] (Why) Hypothesis Nodes - Struggling Moments & Hypothesis during User Experience to reach Desired Outcomes

- “The parent-child relationship will be used to represent subsets—a child opportunity (or sub-opportunity) is a subset of a parent opportunity. For example, in the previous section, we saw that “I’m out of episodes of my favorite show” was one reason— but not the only reason—for “I can’t find anything to watch.” Referring to the tree relationships, we would say that “I can’t find anything to watch” is the parent of the child “I’m out of episodes of my favorite shows.”” ~ [Continuous Discovery Habits \(ebook\)](#)
- “The opportunity solution tree helps teams take large, project-sized opportunities and break them down into a series of smaller opportunities. As you work your way vertically down the tree, opportunities get smaller and smaller. Teams can then focus on solving one opportunity at a time. With time, as they address a series of smaller opportunities, these solutions start to address the bigger opportunity. The team learns to solve project-sized opportunities by solving smaller opportunities continuously.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “The value of breaking big opportunities into a series of smaller opportunities is twofold. First, it allows us to tackle problems that otherwise might seem unsolvable. And second, it allows us to deliver value over time. That second benefit is at the heart of the Agile manifesto and is a key tenet of continuous improvement. Rather than waiting until we can solve the bigger problem—“Is this show any good?”—we can deliver value iteratively over time. We might start by solving the smaller problem of “Who is in this show?” because it’s fairly easy to solve and because we know a large percentage of our audience chooses shows according to this criterion. This allows us to ship value quickly. Now it might not solve the bigger opportunity completely, but it does solve a smaller need completely. Once we have accomplished that, we can move on to the next small opportunity. Over time, as we continuously ship value, we’ll chip away at the larger opportunity. Eventually, we’ll have solved enough of the smaller opportunities that we will, in turn, have solved the larger opportunity.” ~ [Continuous Discovery Habits \(ebook\)](#)
- “[Break your machine learning model into the smallest problem you can](#). Otherwise you’re going to be surprised by some of the edge cases that will inevitably arise once you ship.”
- “If you’ve been creating interview snapshots for each interview (as recommended in Chapter 5), you can simply review each interview snapshot. However, you don’t want to

add every opportunity to your tree. Instead, for each opportunity, ask the following questions:

-Is this opportunity framed as a customer need, pain point, or desire and not a solution?

-Is this opportunity unique to this customer, or have we seen it in more than one interview?

-If we address this opportunity, will it drive our desired outcome?

If the answer to all three of these questions is “Yes,” you’ll want to add it to your opportunity solution tree. For now, simply group it under the branch in which it occurs. If it seems like it could live under more than one branch, reframe the opportunity to be more specific. You may even need to split it into multiple opportunities, one for each moment in which it occurs, so that each can be grouped under their respective branches.”

~ [Continuous Discovery Habits \(ebook\)](#)

- “We might then ask, “What are some other reasons our customers say, ‘I can’t find anything to watch’?” We might add, “I can’t figure out how to search for a specific show” and “The show I was watching is no longer available” as siblings to “I’m out of episodes of my favorite shows.” Siblings should be similar to each other—in that they are each a subset of the same parent—but distinct in that you can address one without addressing another. For example, we can address “I can’t figure out how to search for a specific show” without addressing “I’m out of episodes of my favorite shows.” But by addressing “I can’t figure out how to search for a specific show,” we partially address “I can’t find anything to watch.”” ~ [Continuous Discovery Habits \(ebook\)](#)
- “When we learn to think in the structure of trees, it helps us deconstruct large, intractable problems into a series of smaller, more solvable problems. For example, “Is this show any good?” might, on the surface, look like a challenging problem to solve. But as we dig in and learn more, we realize that different people solve this problem in different ways. Some people choose what to watch based on the type of show (e.g., they like dramas or crime shows). Others choose shows based on who is in it—they have favorite actors—and they use the cast list as their primary selection factor. The more we learn about how people evaluate shows today, the more likely we can turn a big, intractable problem like “Is this show any good?” into a series of more solvable problems: “What type of show is this?” “Who is in this show?” “Is this show similar to another show I’ve watched?” “Who else is watching this show?” and so on. The big, intractable problem of “Is this show any good?” is a parent opportunity, while the rest are its sub-opportunities (or children).” ~ [Continuous Discovery Habits \(ebook\)](#)
- “Now that you’ve collected the relevant opportunities, it’s time to add structure to each branch. Work with one branch at a time. Start by grouping similar opportunities together. Similar opportunities might be siblings, like we saw with “I want to watch my shows on a plane” and “I want to watch my shows on my train commute.” Or they might turn out to be the same opportunity worded slightly differently. For example, “I don’t like entering a show title with my remote control” and “Selecting letters with the keypad is hard.” If your similar opportunities are siblings, look for a parent opportunity. In our train/plane example, we identified, “I want to watch my shows on the go” as the parent opportunity. This might have been explicitly mentioned in an interview, in which case, it will already be in our branch. But if it wasn’t, it’s fine to go ahead and add it, as it’s implied by the

other two opportunities. So, don't fret if you need to add parent opportunities that weren't explicitly stated in an interview. If your similar opportunities are really the same, like we saw with the two opportunities about entering a show title with a remote, simply combine them into one opportunity. In this case, we might merge them into "Entering a show name into the search box is hard." As you start to group siblings together and identify parent opportunities, you'll end up with a set of mini-trees. Look for sibling relationships between the parents of those mini-trees. Which can you group together? If you need to, add a shared parent to cluster similar opportunities together. Keep iterating through these steps until you've identified a set of siblings that ladder up to the top opportunity (i.e., the one that reflects a key moment) from which all other opportunities descend. Then repeat the whole process for the remaining branches in your tree." ~ [Continuous Discovery Habits \(ebook\)](#)

## **Problem Types (Examples)**

### Types of Problems

- Help customers solve issues without having to contact us
- Increase the percentage of shipments delivered with next-day delivery
- Make it easier for patients to reliably share data with their doctors
- Reduce the cost to acquire a new customer
- Reduce the operational costs of fulfillment
- Reduce the subscriber churn rate
- Reduce the time required to deploy a new or updated service to production
- Connect job seekers with more suitable jobs
- Reduce the average time spent handling a customer service call
- Reduce the time for a user to produce their first monthly report

### Functional Problems / Functional Outcomes (Inefficiencies in the World)

- "...define the customer and the job as a market: [a group of people and the functional job they are trying to get done](#). For example, parents (a group of people) who are trying to "pass on life lessons to children" (the functional job-to-be-done) constitute a market. Surgeons (a group of people) who are trying to "repair a torn rotator cuff" (the functional job-to-be-done) constitute a market."
- "As a customer uses a product to get a functional job done, they often [want to feel a certain way and be perceived in a certain light by their peers and/or friends and others](#)."

Inaccessibility: to something that helps me achieve my JTBD

Communication Access (can't speak to a friend because X, can't speak to a doctor because X)

Information, Knowledge Access (can't learn something because X)

Entertainment Access (can't access radio waves because X)

Money Access (can't access cash because X)

Healthcare Access (can't access clean water because X)

Cost (\$): of something that helps me achieve my JTBD

Usage Costs (can't pay this large fee when I only need 1 feature)

Material, Manufacturing Cost (can you achieve the same or better outcome with "less" materials?)

Transportation Cost (can't afford a car because X, can't afford a flight because X)

Time (0:00): to something that helps me achieve my JTBD

Steps in a Process

Bottlenecks (slowdowns - would you rather read a barcode with your eyes or scan it with a

machine?)

Performance, Latency

- “It will take about a tenth of a second for a click to get to the server and back, so [users of heavily interactive software, like Photoshop, will still want to have the computations happening on the desktop. But if you look at the kind of things most people use computers for, a tenth of a second latency would not be a problem. My mother doesn't really need a desktop computer, and there are a lot of people like her.](#)”

Inefficiencies

- “Near my house [there is a car with a bumper sticker that reads "death before inconvenience." Most people, most of the time, will take whatever choice requires least work.](#) If Web-based software wins, it will be because it's more convenient. And it looks as if it will be, for users and developers both.”

Control Flow

Convenience

Accuracy

Distribution (I need to distribute paint - aerosol spray cans)

Processes (I need to temporarily bind 2 objects together - scotch tape)

Threats / Harm

Health, Disease

Transparency

End-to-End Process

Stay Up-to-Date

Detection of X (radar)

Reasons for Wait (Wait Time)

Control

Constraints, Limitations (Restrictions, Dependencies)

Time Constraints (it's not that it takes too long to do something, but instead that **I don't have time** to do something I want to do)

Lacking Skills, Knowledge

- “When you find the right sort of problem, you should probably be able to describe it as obvious, at least to you. [When we started Viaweb, all the online stores were built by hand, by web designers making individual HTML pages. It was obvious to us as programmers that these sites would have to be generated by software.](#)”

Storage Constraints

Visa Restrictions

Hardware Requirements (need a graphics card to do X)

Hardware Limitations (battery life)

Waste

Unused Resources (leftovers, garbage, single-use products)

Time to Expiration

Material Waste (corrosion)

Fragility

Vulnerabilities (security, infrastructure)

Materials (easily broken, easily worn out, not waterproof; a need for more reliable material)

Emotional Problems / Emotional Outcomes (e.g: overcome anxiety while doing the job)

- “...[emotional job](#) - how your customers want to feel and be perceived while executing the functional job. For example, overcoming anxiety can be an emotional job as customers

want to avoid feeling anxious due to being late and perceived as unprofessional. Customers are, of course, human. Even though your product must meet the needs of the functional job first and foremost, addressing the emotional job is also important in fully understanding the needs of your customer. Emotional jobs can highlight how your customer wants to feel about themselves when they are executing a functional job or they can be social, focusing on how they want to be perceived by others while executing a job.”

- “The [emotional dimension](#). This is the most delicate part of this method. Here, you need to understand what emotions your client is experiencing while doing the job. Having worked with your target will help you. Let's go back to the drilling machine example. It is easy to imagine the fear that -not great handyman- clients may feel. They fear that they won't be able to do drill properly and that they can get hurt, or break something, in the process. You could say that his emotional job would be to be confident in his ability to perform the tasks with the tool.”
- “Using this method properly you will know precisely what your clients need: [A simple drill, that he can easily understand and use](#). A well-made tutorial to give him tips on how to properly use the tool and ease his fears. A cool accessory like a case to safely store the tool to show that the tool belongs with the client, in his home.”

Social Problems / Social Outcomes (how I will feel while I am doing the job; or how others will feel while I am doing the job)

- “The [social dimension](#): Finally, let's not forget that humans are social animals. This means that in all our actions there is a social aspect, a “social job”. All our decisions, more or less consciously, take into account the effects that the action will have on those around us. Let's finish our example. The house that your client is furnishing is his first purchase, a purchase he made with his wife to welcome their upcoming baby. What your client wants to accomplish is much more than just breaking through walls. He wants to show his wife that he will be able to take care of their house and their baby.”
- “Using this method properly you will know precisely what your clients need: A simple drill, that he can easily understand and use. A well-made tutorial to give him tips on how to properly use the tool and ease his fears. [A cool accessory like a case to safely store the tool to show that the tool belongs with the client, in his home.](#)”

Uncategorized Problems / Hidden Outcomes (this outcome should NOT be obvious or else everyone would be doing it)

- “...so first of all you need to find a hidden need so [there's a need out in the market that a lot of companies or a lot of people don't realize exists](#) and if people realize it exists if it was obvious then everyone would be doing it and so so so the hardest part is finding this hidden need and everyone is going to tell you that the idea is dumb everyone's gonna tell you it's stupid I remember in the summer of 2006 after writing that first line of code I went and pitched we believe at the New York tech meetup and it was a thousand people it was we were kind of alpha stage at that point and it was in front of a thousand people and I gave a demo five-minute demo and then Scott the founder of meetup comm came on stage and just said he thought it was the stupidest idea that he'd ever heard and that no one need to make websites and that people who need to make websites already could or people's had to learn to code and from a thousand people told us that it was we had the stupidest idea he'd ever heard so that the point I'm making is if it's (the solution) obvious then everyone will be doing it so you're kind of finding a new reason now the hidden need in in this particular case was that there was a lot of people who need to make a

website themselves and that was really hard because a lot of the tools at the time were geared towards people who were hand coding the websites basically like front-page and Dreamweaver we were able to realize that people wanted to do that and build a service that enabled people to do that...”

## **Define Real Problems**

How to Define the Problem (sometimes referred to as a “people problem”);

Problems are:

-Target Users cannot Achieve their Goal using our Product (hypothesis: because of X);

OR

-Business cannot Achieve its Goal (hypothesis: because of X);

- “...this is [an example to me of a people problem statement: I want to talk about an interest with other people who are also interested, but I don't know where to find them](#). And this is especially relevant at this conference because a lot of times what would happen is you're a new mom and a baby, in your frame group, nobody else is having babies around the same time as you. But at the same time there's so many things that goes through your mind you want to know is this normal, my baby just did this, like should I be worried, what are some resources? You want to have a community of other new moms to be able to talk to and so a lot of times women will not know exactly where to find that community and if they're lucky friends or other people will say hey there's a local group here or there's a neighborhood mom's group, but this is something that a lot of people in the audience were talking about, is something that was a problem to them. So this is an example of a people problem statement.”
- “Here's another example. This one we've heard over and over again, ever since we introduced the Like button on Facebook. Everybody would ask why don't you guys have a Dislike button and that would be one of the topmost requests that we've had for years and years. But you know that's not really a people problem statement, that's sort of just a suggestion. If we dig deeper, the reason why people wanted a Dislike button is frankly because not everything in Newsfeed is likable. People write about hard times that they're going through, tragedies that are happening in their lives. Recently we just went through this election which was very very charged and people would read things or say things that made them feel a lot of different emotions, not just happy ones. And so [that is basically the people problem statement. Not everything in Feed is likable and I want to be able to easily express other things](#).”
- “And finally one more example, so sometimes I call these people problem statements, sometimes they're not just problems in the way of like hey is someone going to bring this up as like a hardship in their life that they want solved, [sometimes it's just more of an opportunity or a thing that if you ask people if they want it, they would say yes. An example here is the desire to share spontaneously and authentically](#). A lot of times we're going through a pretty cool experience and we might capture it at that moment and then an hour later go and upload it on Facebook but how cool it would be to actually have that experience live with our friends and our family. So that is an example of another people problem statement.”
- “So the first question is the most basic and the question is, what people problem are we trying to solve? And the keyword here is really the word people. Because of course whenever we build anything we're trying to solve the problem. But what tends to happen is that you start to think in the mentality of your team or your company and you start to



say things like, the problem we need to solve is that we need to optimize the click through rate of our page. And you know, you'll hear things like this all the time, boil down in small ways and in large ways. And that's not a people problem. A people problem as we define it, is if you go out and you talk to someone on the street and they were to articulate a problem that they were having, that's how they would say it, that is the people problem statement. So there's a couple things that we look at to make sure that this is a valid people problem statement.”

0: Formula:

{target\_user} {with this JTBD} {experiences core X problem type} {and here is evidence to prove it};

For example: ***“For {target\_user} {with this JTBD} it takes too much time {to do JTBD} {and here is the evidence}.”***

If you want to break it down further, then get to the **root** of the problem (First Principles Thinking): “*Why does it take too much time to cook healthy meals?*” and get to ***“For {target\_user} {with this JTBD} it takes too much time {to do JTBD} {and here is the evidence} because the process requires extensive preparation {and here is the evidence}.”***

1: Clarify the Problem Type: Functional (inaccessibility, cost, time, etc.), Emotional, or Social

- “...a good people problem statement can not just solve functional problems like a confusing flow, but could also get at emotional or social problems. Sometimes people just want to feel like they belong, sometimes people just want to feel like they're validated.

Those are things that also constitute something that when you ask people they might say.”

2: Exclude:

Solutions

- “...we want to make sure that it's solutions-agnostic. A lot of times we start problems by saying I am going to build an app that blank, or I'm going to design a website that blank. And already in that statement is an inkling of what the solution is, but what if you know the app's not the right way or what if it's not supposed to be a website? So a good people problem statement gets away from trying to already constrain it into a particular solution.”

Words people would only use inside the tech community (CTR, doorway, optimize, integrate, page, query)

- “...it needs to be human and straightforward. So we're not using words like CTR, we're not using words like optimize or integrate, like these are not words that people on the street would use, these are not words that people who are outside of the tech community are going to use to talk about their problems.”

Ambitions (we want to win!)

- “...it shouldn't be about... your company or your team or whatever winning. And I think a classic example is if you say, our service is going to be the best at blah blah blah. A person on the street doesn't care if your service is the one that is the best at that, they just want to know hey for this problem that I have, what is the best solution? So stating any problem as we, our team, our company, whatever wants to win, is not getting close to the things that people actually want.”

3: Surface Evidence: Is this a REAL problem?

- “So now the second question is how do we know this is a real problem? And by know, I mean what evidence do we have? Is there a qualitative evidence that it is, is there quantitative evidence that we can look at? And I highlight the word real, not because you know I think that there are fake problems, but just because I think the question to ask, is

is this a problem that's worth solving? All of us have limited time, energy, resources, money, whatever to be able to devote our being to trying to solve problems, what makes this one the one that we should pick out of the thousands or millions of problems that are out there. And so this question's really about just making sure that the opportunity is something that is worth tackling and that we aren't just solving problems for ourselves individually but that we actually are very aware of the problems that the audience that we're building for is facing.”

- “So for the example of groups, I want to talk about, [I want to find other people who are interested in discussing the same things as I am](#). The way that we try to validate whether or not this was a big enough use case was of course we went and we talked to a lot of people but we also looked at some of the data that we had. So when we designed the group's product to start with we imagined that most of the time you would get invited to the group. So I might start a book club and I'm going to invite some of my friends who like reading the same books as me and that's how we're all going to know about the group. So in our initial formulation of groups it was really all about being invited by somebody else who was already a part of this group. But one of the things actually that some of the engineers on the group's team had hacked over the years was this little unit called groups you should join. And so some of you guys might have seen it sometimes you are scrolling through your feed and notice a little story will pop up. And based on what your friends have joined and groups in your community and groups that are similar to things we think you might be interested in, you'll see some recommendations and you can go and explore them and decide to join them if you want. And we thought that this was just a small feature, but really most of the inviting was going to happen through the normal invite process. But when we took a look at the data what we found was that actually one third of group memberships were starting to happen via this Groups You Should Join unit. Which meant that there actually was a need and a desire already using the tools that we currently had that people wanted to find things that they weren't explicitly being invited to. That there were examples of all sorts of things that they wanted to be able to participate in and see that they just weren't getting connected to any other way. So this was I think good evidence for us that if we wanted to devote something, a larger solution to helping people discover groups, that that was a worthwhile endeavor. We also talked to a lot of people in a lot of different groups, one of the folks we talked to referenced this group called the Physician Moms group, this is actually one of the most active groups on Facebook. And I think something like one out of four doctors who are mothers in America are part of this group. And one of my friends actually happens to be a doctor who just had a baby and so she was lucky enough to have one of her colleagues add her to this group. But she talked about how meaningful it was to her and she would spend hours on this group every single week because these doctor moms would be sharing tips on how to balance their work and really tackle a lot of the issues that come from being in that profession. And this is an example of a group that everyone who's a part of it finds it hugely meaningful, but not everyone knows about it because how would you know that this thing even existed out in the world unless somebody told you.”
- “Another example is you know I've recently attended our 10 year reunion and at the reunion, a lot of people were using groups to coordinate events and meetups and the biggest barrier is that half of the people I talked to didn't know that these groups existed that there was a class of 2006 group and that there was a reunion group and that there

were groups for different dorms who were planning their get-togethers. And finally there are a lot of groups, I'm a designer and one of the top groups that a lot of designers in the community join is this group called Designer's Guild and a lot of designers share tools and articles that they've read and other resources. And every time I happen to add someone 'cause I thought about them, that they might enjoy it, they're always like wow I didn't know about this, that's the first thing that everyone always says, I didn't know about this. So all of this when we did our focus groups in our research that was more evidence that in fact we should be doing more to help people discover groups. So what we ended up doing was actually building a pretty simple discover feature. If you go to your Groups tab right next to it, there will be a tab called Discover and we did our research on what were the topics that people were most interested in. So you can scroll through. You'll see suggestions based on things that you are already a part of but then you'll also be able to go and browse by category and this is where you can find parenting groups, if you're a photographer, people to go on photo trips with on the weekends or play sports with, or joining a writing group. And these are all groups that are public and that actually want to welcome new members.”

- [“For the people problem of not everything that I see in Newsfeed is likable, and I want to be able to express other emotions](#). We wanted to make sure that this was actually a problem that many people faced and that the solution that we had would directly address it. So we talked to a lot of users, we had them go through their feeds and describe to us for each story what was their reaction, what were they feeling, sort of like free flow tell us what's going through their minds as they're going through their Feeds. And you know a lot of times people would say, well there should be more ways for me to just say something because what I like about the Like button is that it's so simple. I don't have to go and comment and the keyboard comes up and I have to two handedly type something I like the fact that I can just in one gesture scroll through things and say that I like it, but the only thing I can do is Like. And there's gotta be other ways for me to express other emotions. We also looked at how are people expressing that they don't like something today and we looked at the stickers that people were using, leaving us comments as well as the emoji and what were kind of the most popular ones, how frequently were people just leaving a simple sticker or a simple emoji. And finally we looked at also short comments. So we looked at how many comments were just one or two words and all they expressed was like awesome or that sucks or a very very short phrase that we felt we could encapsulate. So with all that, we decided we'd looked at all that data we'd looked at what were the most common emotions that people wanted to express and we designed something we felt fulfilled that criteria of being really really lightweight so you can still do it with one hand and one gesture, it's not multiple taps and we also, taking all the data we had gotten from what were the most common things, the common reactions that they had. We built the reactions product and so you just scrub through and we took the top most what we wanted to be universal reactions and that's the options that you see in that tray.”

Validate the problem by asking... **[DO THIS IN CUSTOMER UNDERSTANDING]**

- [“When you have an idea for a startup, ask yourself: who wants this right now? Who wants this so much that they'll use it even when it's a crappy version one made by a two-person startup they've never heard of? If you can't answer that, the idea is probably bad.”](#)

1) Who wants this problem solved NOW?

2) Who wants this solved so much they'll pay for a solution? (“value validation”)

3) Who wants this solved so much they'll use a crappy solution? ("startup solution")

4 (optional): Break the Problem into Smaller Parts (Try: [First Principles Thinking](#)) - *getting to the ROOT of the problem*;

for example, in search this may be "system failures" or "user flow failures" (the point where the problem occurs), rather than saying "people can't find things", you say "we don't understand the query" (or something like this)

Root Cause Analysis

M.E.C.E. (Root Cause Analysis - Mutually Exclusive, Collectively Exhaustive)

- "Using a MECE tree, Fanny and her team [dissected the potential drivers of their North Star Metric](#), based on the existing analytics insights they had."

## Use Cases

A Product that Solves Problems == a Product that has a Use Case

Example Use Cases:

- "Product managers can [create PRDs](#) with AI products {to achieve JTBD}"
- "Product managers can [create Strategy Docs](#) with AI products {to achieve JTBD}"
- "Product managers can [do Competitive Research](#) with AI products {to achieve JTBD}"
- "Product managers can [get Meeting Updates](#) with AI products {to achieve JTBD}"
- "Product managers can [Prototype](#) with AI products {to achieve JTBD}"
- "Engineers can [code](#) with Deepseek AI {to achieve JTBD}"
- "Engineers can [do math](#) with Deepseek AI {to achieve JTBD}"
- "Engineers can [search databases](#) with Deepseek AI {to achieve JTBD}"
- "Engineers can [translate text](#) with Deepseek AI {to achieve JTBD}"
- "Engineers can [save resources \(cost\)](#) with Deepseek AI {to achieve JTBD}"

What is their Use Case of your market offering? (a single instance of how a user interacts with {feature} to achieve their goal (JTBD)) - should this be in the actions section?

- "A use case is a [detailed description of how a user interacts with a product to achieve a specific goal or solve a particular problem](#). It outlines the steps involved in the interaction, the user's expectations, and the desired outcome. Product managers utilize use cases to understand user requirements, prioritize features, and guide the development process to ensure the product meets the needs of its intended audience."
- "A Use Case is a specific way of using the system by performing some part of the functionality. Therefore, the collected use cases specify all the existing ways of using the system. [Each Use Case constitutes a complete course of action initiated by an actor, specifying the interaction between an actor and the system. Uses cases focus on single instances of use.](#)"
- "So we work with companies of all stages and sizes. On the smallest end, it goes to startups of just one or two people who are [using Devin to build out a lot of their kind of initial prototype or initial product](#) all the way up to big public companies, Fortune 100 companies or public banks or things like that who are using Devin across their engineering teams. In general, we've seen a huge range of the use cases there. And obviously the kinds of engineering work that you're doing at a one or two person startup, they're very different from the kind of work that you're doing at a public bank. But

throughout it's all been basically yeah, being that junior buddy of yours that makes you go faster and really multiplies you, I would say. I think it can multiply you as an engineer obviously by just letting you work with your own team of Devins instead of having to be kind of fully synchronous on a single task. And then it's also kind of multiplying your team and multiplying your team's knowledge base because Devin really accumulates a lot of the knowledge from working with every member of your team and is able to bring that into each new session."

Template: {personas} {can do something (*the use case*)} on your product {in order to achieve their goal (JTBD)}.

- "Use cases define events ([specific instances of usage](#)) and describe who (Persona) does what (interaction) with the product and for what purpose (goal)."
- "...the most common piece of advice out there I would say is to focus on a really niche cohort. [Do things that don't scale, make one use case that's really great and then you grow from there](#). And I think that's great advice across the board. But yeah, it's kind of interesting because I think with generative AI, you naturally see this where a lot of product experiences can turn out to be more general. And so it's an interesting trade-off for us."

Types of Use Cases:

- "Industrial designers prototyping parts for a piece of machinery. They would likely need a variety of durable materials in order to create and test the part under realistic conditions." - Geoffrey Moore (Crossing the Chasm)
- "Toy manufacturers creating custom toys. They would likely want vibrant primary colors to be part of the mix, not to mention assurances of zero toxicity." - Geoffrey Moore (Crossing the Chasm)
- "Museum curators making models of decaying artifacts. This would require a holographic scanner to create the 3-D file that the machine would replicate." - Geoffrey Moore (Crossing the Chasm)
- "Footwear manufacturers making shoes on demand. This would require material that was both fashionable and comfortable to wear, not to mention long lasting." - Geoffrey Moore (Crossing the Chasm)
- "Antique car enthusiasts making replacement parts that are no longer commercially available. Now we have to accept precision CAD files and extrude work in metal that can stand up to the stress of an operating engine." - Geoffrey Moore (Crossing the Chasm)

User-First Use Cases: HMW help a user accomplish their goal?

- "Let's talk a little bit more about different use cases for this just so people can potentially get inspired. So it feels like [the original use case was a scientific paper and it creates a podcast about it so you don't have to read this whole thing](#). Was that one of the original use cases or not? I think it's one of the common use cases. I think that's one of the ones where I think it's kind of interesting because it's like everybody wants to catch up on the latest on AI, we want to try to keep up to date on the published papers, but most of the time reading the paper can take time. It's dense, complex. You have to break down the concepts in it, and I think that's a highly sort of extensible use case."
- "I would say the number one use case is actually [a lot of students taking their study materials and wanting to turn it into an audio guide](#)."

Technology-First Use Cases: HMW use this technology (to help a user accomplish their goal)?

- "It was this source grounded chat interface and we were looking at basically what are the new models coming out of Google? We had Gemini 1.5 coming out. We had all of these



new technologies that are basically upgrades on fundamentally the same thing. And we were like, what are some interesting ways that we could power NotebookLM or make it even better? And one of the things that we started playing around with is actually a different team inside of Google, inside of Labs specifically, they were like, "[Hey, we've got these really powerful audio models, what's a really good application of this?](#)" And that's when we started riffing and we were like, "Hey, what if you could, basically what you see today, give it a little bit of information, you don't have to do a lot. You can just enter a URL, upload your resume, and then it will completely generate something for you that could be unexpected, could be a surprise?" Okay. So it started, basically there was a technology that we think could be really interesting."

- "To me [it feels very similar to the ChatGPT moment where the technology already existed, they had that same GPT model out for I don't know how long, but just that new medium and new way of interacting with it changed the way people imagine](#). Just they saw the power immediately. And I feel like this is such a good example of that happening again where just the tech was there and it's just this medium that you developed that really inspired people to like, "Oh wow, I had no idea AI was getting this good and LMs were getting this good."

Surface existing Use Cases:

Internal Data: !!! the quality of the internal data is important !!!

Search Query Patterns

Document Categories Read

## **User Understanding (Segmentation)**

Understanding Users: targeting the right user (aka Personas)

- "Now, most of the product owners, they're either innovators or early adopters. You cannot understand an early majority person. [If you belong to one group, you cannot understand a person from that group unless you watch them... So the most important part of understanding users is actually seeing those users. And they are not wrong. This is how they behave](#)."
- "...so we went back to the beginning and we started trying to figure out how do we learn more about our customers, so our first obstacle is [we don't understand why people are leaving, right, no idea why people are leaving](#), and because they were coming to our site and not giving us any information before they left right we didn't capture any of their emails or their phone numbers, we couldn't follow up with them, so how do we get this information?"
- "...one thing to keep in mind here is that it's not something that you can just walk into an industry and do, if you are particularly new to your industry take some time to absorb what's going on, [understand the competitive landscape, understand your customers, understand your competitors customers and understand the customers you don't have yet that aren't even working with your competitors](#), if you haven't done that it's very very challenging to be able to come up with an insight that can drive a core product strategy..."
- "This is when you need to involve the engineers and data scientists to [listen in on customer sketching sessions. Let them listen to the customer's problems so they will develop empathy](#) and be more engaged to work with your own feasibility and the product."
- "To schedule them better you can keep these meetings during the last week of every month. By month-end, you would have some new feature/prototype/flow that you would



need testing, and if there is nothing new then you can test out existing user flows in your product for uncovering more user problems. [Keeping these meetings in the last week of the month will ensure that you have product feedback ready for the coming month](#), which will help you to manage your product backlog and sprints even better.”

- “You can [include your UX Research team member for these interviews as well](#). Make sure you don’t crowd these meetings, which can be intimidating for the user as well. Keep a limit of two people including you from your side for the interview.”
- “[Recruiting can easily turn into a time-consuming task](#). To combat this, you can create a somewhat automated recruitment process. For B2B products: ask your customer success team for support, or consider setting up a lead user pool where customers sign up to frequently participate in return for a reward. A lead user pool is something we built up at my former company NavVis. Many customers were surprisingly eager to join and hence, finding someone for an interview or shadowing session was not a problem any longer.”
- “This is really a PM’s role — to ensure that the team that’s building something is maintaining that level of user empathy. But then you have to ask, “How does the PM know what users want?” ... 1. One way is if you’re PM-ing a product that you yourself use. It’s the cheapest and maybe the lowest fidelity way of building empathy. “Okay, well, I’m a user so I know what users feel because I use the product”. It’s low fidelity because it’s an N of 1, and you’re certainly not a typical user. You’re a PM. You have a way different way of interacting with products than most people. 2. Typically the next thing people do is [they start talking to users. And if they’re smart, they start talking to people who are not like them](#). “[Hey, how do you use this product? What do you value? What do you find painful about it? How often do you use it? Why don’t you use it more? When was the last time you used it? What were you trying to do? Did you achieve that?](#)” — [all those typical user research questions that PMs ask](#). Really good user researchers get into this sort of qualitative research, and that’s a great way to build broader empathy, at a higher fidelity level, than just, “I use my product.” 3. Then you get to a scale where you have a lot of users, and talking to them becomes an art of “How do I get a representative sample from this broad population?” And you start to worry that maybe their memory isn’t quite perfect. Users are self-reporting how they use things, but that’s not actually how they use things. We know people have a lot of cognitive biases in that way. So then you start getting into observational data, and you say, “well, okay, people report that they use the product once a week. If I go look at data, I can see people use the product three times a week, so I can tell that what they report isn’t quite what happened.” Adding this observational data layer makes user research much higher fidelity. Of course, it’s higher cost and may take some time and some effort and investment. 4. But even that observational data layer doesn’t really help you understand how people use the product at the level of a deep causal connection. The end game of trying to understand the user is, “if I do X, users respond this way”. And the only way to establish that causal connection — maybe not the only way, but the most reliable way, the highest fidelity way — is to show a random sample of your users X and see how they differ from the rest of your users who didn’t see X. That’s the core of experimentation: a high cost, high fidelity, arguably lower speed, way to build empathy. It’s probably not the first place you’re going to turn to build empathy, but you’re going to get there and you’ll eventually need to have it in your arsenal.”
- “User Research is the most critical activity of the strategy as strategy is the most crucial stage of product development. A good product development team should be customer-

centric. There are a lot of user research methods, but the target is to capture the things like [Demographics, Behavior, Goals, Pain, and Sacrifices](#).”

- “Good product strategy [clearly identifies target customer segments and non-target segments](#). Bad product strategy either ignores customer segmentation or attempts to cater to all customer segments.”
- “Good product strategy [creates clarity on customer needs](#). Good product strategy is intentional and creative about tackling the right subset of those needs. Bad product strategy presents a laundry list of priorities or “strategic goals” that attempt to tackle all customer needs.”
- "For most types of businesses, I encourage teams to construct product strategy around a series of product/market fits... For business-focused companies, you might have each product/market fit focus on a different vertical market (e.g., financial services, manufacturing, automotive). For consumer-focused companies, we often structure each product/market fit around a different customer or user persona. For example, an education-related service might have a strategy that targets high school students first, college students next, and then those already working but who want to learn new skills. Sometimes, the product strategy is based on geography, where we tackle different regions of the world in an intentional sequence." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Obviously there are a lot of users, but [we can group them into several groups of their ability to adapt something new](#), and something new is not necessarily new technology. We think about it as a new technology, but it's not necessarily about technology. It's about new behavior, right?”
- "When are you going to buy one?... If your answer is “Not until hell freezes over,” you are probably a very late adopter of technology, what we call in the model a laggard. If your answer is “When I have seen electric cars prove themselves and when there are enough service stations on the road,” you might be a middle-of-the-road adopter, or in the model, the early majority. If you say, “Not until most people have made the switch and it becomes really inconvenient to drive a gasoline car,” you are probably more of a follower, a member of the late majority. If, on the other hand, you want to be the first one on your block with an electric car, you are apt to be an innovator or an early adopter." - Geoffrey Moore (Crossing the Chasm)
- "This profile is in turn the very foundation of the High-Tech Marketing Model. That model says that the way to develop a high-tech market is to work the curve left to right, focusing first on the innovators, growing that market segment, then moving on to the early adopters, growing that segment, and so on, to the early majority, late majority, and even to the laggards. In this effort, companies must use each “captured” group as a reference base for launching their marketing into the next group. Thus the endorsement of innovators becomes an important tool for developing a credible pitch to the early adopters, that of the early adopters to the early majority, and so on." - Geoffrey Moore (Crossing the Chasm)

Pitfalls of NOT defining a Small Pond (Narrow User Segment)

- “In my previous company, by the way, I did read Crossing the Chasm, and I told myself, nah, I can do way better than that. So, [we had one customer in, I think it was L'Oreal, or one of the cosmetics companies, and American Express, and Cisco, different industries, and there was no way we could scale it because everybody had their own lingo, the way they thought about the technology and whatnot](#).”

[SAM] Identify a Narrow User Segment (Small Pond) by Identifying a User Goal to Achieve (JTBD = Job to be Done); an “Unmet Need” (can be comically narrow);  
[!!!] This is your SAM [!!!]

- "The goal is to become a big fish in a small pond, not one flopping about trying to straddle a couple of mud puddles." - Geoffrey Moore (Crossing the Chasm)
- "Microsoft can't have seemed very impressive when it was just [a couple guys in Albuquerque writing Basic interpreters for a market of a few thousand hobbyists](#) (as they were then called), but in retrospect that was the optimal path to dominating microcomputer software."
- "Sometimes the right unscalable trick is to focus on a deliberately narrow market. It's like keeping a fire contained at first to get it really hot before adding more logs. [That's what Facebook did. At first it was just for Harvard students. In that form it only had a potential market of a few thousand people, but because they felt it was really for them, a critical mass of them signed up.](#) After Facebook stopped being for Harvard students, it remained for students at specific colleges for quite a while. When I interviewed Mark Zuckerberg at Startup School, he said that while it was a lot of work creating course lists for each school, doing that made students feel the site was their natural home."
- "If we are very small, then we must search out a very small pond, a target market segment that fits our size. To qualify as a “real pond,” as we also noted before, its members must be aware of themselves as a group, that is, it must constitute a self-referencing market segment, so that when we establish a leadership position with some of its members, they will get the word out—quickly and economically—to the rest." - Geoffrey Moore (Crossing the Chasm)
- "Focus on one target market or persona at a time. Don't try to please everyone in a single release. Focus on one new target market, or one new target persona, for each release. You'll find that the product will still likely be useful to others, but at least it will be loved by some, and that's key." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "I tell teams that the most important benefit is just that you decided to focus your product work on a single target market at a time. So, all teams know we're tackling the manufacturing market now, and that's the type of customers we are obsessing on. Our goal is to come up with the smallest actual deliverable product that makes these manufacturing customers successful. Ideas that come up that pertain to other types of customers or markets are saved for future consideration." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "When it comes to the question of the target customer, the most common mistake is the definition is too broad. [It must be almost comically narrow, to the point where you may be misunderstood for such a narrow focus.](#) At Wealthfront, our initial target customer was an engineer at a pre-IPO tech company, typically between 25 and 35 years old, less than \$1M net worth, and had a personal preference to delegate money management to a trusted third party."
- "Usually [your initial group of users is small](#), for the simple reason that if there were something that large numbers of people urgently needed and that could be built with the amount of effort a startup usually puts into a version one, it would probably already exist."
- "[The first and most crucial step to successful positioning, then, is to define your ideal user](#)

— what Supan has coined “the high-expectation customer.””

- “So the first one is picking your customers. If your motto is you can pick anyone and we're anyone, if your hope is that you have to win SEO to get anything, you're not going to succeed. When you [choose your smallest viable audience](#), what language they speak, how much money they have, what problem they're trying to solve, what their technical facility is, whether they're short-tempered, whether they're kind, whether they're going to stick with you, you have chosen everything that's going to go into the product and what your future is going to be like.”
- “...one thing I wanted to touch on, which has always stuck with me about your approach initially when you were starting Gong, is how you found your initial ICP, who to go after. And it's really funny how narrow you got when you all decided here's who we're focusing on for our first dozen customers. So, I have the list here. So, when you decided here's who we're targeting, here's the list of constraints, [we're going to target people selling their product in the US, in English, over video conference, using WebEx, which was the big one at the time, selling software that is worth 1000 to \\$100,000, and there was only 5,000 companies in this bucket](#). Can you just talk about why you found it was so important to get so narrow, and just the power of getting really narrow, which is very counterintuitive to a lot of people, where they're like, oh, we're just going to be for everyone, it's a huge market.”
- “Yeah, the crossing the chasm kind of methodology, which you want to start narrow, [you want to create this kind of small pond, where people talk about each other, and you can light the fire in there](#)... So, by having a smaller definition of customers, you can develop much more focused, and then it's easier to light the fire, because people move right? At some stage, I think it was year one into the business, we heard from a company that they interviewed a salesperson, and the salesperson asked, "Are you using Gong?" And they said, "We are thinking about using Gong, but we're not." He's like, "Well, I'm only going to work for companies that use Gong." And that's sort of the power of a small pond with companies that are like each other, because you get this viral effect that is not common in B2B, but it's as close as you can because of those conversations. That other customer became a Gong customer, literally because they interviewed a person who told him he's not going to come unless they bought Gong. You can't do this if you have a wide market, where people don't even talk to each other, and there is an assumption that you're not burying yourself in this market.”
- “I love that you started with something, where [there were seven different constraints to narrow down who you're going after, and it's such a good example of the power of starting very focused and then expanding from that](#), which is what you've done.”
- “There's a tweet I put out that's kind of dogmatic in terms of [how I view why people download apps and it's very simple. It's like people download apps to make or save money](#). Examples of that might be like WhatsApp, where free texting. And then the other reason is to find a mate, so maybe like Tinder or Snapchat, find love. And the third is to unplug from reality maybe like Netflix or Fortnite. There's a bunch of other kind of subcategories that are very utilitarian like movement, Uber or Airbnb, like shelter.”
- “I think the easiest way to think about it is that I'm an engineer, electrical, basically have been building product for almost 30 years and one of the lies I was told growing up was build it and they will come. And so we always think about it from a technological, how do I build this thing? And all right, who wants this product? And what I realized very early in my career is that really it didn't work, I couldn't make it work. And so [Jobs to Be](#)

Done is this whole premise that people hire products, they don't buy them, they hire them to make progress in their life. And if we can take a step back and look at it, we see it in a very different light to realize at some point they're in some context and there's some outcome they want. And if we can understand that, we start to realize that different things compete, right? A simple example is think of Snickers and Milky Way, right? They're both candy bars, they're both bought in the checkout aisle, they're both made almost with the same ingredients, one has peanuts, one doesn't. And if you start to compare the products and do a competitive benchmark, you start to get to one's a little softer, one's a little harder, one's got a few more calories, one's got less calories. But when you talk to people about when's the last time they ate a Snickers, when time's the last time they ate a Milky Way, you start to realize that Snickers typically is a case where they missed the last meal, they've got a lot of work to do, they're running out of energy and they want to basically get back to the tasks as fast as possible. And so you start to realize that Snickers is about almost like a meal replacement and it's about the stomach is growling and things like that. And you start to realize that if they didn't have a Snickers, it competes with a protein drink, it competes with a Red Bull, a coffee. But a Milky Way typically is eaten after an emotional experience, could be positive, could be negative. It's usually eaten alone, and it's taking time to regroup after this emotional thing. And you start to realize that it competes with things like a glass of wine, a brownie, and to be honest, a run. And so when you start to realize that, jobs helps you see the true competitive set from what we call the demand side of the world as opposed to the competitive set from the supply side of the world, which is the technology or the underlying business model by how which we're making it. And so it allows you to actually see what customers really want as opposed to trying to figure out, how do we sell things to people?"

- "We all have many jobs to be done in our lives. Some are little (pass the time while waiting in line); some are big (find a more fulfilling career). Some surface unpredictably (dress for an out-of-town business meeting after the airline lost my suitcase); some regularly (pack a healthful lunch for my daughter to take to school). When we buy a product, we essentially "hire" it to help us do a job. If it does the job well, the next time we're confronted with the same job, we tend to hire that product again. And if it does a crummy job, we "fire" it and look for an alternative. (We're using the word "product" here as shorthand for any solution that companies can sell; of course, the full set of "candidates" we consider hiring can often go well beyond just offerings from companies.)... disruption theory doesn't tell you how to create products and services that customers want to buy. Jobs-to-be-done theory does. It transforms our understanding of customer choice in a way that no amount of data ever could, because it gets at the causal driver behind a purchase."
- "A JOB-TO-BE-DONE is a statement that describes, with precision, what a group of people are trying to achieve or accomplish in a given situation. A job-to-be-done could be a task that people are trying to accomplish, a goal or objective they are trying to achieve, a problem they are trying to resolve, something they are trying to avoid, or anything else they are trying to accomplish."
- "Context of use [when do I hire this product]: there are many occasions to hire a product to get the job done. By contextualizing the problem, as evidenced by Mr. Christensen in the The "Job" of a McDonald's Milkshake, you get to understand the essence of use, with no bias."
- "Intention [why do I hire this product]: the intention of a web user is not always as



explicit as it may seem. There may be dozens of intentions when landing on Amazon's homepage. You might: look for inspiration, look for something specific, get some update on a recent order, etc. Mr. Christensen's research team got on the field. They interviewed milkshake consumers and found that they basically wanted something sweet that they would eat as long as they drive to work and that would get their belly full enough until 10 o'clock."

- "This concept urges companies to understand the customers' needs by focusing on their intimate motivations when they use the product instead of emphasizing on the customers' characteristics (demography, market research, personas). This theory not only would help companies better respond to their customers' needs but also provide a path to differentiation and innovation/disruption: [if your customers get the job done better with your service than any other service, then you have become disruptive](#)."
- "In both cases [the "jobs-to-be-done" framework can help massively in systematically capturing user needs and translating these into opportunities and solutions](#). The whole point behind the jobs-to-be-done framework is putting customer needs at the fore, throughout the product life cycle (see a great visualization of this principle below)."
- "Before you delve into creating features or solving problems, I strongly recommend looking into the "customer jobs" you're looking to solve in the first place: [What job is the customer looking to get done and why? How is the customer currently getting this job done? What jobs are customers not doing and why?](#)"
- "Strategic thinker Tony Ulwick identifies [three validating questions to help map the steps customers take to accomplish a specific outcome](#): Defining the execution step: what are the most central tasks that must be accomplished in getting the job done? Defining pre-execution steps: what must happen before the core execution step to ensure the job is successfully carried out? Defining post-execution steps: what must happen after the core execution step to ensure the job is successfully carried out? Answering these validating questions will give you the necessary context to apply the actual jobs-to-be-done-framework."
- "The jobs-to-be-done framework outlines the [eight steps that all jobs have in common](#): Step 1 — Define: Customers determine their goals and plan their resources. Step 2 — Locate: Customers gather items and information needed to do the job. Step 3 — Prepare: Set up the environment for the customer to do their job. Step 4 — Confirm: Verify that customers are ready to perform the job. Step 5 — Execute: Customers carry out the job without any problems or delays. Step 6 — Monitor: Assess whether the job is being successfully executed. Step 7 — Modify: Make alterations to improve execution. Step 8 — Conclude: Finish the job or prepare to repeat it."
- "...so I'll give you [an overly simplified example from coinbase](#) here, so top down from the company, coinbase is working to build an open financial system for the world... that means that we need mass consumer adoption... if we need mass consumer adoption we also need that of a financial product, and then you can go down a few more steps, and then you step over to the customer and say for a financial product people are looking for a financial gain, they're looking for financial security... and then step up to how they're doing that in your industry today or potentially how your competitors are doing it and you see that in crypto these customers are looking for financial gain through active trading, and so you find that space in between and you develop a product strategy around promoting financial gain in the active crypto trading space, so how can you evolve the product to serve that core need that also drives towards where the company is going long



term, so this one strategy you can follow..."

- “Any startup that could be described as a marketplace usually has to start in a subset of the market, but this can work for other startups as well. It's always worth asking if there's a subset of the market in which you can get a critical mass of users quickly.”
- “When a startup launches, there have to be at least some users who really need what they're making — not just people who could see themselves using it one day, but who want it urgently. Usually this initial group of users is small, for the simple reason that if there were something that large numbers of people urgently needed and that could be built with the amount of effort a startup usually puts into a version one, it would probably already exist. Which means you have to compromise on one dimension: you can either build something a large number of people want a small amount, or something a small number of people want a large amount. Choose the latter. Not all ideas of that type are good startup ideas, but nearly all good startup ideas are of that type.”
- “But while demand shaped like a well is almost a necessary condition for a good startup idea, it's not a sufficient one. If Mark Zuckerberg had built something that could only ever have appealed to Harvard students, it would not have been a good startup idea. Facebook was a good idea because it started with a small market there was a fast path out of. Colleges are similar enough that if you build a facebook that works at Harvard, it will work at any college. So you spread rapidly through all the colleges. Once you have all the college students, you get everyone else simply by letting them in. Similarly for Microsoft: Basic for the Altair; Basic for other machines; other languages besides Basic; operating systems; applications; IPO.”
- “Just as trying to think up startup ideas tends to produce bad ones, working on things that could be dismissed as "toys" often produces good ones. When something is described as a toy, that means it has everything an idea needs except being important. It's cool; users love it; it just doesn't matter. But if you're living in the future and you build something cool that users love, it may matter more than outsiders think. Microcomputers seemed like toys when Apple and Microsoft started working on them. I'm old enough to remember that era; the usual term for people with their own microcomputers was "hobbyists." BackRub seemed like an inconsequential science project. The Facebook was just a way for undergrads to stalk one another.”
- “If you're uncertain, ask users. The question of whether you're too late is subsumed by the question of whether anyone urgently needs what you plan to make. If you have something that no competitor does and that some subset of users urgently need, you have a beachhead.”
- “Are there groups of scruffy but sophisticated users like the early microcomputer "hobbyists" that are currently being ignored by the big players? A startup with its sights set on bigger things can often capture a small market easily by expending an effort that wouldn't be justified by that market alone.”
- “...the most common piece of advice out there I would say is to focus on a really niche cohort. Do things that don't scale, make one use case that's really great and then you grow from there. And I think that's great advice across the board. But yeah, it's kind of interesting because I think with generative AI, you naturally see this where a lot of product experiences can turn out to be more general. And so it's an interesting trade-off for us.”

A “Well” that is Narrow (User Segment) & Deep (Problem Needing to be Solved);

- “Imagine a graph whose x axis represents all the people who might want what you're making and whose y axis represents how much they want it. If you invert the scale on the y axis, you can envision companies as holes. Google is an immense crater: hundreds of millions of people use it, and they need it a lot. A startup just starting out can't expect to excavate that much volume. So you have two choices about the shape of hole you start with. [You can either dig a hole that's broad but shallow, or one that's narrow and deep, like a well.](#)”
- “You don't need the narrowness of the well per se. It's depth you need; you get narrowness as a byproduct of optimizing for depth (and speed). But you almost always do get it. [In practice the link between depth and narrowness is so strong that it's a good sign when you know that an idea will appeal strongly to a specific group or type of user.](#)”
- “Nearly all good startup ideas are of the second type. [Microsoft was a “well” when they made Altair Basic. There were only a couple thousand Altair owners, but without this software they were programming in machine language.](#) Thirty years later Facebook had the same shape. Their first site was exclusively for Harvard students, of which there are only a few thousand, but those few thousand users wanted it a lot.”

What type of target customer is this? HXC (High Expectation Customer): the most important person in your target demographic; the ideal user

- ““The high-expectation customer, or HXC, is the most discerning person within your target demographic. It’s [someone who will acknowledge—and enjoy—your product or service for its greatest benefit](#),” says Supan. That discernment is key, because this customer is also someone who can help startups spread the word.”
- “The high-expectation customer is a good consumer. They’re [someone who can be trusted to know the market and make good decisions](#). “They look things up. They research things. And they have ideas for new types of products or services that can help them save money, gain time, get healthier or make their team more productive,” says Supan. “If your product exceeds their expectations, it can meet everyone else’s.””
- “...the high-expectation customer (HXC) isn’t an all encompassing persona, but rather the most discerning person within your target demographic. Most importantly, [they will enjoy your product for its greatest benefit and help spread the word](#). For example, Airbnb’s HXC doesn’t simply want to visit new places, but wants to belong. For Dropbox, the HXC wants to stay organized, simplify their life, and keep their life’s work safe.”
- “...when I come into a company, my goal is to help them grow. And so I don't want to put myself in a situation where I'm going to fail because no one actually cares about the product. And so it can really be asked at a company of any stage. [It's helpful to understand who your must have users are](#). But essentially once you have even an MVP, like a very first MVP on the product, you can still get some useful feedback about the product if it's resonating with anyone.”

Consumers / End Users

- "End users making relatively low-cost purchasing decisions focused on personal or workgroup technologies to be adopted locally and individually." - Geoffrey Moore (Crossing the Chasm)
- "...end users purchasing technology for themselves expect to pay perhaps hundreds of dollars per purchase or tens of dollars per month—and that is often after a free trial. In that context they are looking for a transactional sales experience that is primarily self-

service. The World Wide Web is terrific at providing just that." - Geoffrey Moore (Crossing the Chasm)

- “Early on, we found that [females ages 25 to 35 were the most active Yelp users. It’s not because we chose to focus on them—more like that’s who Yelp most strongly resonated with in the early months](#). We were neutral in our initial outreach (just friends and friends of friends), and then the first super-active users who had happened to be in that demographic—a disproportionate amount of 25-to-35 females. It was more just an observation of who it resonated with than an a priori idea we came in with.”
- “Throughout this journey, the product itself didn’t meaningfully change—the audience did. Ben initially assumed that a new tech website would resonate with tech employees. Instead, [30-something female bloggers turned out to be the ideal early adopters](#).”
- “[Nicole](#) is a hard-working professional who deals with many people. For example, she may be an executive, founder, manager, or in business development. Nicole works long hours, and often into the weekend. She considers herself very busy, and wishes she had more time. Nicole feels as though she’s productive, but she’s self-aware enough to realize she could be better and will occasionally investigate ways to improve. She spends much of her work day in her inbox, reading 100–200 emails and sending 15–40 on a typically day (and as many as 80 on a very busy one). Nicole considers it part of her job to be responsive, and she prides herself on being so. She knows that being unresponsive could block her team, damage her reputation, or cause missed opportunities. She aims to get to Inbox Zero, but gets there at most two or three times a week. Very occasionally — perhaps once a year — she’ll declare email bankruptcy. She generally has a growth mindset. While she’s open-minded about new products and keeps up to date with technology, she may have a fixed mindset about email. Whilst open to new clients, she’s skeptical that one could make her faster.”

#### Teens (13-18)

- “Over time, we started focusing more on teens. A lot of people ask why Silicon Valley is so fixated on building apps for teens. One of the reasons is [their habits are pretty malleable](#). As we get older, we get fixed into our habits of using certain communication products and we don't really adopt new things.”
- “Finally, and the most important thing is [they see each other every day](#), and that is so critical. Consumer app developers sometimes say smokers are great for targeting an audience because they actually hang out serendipitously a lot outside of buildings.”
- “Then the other thing that we discovered was that adults don't really invite people to new apps. We found that as a user got older from age 13 to 18, [the number of people that they invite to an app just declines almost exponentially](#).”
- “...for every social app I've ever built and [the number of invitations sent per user drops 20% for every additional year of age from 13 to 18](#). If you build for adults, expect to acquire every user with ads...”
- “There's actually an interesting study many years ago that some academics in Spain did, I think it was in Spain, and they looked at [how many people you text per year of your life, and it goes up very quickly from 14 to 18](#). It peaks around 21, so it's growing. The number of people you text is growing up until about 21, and then it just falls, it collapses, and then it comes back up at end of life. There's a few reasons all this happens, but basically, once you exit college, you reduce the number of contacts, your daily contacts. Once you get married, it's even fewer. Then as you get older and your kids start having kids and you become a grandparent, you start texting again more or you join a retirement

home. If you're building a product with network effects that's a communication tool, you want to be on that upward curve of adding connections to your social graph because then the urgency to connect is higher. If you really want to actually innovate at the edges of communication products, you really have to target that cohort that has the highest urgency to communicate, and that's teens."

Adults (+18): less likely to adopt new things through network effects without ads

- "As we get older, we get fixed into our habits of using certain communication products and [we don't really adopt new things](#)."
- "Then the other thing that we discovered was that adults don't really invite people to new apps. We found that as a user got older from age 13 to 18, [the number of people that they invite to an app just declines almost exponentially](#)."
- "...for every social app I've ever built and the number of invitations sent per user drops 20% for every additional year of age from 13 to 18. [If you build for adults, expect to acquire every user with ads](#)..."
- "It was always [very difficult to get the flywheel spinning for anyone after like 22 years old](#). That was the cutoff of when people just give up on adopting new products. It took us a few years to really internalize that, a lot of failures to realize no one needs another app after that age."
- "Every consumer app I see is trying to build for adults, and your lesson there is basically if you're trying to do that, [you're probably going to need to raise money and spend a lot of money on paid ads](#). Most likely, you'll never get network effects."
- "There's actually an interesting study many years ago that some academics in Spain did, I think it was in Spain, and they looked at how many people you text per year of your life, and it goes up very quickly from 14 to 18. It peaks around 21, so it's growing. The number of people you text is growing up until about 21, and then it just falls, it collapses, and then it comes back up at end of life. There's a few reasons all this happens, but basically, [once you exit college, you reduce the number of contacts, your daily contacts. Once you get married, it's even fewer. Then as you get older and your kids start having kids and you become a grandparent, you start texting again more or you join a retirement home](#). If you're building a product with network effects that's a communication tool, you want to be on that upward curve of adding connections to your social graph because then the urgency to connect is higher. If you really want to actually innovate at the edges of communication products, you really have to target that cohort that has the highest urgency to communicate, and that's teens."

Raspberry Pi Enthusiasts

- "...if you say, here we are in Product Hunt, we're only looking for 400 people. [We're looking for people who like the Raspberry Pi](#). Who wants to work with this thing? Now you can dance and you can have all these other things happen because you picked a different customer."

Brides, Grooms

- "If you decide to be a wedding photographer in the Hamptons, well [you better expect to have some very spoiled, cranky brides and grooms, and grooms and grooms, and brides and brides](#), that you have to deal with because you picked your customers."

B-List Athletes

- "The way the company started was Steven and Martin were chatting at a funeral, and Martin was talking about how he recently became an NFL agent, managing Cassius Marsh, and was trying to find him brand deals. They decided to start a company where

for X dollars you can do Y activity with Z athlete—for example, go golfing with Michael Jordan, invite Serena Williams to your daughter’s birthday, etc. This evolved into what Cameo is today, starting with Cassius and [some former Duke athletes we knew](#). We quickly went into additional verticals, but now that we’ve had time to tune the platform and develop the brand, athletes are again one of our strongest verticals.”

#### Language Learners

Individual Contributors (ICs): 25-35yo Engineer at pre-IPO Tech Company

- “Who will the customers be? [At Viaweb they were initially individuals and smaller companies, and I think this will be the rule with Web-based applications](#). These are the users who are ready to try new things, partly because they're more flexible, and partly because they want the lower costs of new technology.”

#### Product Managers:

Engineers: FE, BE, ML, DevOps

- "Engineers making design decisions for products and services to be sold to their company’s customers." - Geoffrey Moore (Crossing the Chasm)
- “When it comes to the question of the target customer, the most common mistake is the definition is too broad. It must be almost comically narrow, to the point where you may be misunderstood for such a narrow focus. At Wealthfront, [our initial target customer was an engineer at a pre-IPO tech company, typically between 25 and 35 years old, less than \\$1M net worth, and had a personal preference to delegate money management to a trusted third party.](#)”
- “We [started with young people in tech and we started with engineers in tech](#), and then they told the product managers and the biz dev people and the salespeople and then they told their friends who they went to college with and might be lawyers or doctors. They told their friends about it locally and then they told their friends about it nationally and they just kept growing through word of mouth. We also learned that employees of enterprise software companies were not good targets because they were older than people who worked at consumer internet companies.”

#### Designers

- "Design engineers make for very demanding prospects and customers. They do not like marketing communications or salespeople, but they need the services of both if they are to stay on top of the latest component technologies they may want to design into their next product. Moreover, from the vendor’s point of view, despite their demanding requirements, they don’t actually have any authority to purchase product in volume; instead they are a critical early decision maker as to whether the vendor gets invited to the purchasing table at all." - Geoffrey Moore (Crossing the Chasm)

Data Scientists

Business Analysts

QA Engineers / Testers

Marketers (Growth)

SEO

SEM

Salespeople

Customer Support

Recruiters

Human Resources (HR)

Consultants (you can offer to pay their hourly rate to speak with them for an hour)



- “...when Jason Cohen (founder of WP engine) did this, [he reached out to Wordpress Consultants on LinkedIn, and since he was building WP engine which targeted WordPress folks, he made a bunch of connections and contacted people and just had conversations...](#)”
- “...you can even offer to pay for conversations with experts, if you're going to be selling to Wordpress folks and they're consultants. I know [Jason Cohen offered to pay their hourly rate to speak with him for an hour, so you kind of make it a no-brainer](#). Most people actually won't take you up on that, they'll do it for free, but it's always an opportunity that you can take advantage of...”

Wordpress Consultants

Department Heads

- "Department heads making medium-cost purchasing decisions for use case-specific solutions that will be adopted within their own organization." - Geoffrey Moore (Crossing the Chasm)
- "Departmental buyers making IT purchases are caught in a bind. Because they are part of a larger enterprise, they need systems that pass muster in that context. But they have neither the budget nor the staff to support such acquisitions. Historically they have had to settle for cobbled-together solutions of highly variable quality delivered by local value-added resellers." - Geoffrey Moore (Crossing the Chasm)

Enterprise Businesses / Executives (>5k employees)

- "Enterprise executives making big-ticket purchasing decisions focused on complex systems to be adopted broadly across their companies." - Geoffrey Moore (Crossing the Chasm)
- "Enterprise buyers making major systems purchases expect to pay hundreds of thousands or millions of dollars. In that context they are looking for a consultative sales experience that identifies their key needs and custom-fits the vendor's offering to meet them. The direct sales approach meets this expectation via a top-down approach to marketing, sales, and delivery." - Geoffrey Moore (Crossing the Chasm)

Walmart

JPMorgan Chase

IBM

Procter & Gamble

Mid-Market Businesses (500-5k employees)

Regional Banks

Mid-Sized Tech Companies

Mid-Sized Healthcare Groups

SMB Owner-Operators / Small & Medium-Sized Businesses (<500 employees)

- "Small business owner-operators making modest purchase decisions that are nonetheless highly material to them, given limited capital to spend and a strong need to get value back." - Geoffrey Moore (Crossing the Chasm)
- "Small business owners are really just consumers wearing a different hat. Their challenge is that their business needs do not fit neatly into consumer buckets, and so they find themselves slogging through outlets like Fry's and Office Depot trying to figure out what to buy and how to work it. They know they need help, but they don't have deep pockets, so they are always looking for a way to get things done on the cheap." - Geoffrey Moore (Crossing the Chasm)

Real Estate Agents



- “Along the lines of picking your customer reminds me, a friend of mine started a company selling a product to real estate agents and she just warned me, be careful who you're selling to because you're going to be spending a lot of time with these people. Make sure you're ready to be doing that.”

Local Shops (Coffee)

Boutique Firms (Law, Marketing, Accounting)

Medical Practices (Dentists)

Online Stores (E-commerce)

Startups

Government / Public Sector

City Governments

Public Universities

Federal Agencies

Nonprofits / NGOs

Environmental Groups

Charities

International NGOs

Industry-Specific Businesses

Healthcare (Hospitals, Clinics, Speciality Care)

Education (Schools, Universities, Edtech)

Finance (Banks, Fintechs, Insurance)

Retail (Brick and Mortar, E-commerce)

Manufacturing and Supply Chain (Logistics, Shipping)

Real Estate (Brokerages, Property Management)

Construction (General Contractors, Speciality Subcontractors, Project Management)

Energy and Utilities (Utilities, Oil & Gas, Renewables)

Media and Entertainment (Studios, Publishers, Gaming)

Travel and Hospitality (Airlines, Hotels)

Ready for Next Small Pond? IF yes THEN:

Targeting the Next Adjacent User (NAU) - Bowling Pin Strategy (Adjacent Pond)

- “Sometimes the right unscalable trick is to focus on a deliberately narrow market. It's like keeping a fire contained at first to get it really hot before adding more logs. That's what Facebook did. At first it was just for Harvard students. In that form it only had a potential market of a few thousand people, but because they felt it was really for them, a critical mass of them signed up. After Facebook stopped being for Harvard students, it remained for students at specific colleges for quite a while. When I interviewed Mark Zuckerberg at Startup School, he said that while it was a lot of work creating course lists for each school, doing that made students feel the site was their natural home.”
- “But while demand shaped like a well is almost a necessary condition for a good startup idea, it's not a sufficient one. If Mark Zuckerberg had built something that could only ever have appealed to Harvard students, it would not have been a good startup idea. Facebook was a good idea because it started with a small market there was a fast path out of. Colleges are similar enough that if you build a facebook that works at Harvard, it will work at any college. So you spread rapidly through all the colleges. Once you have all the college students, you get everyone else simply by letting them in. Similarly for Microsoft: Basic for the Altair; Basic for other machines; other languages besides Basic; operating systems; applications; IPO.”

- "Sooner or later, we have to expand into adjacent ponds. Or, to shift the metaphor, we need to reframe our tactics in the context of a "bowling pin" strategy, where one targets a given segment not just because one can "knock it over" but because, in so doing, it will help knock over the next target segment, and thus lead to market expansion." - Geoffrey Moore (Crossing the Chasm)
- "This week's concept/term is: "Adjacent Market" Let's get into it. Since we define a core market as a group of people (job executors) + the job they are trying to get done, it follows that an adjacent market is best defined as either: a market that targets a new job-to-be-done for a currently served job executor, or, a market that targets a new job executor for a currently served job-to-be-done. For example, if you are already helping parents pass on life lessons to children (your core market), then an adjacent market could be: helping parents "select a school for a child to attend," which is a new job-to-be-done, or helping "teachers, or coaches" pass on life lessons to children, which targets a new job executor. Why it matters: [When defining an adjacent market, you should start by asking "adjacent to what?" Depending on how you define a market will dictate how you define an adjacent market.](#) If you define a market as a vertical, an adjacent market would be defined as another vertical. Using a Jobs-to-be-Done lens, you can be certain you are defining adjacent markets in a way that makes them a natural direction for expansion. In the first case you already have a relationship with the job executor, where helping them get more jobs done is a logical growth strategy. In the second case, you already have the technology and capability to get the job done, where finding other people who are trying to get the same job done a logical growth strategy. Using this definition will help your business: Grow from its core markets more efficiently, Leverage the use of its existing capabilities, and Grow faster through natural market extensions."
- "...it's really, really important to understand who your users are today and the persona of the user, what motivates them, why they're using it, but then also to [understand who is the next user? Who is the user who could be using this product, but for some reason it doesn't work for them, and understanding who that adjacent user is](#) and when you are actually starting to see that adjacent user adopt the product."
- "So really, the core of their adjacent news was a few things. One is like you have to understand who's using your product today and why. And when you're growing at some really strong pace, 30, 40, 50% or more per year, you've got to be on top of who you believe the next user is and why. And then you also have to be the adjacent exactly, use the product like them and see how it's working, what's broken with it. And so at an Instacart, the adjacent user, the original user might've been like an office admin who is going to buy this thing every week because of during happy hours and team staff. But then the next adjacent user might've been the mom of three or four or the dad of three or four who's home with the kids and they need to depend on Instacart, versus later on it might be they're a single person in New York who does this out of convenience. But [what they're optimizing for, how they use the product all changes, and the functionality and the abilities are fundamentally different. So you have to be them, you have to watch how they use the product, you have to talk to them, and then have to visit them and literally see what they're doing in real time in order to make sure that you're enabling the right jobs for them.](#)"
- "And so sometimes you can imagine a cosmetics company, for example, that's like digitally enabled. You can imagine that they've hit a ceiling in terms of the growth of their users, and they're really just trying to get people to buy more product, but maybe the

people who want to use their product are missing something from your current product. Maybe you're missing different skin tone shades, or maybe you're missing certain types of tools. So really talking to who is just outside of your current user base, who's coming to your product and looking around and not buying and understanding what are their needs and figuring out how do you enable for them, how do you build the right experience for them in order to become adopters of your product?"

- "...one thing that I always do when I come in is I try to push my teams to really dog food products in their adjacent user state, if you will. And what I mean by that is often, a product that you and I use that we've been using for years isn't actually the product that we're building for other people. Like a power user who's using a product has... There's so much history and there's so much informed knowledge on how that product... for that product to actually create a great experience for you that if you were to go and create a new Gmail account and look at YouTube today, I guarantee you it's a completely different and significantly worse experience. And there's a lot of obvious opportunities missed, especially with what is the flywheel and why things are working or not working if you don't actually go and use things in a new state."

Understand the "Context" of the "Customer Situation"

- "...until something comes into my life that introduces a new possibility, a concept of a new way, a product, a solution, a web service, something pops in and that service or that solution will cause will create magnetism, we call it pull, so now i have a force that's pushing me, i have my current situation, and i have a pull of that new product or new service and everything related to it so we call this like "above the water line"..."
- "...so the essence of jobs is being able to find the context that people are in, find out what they're trying to do, what's the hiring criteria and the firing criteria of what they're currently using, because in some cases i would say there are no new jobs people would just make progress from the old job and so if we can actually understand the hiring, the firing, and the progress they're trying to make and then understand basically what product or service they pick, because at the end of the day consumers make trade-offs all day, they'll say they want this and want this and want this and all of a sudden it's like yeah, but at the end of the day this is a good deal..."
- "...so here's the thing this is one of my favorite sayings all the time i say you know people people well i don't really get it yet i'm like okay do you like steak or do you like pizza, and most people will say i like both right, and so the notion is is that when you really start to think about steak and you think about the last steak situation, okay, you were out you were celebrating, you're with family or you're with friends, you had a good bottle of wine, and what happened if i took the steak out and put pizza in it, how much do you like pizza, and if i do it vice versa you find the same thing, so what happens is we we tend to leave out all the context, context adds value and in some cases context has more value than your product, so being at the right place at the right time..."
- "...so clay christensen spoke here a couple years ago about jobs to be done and he says it very eloquently in that he said the fact that i'm a 65 year old professor at the harvard business school is not why i bought the new york times this morning, there's something going on in my life, some progress that i need to make, it's the situation that drives me to buy that, this has a similar context, we can't say that old executives eat steak and college kids eat pizza just blindly, we need to understand that situational context to understand when they'll pick one and when they'll pick the other..."
- "But it's not just the pain. See, what we're taught in business school was pain and gain,

but [the reality is it's the context. It's the fact that I didn't eat lunch before, the fact that I still have a lot of work to do, the fact that I have this podcast going on.](#) It's not that I'm in pain, but it's the context that makes me value this in the moment that much more than something else. And so part of this is it's not just about pain and gain, it's about context and outcomes. And so when you frame it that way, it becomes a vector, a vector of progress or a vector of intention of what they're trying to do. And once we frame that, then we can actually wrap technology around it. And the crazy part is that I was always told or taught if I build the best product, it will sell better. And what I've learned is that actually a kick-ass half is better than a half-ass hole, and that's what Jason talks about. But the reality is like if you look at QuickBooks, QuickBooks has half the features and double the price. And you start to realize that at some point in time it's about meeting customers where they are, not trying to wow them and not trying to convince them. They convince themselves to make the progress.”

- “So there's some Product A is the old product and there's some Product B, which is the new product. And ultimately people don't randomly do anything. And so [the real heart of the method of Jobs to Be Done is understanding the causation of what pushes people to say, "Today's the day I got to do something different." And the push or the context they're in](#) has nothing to do with the new product, it's the only reason why they would leave the old product. And if there's no push, they can't even see your product because we're creatures of habit, right? And so as soon as I have a push, I call that F1, force one, and I have some idea of what's possible, then I create something called F2, which is basically the pull to a new outcome, a new state, a new thing, right? And so at some point in time it's like I have to be in this situation and I have to want this outcome, right? But here's the other part is that there's this waterline that there's these other forces and there's two other forces. Every time I show somebody something new, it actually creates anxiety, right? Anxiety of the new, and I call this F3, right? And then the other thing is I have to get them to leave old thing. So I call this habit of the present. And what you start to realize, and I call that F4, is if F1 and F2 are not greater than F3 and F4, they're not going to move, they're not going to do anything. And so ultimately what we're doing is we're framing the market as a system of behavior. And most people say, "If I just add more features, create more pull, people will buy." It's not true. More features create actually anxiety, can it do all those things? And what you start to realize is if I reduce friction, which is the bottom part, I actually don't have to do anything with a product, I just have to make easier. So for example, one of the things I did is I built houses and one of the frictional points that people had in moving was the fact of moving house was basically packing all their stuff up and going somewhere. And so I would literally sell them a condo, they'd go from a 3000 square foot home to a 1500 square foot condo and they'd cancel six weeks later because they didn't know how to get rid of all their stuff, which is a frictional point. So what did I do? I actually raised the price of the condo, included moving in two years of storage as part of the deal with the condo because it's the frictional coefficient and I increased sales over 30%. I love that. So what this is it's really about focusing on the customer. It's about understanding the causation behind it and then using design thinking to actually start to realize, how do we actually enable people to make progress? We don't need to sell them, we need to enable them to buy. And so I wrote a book called Demand Side Sales that basically took the premise of stop trying to sell people and just help them make progress, help them buy. And so the whole book is instead of trying to base the sales process on how we want to sell, we need to actually

design the sales process on how they want to buy. And it seems like it's the same thing, but they're actually really, really different things.”

- “...let's just talk about what causes people to say today's the day they want to go on vacation or today's the day they wanted a new set of windows. And you start to frame around that, and then you go find people who recently purchased and say, "What in the world happened that says today's the day I need new windows?" And you start to [realize that there's pushes and there's pulls and there's anxieties and there's habits](#). And so the first thing we do is we try to extract the story from the customer. And it doesn't have to be my product, it could be somebody else's product if I haven't built it yet. It's like, what are people going to fire when they hire me? And so when we get the stories though, then the stories are going to get us the pushes, the pulls, the anxieties and the habits, the trade-offs and what we call the hire and fire criteria. And then what we do is instead of trying to look for themes across all of them, we actually do something, instead of segmenting them, we cluster them, we find the pathways because what you start to realize is it's not one reason why people do it, it's sets of reasons. And those sets actually work together. So the pushes work with the pulls. So when they have these pushes, they want these pulls. And when they don't have these pushes, they don't want those pulls. And so when you start to see the patterns and you start to pull it out, you start to realize that most companies or most products are hired to do 3, 4, 5 different jobs and they're in conflict with each other. One person wants to go faster and one person wants to be more thorough. And so all of a sudden being more thorough means it's slower. If I say we're thorough, the people who want it fast say, "I don't want this because it's too slow." So how do you frame those things out and understand where the conflicts are behind it and think about different products from it? That's what Intercom did, right? Intercom realized that people hired it for four very, very different reasons and then instead of building four different products, they literally took their product and turned off the features that were not relevant to the pathway that people wanted to take. So for acquire, they didn't need a whole bunch of these other features and so they actually framed it around basically, how do we help people convert? And that job actually competed with HubSpot. There's another one where it was about helping with support, and that one competed with Zendesk. And so they changed the pricing model to basically match who the competition was and to match the progress that people were trying to make because Zendesk was too much and too hard, and HubSpot felt like it was an overkill for where people were. We basically figured out how to actually position ourselves as a good next step between HubSpot adds nothing or between nothing and HubSpot. And that's how they've grown to be valued over 2 billion.”
- “Take a simple example. If you think about the water that we drink in a fountain, it's free. In a bottle, it's \$2. You put carbonation in it, it's \$2.50. Throw it in a mini bar, it's \$5. It's the same water, but it's packaged, productized differently because people have different needs. I'm price conscious, I want it in a fountain, I want it to carry it around. I probably take in the bottle, I like the taste, I take carbonation in it, or [I'm just simply ultimately lazy and I would pay the \\$5 to get it out of the mini bar and not go down the hotel lobby and get it for free because that's my need. If you don't understand these needs, you'll never be able to productize to those needs](#). So you'll just build one product and try to position it to the different needs based segments and you won't get it right for anyone.”
- “Imagine a kind of latter-day Conrad character who has worked for a time as a mercenary in Africa, for a time as a doctor in Nepal, for a time as the manager of a nightclub in



Miami. The specifics don't matter — just someone who has seen a lot. Now imagine comparing what's inside this guy's head with what's inside the head of a well-behaved sixteen year old girl from the suburbs. What does he think that would shock her? [He knows the world; she knows, or at least embodies, present taboos.](#)”

[JTBD] What is the Goal (Desired Outcome) == JTBD (Root of Opportunity Solution Tree); the Need of the Situation: a solution that is technology independent

- “...I learned something in Japan when I was there called [the “5 why's”: why do you want to drill, I want a hole, why do I want a hole, I want a plug, why do I want a plug, I want a lamp, why do you want a lamp, I want to read better. perfect, I'm going to go work on the Kindle...](#)”
- “The purpose of segmenting a market is so you can find groups of people with different unmet needs, so the best way to do that is to segment the market around unmet needs, now companies generally don't do that because they don't agree on what a need is, or what the needs are, or which are unmet, so they use proxies for unmet needs, so for example they'll just jump into a use case or a persona and they'll just build this out and say I can envision a group of people who might behave like this, who act like that, who have these characteristics, but what they're doing is they're trying to define a segment of people with different unmet needs, but they're not basing it around what their needs are, they're basing it around demographics, psychographics, many other pieces of information, but generally not needs, so this is a very inefficient way to segment a market, and this makes perfect sense, [if the goal of segmentation is to come up with segments of people with different unmet needs, the best way to do that is to segment directly around the unmet needs...](#)”
- “Looking to uncover hidden customer segments? [Start by segmenting your market based around unmet customer needs that are tied to the customer's "job-to-be-done."](#) But here's the challenge: Most companies struggle to segment around needs. Because they can't agree on: What a need actually is. What their customers' needs are. Which needs are truly unmet. Instead, they often rely on proxies like: Personas, Demographics, Attitudes, Behaviors, Psychographics. But here's the problem: Using proxies can lead to phantom segments and ineffective segmentation strategies. The BIG takeaway: To discover hidden segments with distinct unmet needs, focus on segmenting around those needs directly. Begin by defining a need as: “A metric people use to measure success when getting a job done”. This approach allows you to target real opportunities and design solutions that truly resonate with your audience.”
- “...so this is really the core of what we're talking to and this is from theodore 11 from harvard business school and essentially what he said is people don't want to buy the drill... they want the outcome, [so if you're able to nail the outcome or the progress the person is trying to make in their life you can essentially take the solution out of it](#) and start to think about different ways that you could create the outcome so if they're trying to hang a picture do they really need a hole, can we have some fancy 3m adhesive that they can stick on the wall what are the we call them uh technology independent solutions that will help this person make progress in their life...”
- “People make decisions based on both rational and emotional factors. For example, imagine you are on a beach on a hot day and you crave a cold beer. A friend offers to bring you one from the only place nearby that sells beer—a fancy resort hotel. How much will you pay for the beer? Now imagine you are on a beach on a hot day, craving a cold



beer, and a friend offers to bring you one from the only place nearby that sells beer—a small, rundown corner store. How much would you be willing to pay for the same beer now? Remember: The beer is the same, the weather is the same, and, best of all, you don't have to move. Your friend is willing to make the beer run. [When asked, people typically are willing to pay twice as much for the beer from the resort as from the run-down store.](#)

From an economic perspective, this makes no sense; it is, in a word, irrational.

Behavioral economics springs from this recognition that buyers are not always rational actors. Their willingness to pay for your product is not solely based on the value they get from it. Psychological factors also can play a big role. We refer to the pricing tactics that play to this irrational side of customers as behavioral pricing." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

[**Macro JTBD** == **User Journey** to Achieve Primary Goal]: the “why” **behind the larger product** (e.g: *become a new patient at a doctor's office*)

- “A macro JTBD is a broad, overarching job the user is trying to accomplish. It speaks to their core motivation or primary goal — often context-agnostic and long-lasting. Think of it as the “why” behind the product category.” - ChatGPT
- “These macro jobs don’t change much over time and help anchor product vision, positioning, and long-term strategy.” - ChatGPT
- “Examples:
  - Stay in peak physical condition.
  - Feel confident about my body.
  - Save time on daily routines.
  - Eat meals that support my fitness goals.
  - Plan meals for my family without stress.” - ChatGPT
- “User journey: [A scenario-based sequence of the steps that a user takes in order to accomplish a high-level goal with a company or product](#), usually across channels and over time.”
- “Macro: Broad and high-level (e.g., [the experience of becoming a new patient of a medical practice](#))”
- “The underlying goal of a user journey is high-level. [Describing the journey will involve understanding the experience of a user across many points of interaction](#), because, in a journey, users might use with multiple channels or sources of information.”
- “Consider a new-patient journey as an example. [For any person finding and evaluating a new doctor, there will be many touchpoints over a long time \(days, weeks, or months\)](#): researching information on the practice’s website, calling to schedule an appointment, receiving email communications, visiting the physical office, accessing information in a patient portal, and following up via phone if necessary.”
- “[Journey maps are a common artifact for visualizing journeys](#), as they are narrative and descriptive. Effective journey maps don’t just relay the steps taken to achieve a goal; they tell a user-centered story about the process.”
- “The best [research methods for journey mapping are usually context methods, such as field studies and diary studies](#), which uncover longer-term user goals and behaviors in the moment. These methods can be combined with user interviews to uncover first-hand frustrations and needs.”

Put Yourself in the Customer's Shoes (Build Empathy)

Create Social Media Accounts and Consume the Content that they would Consume

- "...my validation process primarily looks like a deep dive into the niche on social media, so [I'll create an account and then purely consume nutrition, and dieting, and calorie counting weightlifting content, essentially becoming the target market or target demographic](#), and then thinking about what it is that I want, and then just build that..."

[**Micro JTBD** == **User Flow** to Achieve an Individual Task that (*when added up with all other tasks*) help to Achieve Primary Goal]: the "what's happening **right now**" **step** required to achieve the Macro JTBD (e.g: *search for a document, read a document, fill out a form*)

- "A micro JTBD is a narrower, more specific task that often supports the macro job. It's contextual, situational, and tied to a particular moment, need, or frustration. Think of it as the "how" or "what's happening right now" that blocks the user." - ChatGPT
- "These micro jobs are gold for feature prioritization, onboarding design, and moment-to-moment UX decisions." - ChatGPT
- "Find a high-protein recipe I can make in under 20 minutes after work.  
-Calculate macros without opening three different apps.  
-Prep meals on Sunday that I can reheat all week.  
-Figure out what to cook with the ingredients I already have.  
-Shop for clean ingredients without reading every label." - ChatGPT
- "A user flow is [a set of interactions that describe the typical or ideal set of steps needed to accomplish a common task performed with a product](#)."
- "Micro: Specific and granular (e.g., [signing up for alerts on a website](#))"
- "Compared to a user journey, the [underlying goal of a user flow is much more granular, and the focus is narrowed to a specific objective within one product](#)."
- "Some appropriate goals to capture in user flows might be: [purchasing a tennis racket on a sporting goods site, signing up for email updates on a credit-score-monitoring application, or updating a profile picture on a company's intranet](#). These goals can be accomplished in the short-term (minutes or hours, at the most), and with a relatively limited set of interactions."
- "User flows can be [represented with artifacts such as low-fidelity wireflows, simple flow charts, or task diagrams](#). These maps capture key user steps and system responses; they do not contextualize the process with emotions and thoughts like a journey map does."
- "The best [research method for obtaining the data to map user flows is usability testing, which allows us to watch users interacting directly with the product in directed scenarios](#). As with user journeys, tools that capture analytics (e.g., click heatmaps) are a useful secondary source of insights."

[**STOP**] Go To Problem Section to Re-review

What are the Pushes? (Firing Criteria; Struggling Moments: what triggers a user to switch from CurrentProductA to NewProductB)

- "Push is [everything your current situation is doing that drives you crazy](#). It's the classic infomercial "There's Got to Be a Better Way!" feeling."
- "...the push of the current situation is all about me the consumer [what's going on in my life that is making me think that i need to change and make some progress, to do something different](#), i can stay in that state infinitely if all i'm thinking of is i need to do something different i need to do something different i'll stay there it's we call it running on a treadmill..."

- “...[all of this starts with a struggling moment](#), not with a product. And so that's what we mean when we're customer-centric is that we're studying the struggling moments they have and people like Intercom and Basecamp, they look at struggling moments and that becomes their roadmap. Because again, think about a roadmap. I'm literally trying to tell you what I'm going to build in the next 24 months, for example, but none of us saw ChatGPT coming. And so all of a sudden I have to go undo the roadmap. But if I talk about the struggling moments that I'm trying to go after, all of a sudden I realize that the roadmap is now when I get to that struggling moment, there's multiple ways I can solve it. So instead of just talking about features, it's typically talking about features for the first 90 to 120 days, but after that we just talk about struggling moments because that's the seed for real innovation and basically where new products come from.”
- “...once you know what the needs are then you can figure out which of those needs are unmet, we're going to [define an unmet need as an important need that's not well satisfied, something that people struggle to achieve...](#)”
- “And so if we don't actually study that part of how do people transform themselves through a struggling moment, we don't know what they want. If I talk to people who want to buy a house, they tell me they want granite and hardwood and they'll make everything these things they want. But when you actually talk to people who bought a house, they actually made a lot of trade-offs. Although for example, everybody I would survey before buying a house, [I had 93% say they wanted an Energy Star compliant house. It cost 30 grand to make an Energy Star compliant at the time. And the reality is nobody bought it, they all bought the finished basement](#). And so there's the difference between what they say they want and what they want. And so the method itself is not based on traditional research or market research, asking people what it is. It's actually based on criminal and intelligence interrogation about telling me the story about how you decided today's the day I bought a house or today's the day I went back to school. It's not random. And if it's not random, then we need to actually find it. And that to me is one of the bigger differences, most people build their sales process on probability, "If I get so many leads in, I'll convert so many to here to so many..." But the ultimate thing is, how many people are really ready for your product? They have to actually be ready for it. And that's what Jobs to Be Done is really about, is understanding where they are, what's causing it, and how do they make the trade-offs?”

Are your customers comfortable with their current market substitute? (Habit of the Present; Creatures of Habit); What makes your target customers uncomfortable with the market substitute that they currently use?

- “So there's some Product A is the old product and there's some Product B, which is the new product. And ultimately people don't randomly do anything. And so the real heart of the method of Jobs to Be Done is understanding the causation of what pushes people to say, "Today's the day I got to do something different." And the push or the context they're in has nothing to do with the new product, it's the only reason why they would leave the old product. And [if there's no push, they can't even see your product because we're creatures of habit](#), right?”
- “...companies understand the value in making products that are sticky, and this means that it can be difficult for prospective customers to move from your competitor to you.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “...the other part is [the habit of the present, which is the things where they're comfortable with](#), the things they love about the old house, there's all the nostalgia, there's all the fact

that this is where we grew up, we know the neighbors, I know where the grocery store, is I know where church is..."

- "Habit is telling you, "Look, maybe [our current solution isn't perfect, but at least we understand it](#). It might be a mess, but it's our mess."
- "...and then finally there's the habit of the present, [in order to do this new thing sometimes i have to give up what i'm doing now...](#)"

What are the Pulls? (Hiring Criteria; Outcomes: IF customers have these problems w/ CurrentProductA THEN they will want NewProductB); it MUST be substantially better; The unsolved user problem where IF a ProductA doesn't help the user achieve their goal THEN they will want ProductB (assuming ProductB will help them achieve their goal)

- "Pull is the promise of the new situation. The grass is greener on the other side. [That new thing over there looks way better than what you're currently doing.](#)"
- "...I think a really important one is understanding where are you getting pulled, [where are your customers pulling you as you shouldn't be pushing your customers towards a solution](#) when you when things are working your customers are beating a path to your front door and they're pulling you in saying no can you need to do this and you're saying yeah but that's not what our product does they say well I'm going to kind of hack it to do that anyway when you find people hacking your product to do something that wasn't intended to do pay attention to that and double down on that..."
- "...realize that to get someone to switch to our new product, it's not enough that it's comparable (sometimes referred to as feature parity), it must be demonstrably and substantially better. This is a high bar." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "A very important question for e-commerce sites is [how are your competitors answering common queries](#)? As you have for your own site, scoring common search queries across multiple sites provides a view of how you fare compared to your competitors."

What is their Taste? (in market offerings)

- "I define [good taste as knowing what other people want just before they do](#). So if you're the only person who wants peanut butter covered licorice, you're entitled to eat peanut butter covered licorice, but you don't have good taste because everyone else thinks that's weird. And people, whether they're jazz musicians or fabric designers are seen as having good taste when they bring something to the world that the world didn't necessarily expect but is glad to see."
- "...If you are trying to please your boss, that's what you're going to do. If on the other hand, you can have one difficult conversation with your boss and say, can we agree that I'm not trying to match your taste, [I'm trying to match the taste of these 400 people that we've agreed are our customers](#)? Every other meeting is going to go way better from now on because you've made it clear who you're trying to please.
- "I was talking recently to a friend who teaches at MIT. His field is hot now and every year he is inundated by applications from would-be graduate students. "A lot of them seem smart," he said. "What I can't tell is whether they have any kind of taste." Taste. You don't hear that word much now. And yet we still need the underlying concept, whatever we call it. What my friend meant was that [he wanted students who were not just good technicians, but who could use their technical knowledge to design beautiful things.](#)"
- "For those of us who design things, these are not just theoretical questions. If there is such a thing as beauty, we need to be able to recognize it. [We need good taste to make good things](#). Instead of treating beauty as an airy abstraction, to be either blathered about

or avoided depending on how one feels about airy abstractions, let's try considering it as a practical question: how do you make good stuff?"

What is their generation? (e.g: Millennials have different tastes than Gen Y)

How can you reduce Anxiety for your customers? (Reduce Friction within NewProductB;

Anxiety of the New: each time I show a user something NEW it will create anxiety - Will it be better for them? Will they know how to use it?)

- "Anxiety is that nagging [fear that you'll end up with Buyer's Remorse](#). What if it isn't as good as they're making it out to be? And what if learning the new thing turns out to be super hard? What if you end up spending all the time learning the new thing that it was supposed to save you?"
- "...below the water line right when i start to realize that this service or product could help me make progress, [i have anxiety about it, i start thinking about all the things that i might not be able to accomplish with it, will it deliver on its promises, will i be able to use it effectively, do i personally have the skills to use that product](#), there's anxiety so there's something pulling against me..."
- "...the important thing to remember is most of the time people add more pull, more features, oh we'll get people to be more excited about this product if we add this and this and this to it but what they don't understand is the anxiety, half the time what we do is [we help companies just take crap out of their product so people will buy it because of the anxiety...](#)"
- "...the [anxiety of the new creates these very large frictional points that keep them from being able to actually make that decision](#), so for example: how far is the grocery store, I've got to sell my house, we got to fix up the house, how are we going to move we haven't moved in 40 years, there's all these anxieties that they have about being able to do that and what I realized is the more I could actually reduce anxiety I didn't actually have to add more features I could actually get people to move..."

#### Feature Shock

- "Feature shock: cramming too many features into one product— sometimes even unwanted features—creates a product that does not fully resonate with customers and is often overpriced." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Feature shocks happen when you try to cram too many features into one product, creating a confusing and often expensive mess. In a sincere effort to have it be "all things to all people," you launch a product that pleases few. The result is the product's value is less than the sum of the parts. Due to its multitude of features— none of them a standout —[these products are costly to make, overengineered, hard to explain, and usually overpriced](#)." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "The first danger signal is that the research and development (R&D) team keeps saying "let's add this," but can't articulate the new product's value to customers." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "[Customers complain the product has too many "nice to haves" and too few "gotta haves," and they conclude they don't need the product, at least at that price](#). And if they do like some of the "nice to haves," they can't afford them. There is no compelling value story for the customer, and too high a price for non-compelling value because the features have hiked its cost" - Monetizing Innovation: How Smart Companies Design the Product



- Around the Price by Madhavan Ramanujam and Georg Tacke
- "Every day, all of us run into products that are living feature shocks. The financial services industry has plenty of them—for example, [retail banks whose accounts offer money transfer services, credit cards, brokerage services, foreign exchange, and more](#)." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Or go into an electronics store and have a salesperson explain to you the wonders of a top-end, high-definition TV. Then see if you can remember them all. Or go into an appliance store and let them regale you with the features of a new high-end clothes washer. [If you are like the average consumer, maybe you'd end up using 20 percent of all those features](#)." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

## **Market Sizing-(Validation)**

Market Sizing (Market Validation)

- "Seed investors are betting on you and the market. If the market seems small, fuzzy, or unclear, they'll pass. Good market sizing builds confidence." - ChatGPT

TAM, SAM, SOM

- "TAM/SAM/SOM is a mental model investors already know. It gives them a fast way to understand: Is the market big enough? Is your slice realistic? Can this become a venture-scale return?" - ChatGPT
- "A good TAM/SAM/SOM visual makes it stick. For example:  
Total Market (TAM): 50M SMBs using spreadsheets (\$10B)  
↓  
Serviceable Market (SAM): 5M in U.S. doing project-based work (\$1B)  
↓  
Initial Focus (SOM): 100K SMBs we can reach through channels (\$100M)" - ChatGPT
- "For example:  
TAM: All high school teachers globally × price/year (10M global teachers × \$100/year = \$1B)  
↓  
SAM: All high school teachers in English-speaking countries × price/year (3M English-speaking teachers × \$100/year = \$300MM)  
↓  
SOM: High school teachers in the U.S. using Google Classroom × % you could convert × price/year (1M Google Classroom teachers × 10% × \$100/year = \$10MM)" - ChatGPT

TAM (Total Addressable Market): How big is the TOTAL market outside of your narrow customer segment? (can be global or local depending on your business);

*TAM is your vision:*

Geography (USA only or Global), Customer Type (SMBs, Enterprise, Consumers), Industry Vertical (Healthcare or Education), Behavioral (tech savvy)

- "[For a startup, the TAM value is the one that tells a story, and can be integral to attracting investors. What you'll quickly find is that investors love a "Goldilocks" business, as far as the TAM goes](#). If the TAM is too high, then investors will tend to assume there's a lot

of competition and the market is probably going to be too saturated. If the TAM is too small, then the business' ceiling is probably going to disqualify it. It's when the TAM is just right that they'll fall over themselves to get the cheque book out."

- "“There are 1B+ information-seeking sessions per day globally. We believe 10% of them require authoritative content — that's our wedge.”” - ChatGPT
- “For example, if I'm looking at women between the ages of 25 and 65, I'd want to find out how many women fit that definition. Then, I'd calculate the potential revenue if all those millions of women bought your product.”
- “The best way to calculate total addressable market is by running a bottom-up analysis of an industry: Count the total number of customers in a market. Identify the average annual revenue of each customer in this market. Multiply the two numbers.”
- “Using our sample high-end professional women's apparel for this calculation, I learned that the global women's apparel market was US\$1.002 trillion in 2023 (IMARC group). Assuming growth of 3.3% each year, we can estimate that number to be \$1.035 trillion in 2024.”

SAM (Serviceable Available Market) == NARROW CUSTOMER SEGMENT DEFINITION:

How many people/orgs are realistically reachable in your market given your business model and geography?; Constraints == SAM: Location (only state of Texas), Language (only supports English) Platform (iOS, Desktop, Chrome), Feature limitations (key tool integrations), Channel (no salesforce to target enterprise), Compliance/Legal constraints, etc.

- “In the example above, let's say I work for a high-end luxury women's professional clothing retailer looking at the U.S. market. So, I want to find how many women fit the demographic of ages 25 to 65 in the U.S. and then calculate the potential revenue.”
- “To calculate your serviceable addressable market: Count up all the potential customers that would be a good fit for your business. Find the average annual revenue of these types of customers in your market. Multiply the two numbers.”
- “To continue using our sample high-end women's professional apparel brand, remember we were looking at women ages 25-65. Using data from the latest census, there are 86 million women in that range. Let's say that each year, those 86 million women spend \$2,000 on average every year on apparel. 86 million x \$2,000 = \$172 billion SAM.”

SOM (Serviceable Obtainable Market): What % of the SAM do you reasonably expect to win in 3–5 years?;

[!!!] Can get this estimate through: Google Search Keyword Planner (e.g: how many users of the SAM can you reach with advertising?), Platform Decisions (iOS or Android starting off?), GTM Strategy (if you're only visiting 1 school in the next year to promote)

*SOM is your traction roadmap*

- “You're telling a story of a big but believable opportunity: You don't need a \$10B SOM today. But you do need to show it could be a \$1B+ business if it works.” - ChatGPT
- “It forces clarity on GTM strategy. You can't build a bottom-up SOM without thinking: Who are we actually targeting first? How do we acquire them? What do they pay us for?” - ChatGPT
- “People living paycheck to paycheck aren't likely to shop my brand, and women who don't work in offices or don't regularly attend professional functions are less likely to be my target market. Since my SOM calculation is about estimating the portion of the SAM I can realistically market to, I might find it by refining my market by income and/or

employment. I can then refine it further by identifying the portion of that market I'm likely to capture, given the competitive landscape."

- "To calculate your serviceable obtainable market: Divide your revenue from last year by your industry's serviceable addressable market from last year. This percentage is your market share from last year. Multiply your market share from last year by your industry's serviceable addressable market from this year to find your new SOM."
- "Now here's where we get more hypothetical. Because the TAM and SAM speak to total markets available, and SOM speaks to more realistic market share, we're going to make up some numbers. Our high-end women's professional apparel brand has a higher price per item but most customers are likely to buy fewer pieces, and we're likely to have fewer customers than, say, Walmart. For the sake of round numbers, let's say: We have \$500 million in revenue for last year. The \$172 billion SAM was 2023 numbers. The \$191.4 billion SAM is the 2024 growth. Note: I'm aware that these numbers represent unrealistic year-over-year market growth rates — I'm simply providing them for the purposes of showing you the calculations in action.  $\$500 \text{ million} / \$172 \text{ billion 2023 SAM} = 0.003\% \text{ market share}$ .  $0.003\% * \$191.4 \text{ billion 2024 SAM} = \$574.2 \text{ million}$ . That means, based on these completely fictional numbers that show drastically increasing demand, my fictional apparel company can reasonably expect 15% growth over last year. And if that's accurate, it has significant repercussions for budgeting, operations, and production. But unless there's something drastic happening in the big picture that reduced spending in 2023 and increased it in 2024, there's a good chance these numbers are not realistic, so it's important to go back to the numbers to make sure we're factoring in things accurately."
- "...realistically you can hope to capture only a fraction of your SAM. Most likely you will attract fast food aficionados living or working close to your restaurants and a fraction of the people located further away that are willing to give your chain a try for the sake of fast food diversity. This is your SOM."

Bottoms-Up Sizing: Original Research and Analysis;  
[Preferred by Investors]

- "Bottom up is generally preferred to top down. Investors like to see original research and analysis. The top down approach can come across as lazy —as though the founder simply grabbed some data off Google—and it doesn't necessarily paint a picture around how the startup sees itself placed in the market."
- "The bottom-up approach starts with a detailed analysis of the company's target market segments and builds up to estimate the TAM, SAM, and SOM. This method involves collecting primary data, such as customer surveys, interviews, and sales data, and using this information to estimate the potential market size."

Census Data: population, occupations, businesses, households;  
([data.census.gov](https://data.census.gov); [censusreporter.org](https://censusreporter.org) – easier UI for exploring data; [api.census.gov](https://api.census.gov) – for pulling programmatically)

Population & Demographics Data

- "Total population by age, gender, race, and ethnicity. Geographic distribution (state, county, city, ZIP code). Household income, size, and type. Education level and language spoken at home. Veteran status, disability status." - ChatGPT
- "Useful for: sizing consumer markets (e.g., "How many Spanish-speaking households in California earn over \$100k?")" - ChatGPT

### Employment & Occupation Data

- “Employment status (employed, unemployed, etc.). Occupation categories (e.g., healthcare, education, IT). Industry of employment. Commuting behavior (e.g., work-from-home trends).” - ChatGPT
- “Useful for: sizing professional or B2B user segments (e.g., "How many full-time K-12 teachers are in Texas?")” - ChatGPT

### Education Data

- “School enrollment (public/private, K–12, college). Highest education completed. Field of degree for college graduates.” - ChatGPT
- “Useful for: EdTech products, training programs, credentialing tools, etc.” - ChatGPT

### Housing & Households Data

- “Home ownership vs. renting. Housing units by type (apartment, detached home). Housing costs (rent, mortgage, utilities).” - ChatGPT
- “Useful for: real estate tech, smart home products, etc.” - ChatGPT

### Business & Economy Data

- “From the Economic Census and County Business Patterns: Number of businesses by industry. Number of employees and establishments by firm size. Revenue and payroll data. Self-employed, gig workers, and nonemployer businesses.” - ChatGPT
- “Useful for: B2B TAM/SAM/SOM calculations, targeting SMBs or solopreneurs” - ChatGPT

### Specialized Data

- “American Community Survey (ACS) – updated annually; includes detailed population and housing data” - ChatGPT
- “Current Population Survey (CPS) – labor force, income, and poverty.” - ChatGPT
- “Survey of Business Owners – minority-, women-, and veteran-owned business counts.” - ChatGPT

Bureau of Labor Statistics (BLS): job titles, industries, wage data

National Center for Education Statistics (NCES): number of schools, students, teachers

Centers for Medicare & Medicaid Services (CMS): healthcare organizations, procedures

World Bank / UN Data: international market data

LinkedIn Data: search “freelance video editors” globally

Startup Data: Crunchbase, Pitchbook, AngelList, WellFound

Marketplaces: Fiverr, Upwork, Behance, Amazon, Etsy, Shopify (SKU data, seller counts)

Map Data: Google Maps, Yelp (counts of brick-and-mortar businesses)

Forums: Reddit, HackerNews, Slack Channels

Job Boards: (count how many roles, certifications, trainings, or job description needs exist)

Google Keyword Planner (search trends)

Tech Stacks: BuiltWith, Wappalyzer

User Surveys

Competitor Users: Product Hunt, GitHub, or App Store (active users or install base of competitor products)

ARPU (Average Revenue Per User)

Competitor Pricing (or your Own Pricing Model via “Willingness to Pay”)

Tops-Down Sizing: Industry Data, Market Reports, Research Studies

- “The [top down approach involves analyzing industry data, market reports and research studies](#). IDC, Gartner, and others frequently produce reports on the size of markets and subsections, and by aligning that data with your own business objectives, you can get a

- sense of the potential market for it.”
- “Of course, the data found in these reports might not be specifically what you need or might be out of date. A large company with greater resources will eventually engage with a firm to conduct new research and determine its TAM, but few startups would want to dedicate their limited resources to this. In most cases, startups will use the generalized data sets, understanding that they need to take the information with a pinch of salt.”

Industry Reports

Government Data

Company Reports

## **Technology Adoption Lifecycle**

Technology Adoption Lifecycle

Applies to:

Brand New Technologies

Novel Approaches in Existing Markets (New Companies in a Competitive Space; offering Differentiation, Disruption)

- “When TALC does apply to new companies in existing markets: You’re reimagining the solution. Even if the problem is well-known, you’re introducing a new way to solve it (e.g., Notion vs. Evernote). You’re relying on early adopters to take a risk and try your approach. You’re targeting a user segment that behaves like early adopters. These customers are frustrated with existing tools. They’re actively seeking alternatives or improvements. They’re more tolerant of bugs or lack of features if the core value resonates. You’re creating a wedge into a broader market. Even in mature markets, there’s often a niche of “innovators” dissatisfied with the status quo who will adopt you first. You’re rebuilding trust in a space where incumbents failed. E.g., a new social media platform after privacy failures of big tech.” - ChatGPT

## **Early Market**

Early Market [Small Pond] (Full of Specialists; a Small Pond; the D-Day Beachhead; a VERY specific target user - a very focused user group)

- “First there is a market... Made up of innovators and early adopters, it is an early market, flush with enthusiasm and vision and, often as not, funded by a potful of customer dollars earmarked for accomplishing some grand strategic goal. Then there is no market... This is the chasm period, during which the early market is still trying to digest its ambitious projects, and the mainstream market waits to see if anything good will come of them.



Then there is. If all goes well, and the product and your company pass through the chasm period intact, then a mainstream market does emerge, made up of the early and the late majority. With them comes the real opportunity for wealth and growth... In each case, the key to success is to focus in on the dominant "adoption type" in the current phase of the market, learn to appreciate that segment's psychographics, and then adjust your marketing strategy and tactics accordingly." - Geoffrey Moore (Crossing the Chasm)

- "The initial customer set for a new technology product is made up primarily of innovators and early adopters. In the high-tech industry, the innovators are better known as technology enthusiasts or just techies, whereas the early adopters are the visionaries. It is the latter group, the visionaries, who dominate the buying decisions in this market, but it is the technology enthusiasts who are first to realize the potential in the new product. High-tech marketing, therefore, begins with the techies." - Geoffrey Moore (Crossing the Chasm)
- "...if we truly have a breakthrough product but we are stalled in getting the early market moving, then we have to step down from the lofty theoretical plateau on which we have established that this product can be part of any number of exciting applications and get very practical about focusing on one application, making sure that it is indeed a compelling one for at least one visionary who is already familiar with us, and then committing to that visionary, in return for his or her support, to removing every obstacle to getting that application adopted." - Geoffrey Moore (Crossing the Chasm)
- "The comparison is straightforward enough. Our long-term goal is to enter and take control of a mainstream market (Western Europe) that is currently dominated by an entrenched competitor (the Axis). For our product to wrest the mainstream market from this competitor, we must assemble an invasion force comprising other products and companies (the Allies). By way of entry into this market, our immediate goal is to transition from an early market base (England) to a strategic target market segment in the mainstream (the beaches at Normandy). Separating us from our goal is the chasm (the English Channel). We are going to cross that chasm as fast as we can with an invasion force focused directly and exclusively on the point of attack (D-Day). Once we force the competitor out of our targeted niche markets (secure the beachhead), then we will move out to take over adjacent market segments (districts of France) on the way toward overall market domination (the liberation of Western Europe). That's it. That's the strategy. Replicate D-Day, and win entry to the mainstream." - Geoffrey Moore (Crossing the Chasm)
- "The D-Day strategy... has the ability to galvanize an entire enterprise by focusing it on a highly specific goal that is 1) readily achievable and 2) capable of being directly leveraged into long-term success. Most companies fail to cross the chasm because, confronted with the immensity of opportunity represented by a mainstream market, they lose their focus, chasing every opportunity that presents itself, but finding themselves unable to deliver a salable proposition to any true pragmatist buyer. The D-Day strategy keeps everyone on point—if we don't take Normandy, we don't have to worry about how we're going to take Paris. And by focusing our entire might on such a small territory, we greatly increase our odds of immediate success." - Geoffrey Moore (Crossing the Chasm)
- "Cross the chasm by targeting a very specific niche market where you can dominate from the outset, drive your competitors out of that market niche, and then use it as a base for broader operations. Concentrate an overwhelmingly superior force on a highly focused target." - Geoffrey Moore (Crossing the Chasm)

- "The efficiency of the marketing process, at this point, is a function of the "boundedness" of the market segment being addressed. The more tightly bound it is, the easier it is to create and introduce messages into it, and the faster these messages travel by word of mouth." - Geoffrey Moore (Crossing the Chasm)
- "...it is critical that, when crossing the chasm, you focus exclusively on achieving a dominant position in one or two narrowly bounded market segments." - Geoffrey Moore (Crossing the Chasm)
- "...the objective of D-Day was to take Normandy beaches but the goal was to liberate Western Europe, so in our marketing strategy we want to establish a longer-term vision to guide our immediate tactical choices." - Geoffrey Moore (Crossing the Chasm)
- "...when the Macintosh first crossed the chasm back in the 1980s, the target niche was the graphics arts departments in Fortune 500 companies. This was not a particularly large target market, but it was one that was responsible for a broken, mission-critical process—providing presentations for executives and marketing professionals. The fact that the segment was relatively small turned out to be good news because Apple was able to dominate it quickly and establish its proprietary system as a legitimate standard within the corporation... More important, however, having dominated this niche, the company was then able to leverage its win into adjacent departments within the corporation—first marketing, then sales. The marketing people found that if they made their own presentations, they could update them on the way to the trade shows, and the salespeople found that with a Mac they didn't have to rely on the marketing people. At the same time, this beachhead in graphics arts also extended out into external markets that interfaced with the graphics arts people—creative agencies, advertising agencies, and eventually, publishers. All used the Macintosh to exchange a variety of graphic materials, and the result was a complete ecosystem standardized on the "nonstandard" platform." - Geoffrey Moore (Crossing the Chasm)
- "Knowing they were in the chasm, and knowing that the first key to getting out was to select a beachhead market segment, they surveyed their client experience to date and targeted a very thin market niche: the regulatory affairs departments in Fortune 500 pharmaceutical companies." - Geoffrey Moore (Crossing the Chasm)
- "The fundamental principle for crossing the chasm is to target a specific niche market as your point of attack and focus all your resources on achieving the dominant leadership position in that segment as quickly as possible." - Geoffrey Moore (Crossing the Chasm)
- "...you do not have to pick the optimal beachhead to be successful. What you must do is win the beachhead you have picked. If there is a genuine problem in the segment, you will have the target customer pulling for you. If it is a hard problem, and the segment is reasonably small, you probably will not have competition to distract you. This means you can focus all your attention on the whole product, which is where it needs to be. Nail that and you win." - Geoffrey Moore (Crossing the Chasm)
- "To become a going concern, a persistent entity in the market, you need a market segment that will commit to you as its de facto standard for enabling a critical business process. To become that de facto standard, you need to win at least half, and preferably a lot more, of the new orders in the segment over the next year. That is the sort of vendor performance that causes pragmatist customers to sit up and take notice." - Geoffrey Moore (Crossing the Chasm)
- "The single most important difference between early markets and mainstream markets is that the former are willing to take responsibility for piecing together the whole product

(in return for getting a jump on their competition), whereas the latter are not." - Geoffrey Moore (Crossing the Chasm)

- "It soon becomes clear to even the most optimistic product marketing managers that they cannot go after all markets at once, that at minimum they have to sequence and prioritize opportunities, and that each opportunity has very real support costs." - Geoffrey Moore (Crossing the Chasm)
- "...target a market segment that is big enough to matter, small enough to lead, and a good fit with your crown jewels. Here small enough to lead means, in part, too small for the much bigger incumbent to spend a lot of time focusing on. Big fish have trouble competing in small niches. For Aruba, applying this rule led them to the U.S. college and university market. At the time more and more students were coming to college with laptops. Arguably this was the first BYOD (bring-your-own-device) market segment, and as such it wanted networking services available everywhere, not just through a cable into a dorm room. Moreover, these students were not just doing searches and email anymore—they were also streaming music and video, which created an added push to adopt next-generation wireless standards early. And finally, colleges and universities like to support next generation technology efforts from plucky start-ups, so they were more collaborative than a lot of other target markets would have been. All in all, targeting this market was a great call." - Geoffrey Moore (Crossing the Chasm)
- "In the early market, where decisions are dominated by technology enthusiasts and visionaries, the key value domains are technology and product. In the mainstream, where decisions are dominated by pragmatists and conservatives, the key domains are market and company." - Geoffrey Moore (Crossing the Chasm)
- "In general, the early market is dominated by specialists who, by their nature, are more interested in technology and product issues than in market standing or company stature." - Geoffrey Moore (Crossing the Chasm)
- "In the case of the early market, the technology enthusiasts are the skeptical gatekeepers; in the case of the mainstream market, it is the pragmatists. Once they have given their blessings, then their companions—visionaries and conservatives, respectively—feel free to buy in." - Geoffrey Moore (Crossing the Chasm)
- "You develop an early market by demonstrating a strong technology advantage and converting it to product credibility, and you develop a mainstream market by demonstrating a market leadership advantage and converting it to company credibility." - Geoffrey Moore (Crossing the Chasm)
- "So early customers are not animated by pragmatism, they're animated by belief. Early customers, early employees, early investors don't decide to go into business with you because of the practical reasons that you unlock. They do it for aesthetic reasons. [They do it because they believe what you believe.](#)"
- "So the storytelling primitive ends up working spectacularly well for startups, right? We need to describe the world that is, we need to describe the world that could be, which is that different future. We need to understand, and this is important that your job as the founder is to be Obi-Wan, not Luke. So the founders sometimes make the mistake of thinking that they're the hero, but they're not. The early believers are the heroes, and it's the job of the founder to [tell a story that emotes early believers to want to move with them and co-create the future with them.](#)"

**[STOP]** in the majority of cases this is the market you are going to be focused when building products

2.5%: Innovators (Technology Enthusiasts; the Skeptics that are the Gatekeepers for the Visionaries);

- "“Inventors,” “propellerheads,” “nerds,” “techies”— we have many labels for a group of people who are, as a rule and despite a tendency toward introversion, delightful companions—provided you like to talk about technical topics." - Geoffrey Moore (Crossing the Chasm)
- "...technology enthusiasts are easy to do business with, provided you 1) have the latest and greatest technology, and 2) don't need to make much money. For any innovation, there will always be a small class of these enthusiasts who will want to try it out just to see if it works." - Geoffrey Moore (Crossing the Chasm)
- "Enthusiasts are like kindling: They help start the fire." - Geoffrey Moore (Crossing the Chasm)
- "Microsoft can't have seemed very impressive when it was just [a couple guys in Albuquerque writing Basic interpreters for a market of a few thousand hobbyists](#) (as they were then called), but in retrospect that was the optimal path to dominating microcomputer software."
- "Nearly all good startup ideas are of the second type. Microsoft was a well when they made Altair Basic. [There were only a couple thousand Altair owners, but without this software they were programming in machine language.](#) Thirty years later Facebook had the same shape. Their first site was exclusively for Harvard students, of which there are only a few thousand, but those few thousand users wanted it a lot."
- "Just as trying to think up startup ideas tends to produce bad ones, working on things that could be dismissed as "toys" often produces good ones. When something is described as a toy, that means it has everything an idea needs except being important. It's cool; users love it; it just doesn't matter. But if you're living in the future and you build something cool that users love, it may matter more than outsiders think. [Microcomputers seemed like toys when Apple and Microsoft started working on them. I'm old enough to remember that era; the usual term for people with their own microcomputers was "hobbyists."](#) BackRub seemed like an inconsequential science project. The Facebook was just a way for undergrads to stalk one another."

Want: new technology (Technology Advancements; Inflections)

- "...we will have about 2% of the population that they're the innovatives. The [innovatives are going to use something new because it's new](#). That's it. They care about this subject and they're going to be the first one to hear about it and they're going to try that out because it's new."
- "Innovators pursue new technology products aggressively. They sometimes seek them out even before a formal marketing program has been launched. This is because technology is a central interest in their life, regardless of what function it is performing. At root they are intrigued with any fundamental advance and often make a technology purchase simply for the pleasure of exploring the new device's properties. There are not very many innovators in any given market segment, but winning them over at the outset of a marketing campaign is important nonetheless, because their endorsement reassures the other players in the marketplace that the product could in fact work." - Geoffrey Moore (Crossing the Chasm)
- "The first is between the innovators and the early adopters. It is a gap that occurs when a hot technology product cannot be readily translated into a major new benefit—something

like Esperanto. The enthusiast loves it for its architecture, but nobody else can even figure out how to start using it." - Geoffrey Moore (Crossing the Chasm)

- "In the first year of selling a product—most of it alpha and beta release—the emerging high-tech company expands its customer list to include some technology enthusiast innovators and one or two visionary early adopters." - Geoffrey Moore (Crossing the Chasm)
- "...the first people to adopt any new technology are those who appreciate the technology for its own sake." - Geoffrey Moore (Crossing the Chasm)
- "Long before anyone was taking PCs seriously, David showed me one he had put together himself—including, as a peripheral, a voice synthesizer. This was sitting on his desk at work right next to a little microprocessor-driven box he had invented to fill out his timesheet for him. If you followed David home, you would find a house littered with cameras, sound equipment, and assorted electronic toys. And at work, whenever there was any question about how a particularly arcane or intricate tool actually functioned, David was the man to ask. He was the archetypal technology enthusiast." - Geoffrey Moore (Crossing the Chasm)
- "[Are there groups of scruffy but sophisticated users like the early microcomputer hobbyists that are currently being ignored by the big players?](#) A startup with its sights set on bigger things can often capture a small market easily by expending an effort that wouldn't be justified by that market alone."
- "Who will the customers be? At Viaweb they were initially individuals and smaller companies, and I think this will be the rule with Web-based applications. [These are the users who are ready to try new things, partly because they're more flexible, and partly because they want the lower costs of new technology.](#)"

Use Non-Disclosure Agreements to get Product Feedback (Reference Customer Program)

- "...they want to be first to get the new stuff. By working with them under nondisclosure—a commitment to which they typically adhere scrupulously—you can get great feedback early in the design cycle and begin building a supporter who will influence buyers not only in his own company but elsewhere in the marketplace as well." - Geoffrey Moore (Crossing the Chasm)
- "...these people are not powerful enough to dictate the buying decisions of others, nor do they represent a significant market in themselves. What they represent instead is a sounding board for initial product or service features and a test bed for introducing modifications to the product or service until it is thoroughly “debugged.”" - Geoffrey Moore (Crossing the Chasm)
- "...let them play with the product and give you their feedback, and wherever appropriate, to implement the improvements they suggest and to let them know that you implemented them." - Geoffrey Moore (Crossing the Chasm)

Gatekeepers of New Technology

- "In business, technology enthusiasts are the gatekeepers for any new technology. They are the ones who have the interest to learn about it and the ones everyone else deems competent to do the early evaluation. As such, they are the first key to any high-tech marketing effort." - Geoffrey Moore (Crossing the Chasm)
- "...find the ones who have access to the big boss. Big bosses are people who can dictate purchases and who do represent a significant marketing opportunity in and of themselves." - Geoffrey Moore (Crossing the Chasm)
- "...there are ways to win over skeptics. Even the most skeptical specialists are always on



the lookout for new technology breakthroughs. Thus, although you cannot initially get them to sponsor your product, you can get them involved in understanding its technology, and from that understanding, to gain an appreciation for the product itself. The more they appreciate the technology, the easier it becomes for them to support the product." -

Geoffrey Moore (Crossing the Chasm)

- "When we look back on the desktop software era, I think we'll marvel at the inconveniences people put up with, just as we marvel now at what early car owners put up with. [For the first twenty or thirty years, you had to be a car expert to own a car. But cars were such a big win that lots of people who weren't car experts wanted to have them as well.](#)"

Product Need: they do NOT need a Whole Product (a Fully Functional / Bug Free Product)

- "They are the ones who first appreciate the architecture of your product and why it therefore has a competitive advantage over the current crop of products established in the marketplace. They are the ones who will spend hours trying to get products to work that, in all conscience, never should have been shipped in the first place. They will forgive ghastly documentation, horrendously slow performance, ludicrous omissions in functionality, and bizarrely obtuse methods of invoking some needed function—all in the name of moving technology forward. They make great critics because they truly care." - Geoffrey Moore (Crossing the Chasm)
- "...technology enthusiasts pose fewer requirements than any other group in the adoption profile—but you must not ignore the issues that are important to them." - Geoffrey Moore (Crossing the Chasm)

Pricing: depends on who is paying (cost does not matter if the company pays for it, but if the innovator pays it MUST be cheap)

- "...technology enthusiasts are the ones who buy HDTVs, home networking solutions, and digital cameras when they each cost well over a thousand dollars. They are interested in voice synthesis and voice recognition, interactive multimedia systems, neural networks, the modeling of chaos in Mandelbrot sets, and the notion of an artificial life based on silicon. At the moment I am writing this sentence they are logging on to Amazon Web Services with their credit card to test out their latest SETI hypothesis." - Geoffrey Moore (Crossing the Chasm)
- "...they want everything cheap. This is sometimes a matter of budgets, but it is more fundamentally a problem of perception—they think all technology should be free or available at cost, and they have no use for “added-value” arguments. The key consequence here is, if it is their money, you have to make it available cheap, and if it is not, you have to make sure price is not their concern." - Geoffrey Moore (Crossing the Chasm)

Outreach: they are easy to reach (if you offer the right technology and use their language)

- "To reach technology enthusiasts, you need to place your message in one of their various haunts—on the Web, of course. Direct response advertising works well with this group, as they are the segment most likely to send for literature, or a free demo, a webinar, or whatever else of substance you offer. Just don't waste your money on a lot of fancy image advertising—they read all that as marketing hype. Direct email will reach them—and provided it is factual and new information, they read cover to cover." - Geoffrey Moore (Crossing the Chasm)
- "...the story of the fellow at 3M who invented Post-it notes. He just put them on the desk of secretaries, and some of those secretaries just tried them to see if or how they would

work. Those secretaries became Post-it note enthusiasts and were an early key in the campaign to keep the product idea alive." - Geoffrey Moore (Crossing the Chasm)

- "If you are not technically informed about these categories, these positioning statements are not likely to mean a lot to you. But for the experts in the field, they are definitive. That's what you need to communicate with technology enthusiasts." - Geoffrey Moore (Crossing the Chasm)

13.5%: Early Adopters (Visionaries); within a niche with big problems

Focus on Early Adopters to Start a Movement

- "Early adopters, like innovators, buy into new product concepts very early in their life cycle, but unlike innovators, they are not technologists. Rather they are people who find it easy to imagine, understand, and appreciate the benefits of a new technology, and to relate these potential benefits to their other concerns. Whenever they find a strong match, early adopters are willing to base their buying decisions upon it. Because early adopters do not rely on well-established references in making these buying decisions, preferring instead to rely on their own intuition and vision, they are core to opening up any high-tech market segment." - Geoffrey Moore (Crossing the Chasm)
- "In the first year of selling a product—most of it alpha and beta release—the emerging high-tech company expands its customer list to include some technology enthusiast innovators and one or two visionary early adopters... In the second year—the first year of true product—the company wins over several more visionary early adopters, including a handful of truly major deals. Revenue meets plan, and everyone is convinced it is time to ramp up, especially the venture capitalists who note that next year's plan calls for a 300 percent increase in revenue." - Geoffrey Moore (Crossing the Chasm)
- "...there is something fundamentally different between a sale to an early adopter and a sale to the early majority..." - Geoffrey Moore (Crossing the Chasm)
- "...visionaries represent an opportunity early in a product's life cycle to generate a burst of revenue and gain exceptional visibility." - Geoffrey Moore (Crossing the Chasm)
- "...a highly demanding customer who will seek to influence your company's priorities directly and a high-risk project that could end in disappointment for all." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries are the ones who give high-tech companies their first big break." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries, successful or not, don't plan to stick around long. They see themselves on a fast track that has them leapfrogging up the corporate ladder and across corporations." - Geoffrey Moore (Crossing the Chasm)
- "...pragmatist customers rarely adopt any new technology en masse. Usually these innovations are taken up first by a single niche, one that has such pressing problems it goes ahead of the herd." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries counter with charismatic appeals to taking bold and decisive actions." - Geoffrey Moore (Crossing the Chasm)
- "...visionaries themselves like to play not in the mainstream but rather out in front of it." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries lack respect for the value of colleagues' experiences. Visionaries are the first people in their industry segment to see the potential of the new technology. Fundamentally, they see themselves as smarter than their opposite numbers in competitive companies—and quite often they are." - Geoffrey Moore (Crossing the Chasm)

- “I broke the early beta users into a bunch of different lists. And I'd ask, "Which best describes you? I like to be among the first to try cool new technology, or, I only try things that I think will be useful for me?" And over the six months, it flipped from 90% being people who try things that they want to try cool new technology to six months later, it was people who only are going to try something that they feel like is useful. But what's cool is just because what motivates you to try something is you're an early adopter and you want to try something cool, if you're going to keep using it, it's because it's giving you some utility. And so I can still use those early adopters to help me figure out where's the value inside the product.”
- “Nothing could be better, for a new technology, than a few years of being used only by a small number of early adopters. Early adopters are sophisticated and demanding, and quickly flush out whatever flaws remain in your technology. When you only have a few users you can be in close contact with all of them. And early adopters are forgiving when you improve your system, even if this causes some breakage.”

Want: a strategic leap forward (something that was NOT possible before); they want to use this technology to beat the competition; it's a part of their business strategy;

they are willing to take risks if the return is high; they're playing offense with new trends

- "Visionaries are not looking for an improvement; they are looking for a fundamental breakthrough." - Geoffrey Moore (Crossing the Chasm)
- "...a visionary focuses on value not from a system's technology per se but rather from the strategic leap forward such technology can enable." - Geoffrey Moore (Crossing the Chasm)
- "...the key to getting beyond the enthusiasts and winning over a visionary is to show that the new technology enables some strategic leap forward, something never before possible, which has an intrinsic value and appeal to the non technologist. This benefit is typically symbolized by a single, compelling flagship application, something that showcases the power and value of the new product. If the marketing effort is unable to find that compelling application, then market development stalls with the innovators, and the future of the product falls through this first crack in the bell curve." - Geoffrey Moore (Crossing the Chasm)
- "What the early adopter is buying... is some kind of change agent. By being the first to implement this change in their industry, the early adopters expect to get a jump on the competition, whether from lower product costs, faster time to market, more complete customer service, or some other comparable business advantage. They expect a radical discontinuity between the old ways and the new, and they are prepared to champion this cause against entrenched resistance." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries are that rare breed of people who have the insight to match up an emerging technology to a strategic opportunity, the temperament to translate that insight into a high-visibility, high-risk project, and the charisma to get the rest of their organization to buy into that project. They are the early adopters of high-tech products." - Geoffrey Moore (Crossing the Chasm)
- "...visionaries tend to be recent entrants to the executive ranks, highly motivated, and driven by a "dream." The core of the dream is a business goal, not a technology goal, and it involves taking a quantum leap forward in how business is conducted in their industry or by their customers. It also involves a high degree of personal recognition and reward. Understand their dream, and you will understand how to market to them." - Geoffrey Moore (Crossing the Chasm)

- "Visionaries drive the high-tech industry because they see the potential for an “order-of-magnitude” return on investment and willingly take high risks to pursue that goal. They will work with vendors who have little or no funding, with products that start life as little more than a diagram on a whiteboard, and with technology gurus who bear a disconcerting resemblance to Rasputin. They know they are going outside the mainstream, and they accept that as part of the price you pay when trying to leapfrog the competition." - Geoffrey Moore (Crossing the Chasm)
- "When Linda Dillman at Wal-Mart committed to install Symbol RFID systems to create realtime visibility into all the inventory in every Wal-Mart store, she was acting as a visionary. When Reed Hastings, CEO of Netflix, committed to outsource the computing for his entire business to Amazon.com's Elastic Compute Cloud, he was acting as a visionary. And when Ted McConnell at Procter & Gamble committed to direct all digital advertising worldwide via AudienceScience's ad spend management system, he was acting as a visionary. In every case, these people took significant business risks with what at the time was unproven technology and/or an unproven company in order to achieve breakthrough improvements in productivity and customer service." - Geoffrey Moore (Crossing the Chasm)
- "...visionaries are easy to sell but very hard to please. This is because they are buying a dream that, to some degree, will always be a dream. The “incarnation” of this dream will require the melding of numerous technologies, many of which will be immature or even nonexistent at the beginning of the project. " - Geoffrey Moore (Crossing the Chasm)
- "...visionaries are more likely to be planning on implementing the great new order and then using that as a springboard to their next great career step upward." - Geoffrey Moore (Crossing the Chasm)
- "...it is their ability to see things first that they want to leverage into a competitive advantage. That advantage can only come about if no one else has discovered it.... Indeed, if such a reference base exists, it will almost certainly turn them off, indicating that for this technology, at any rate, they are already too late." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries do not care about the ontology of the new innovation—they care about its potential impact. What disruptive change can it enable in their environment that they can leverage for dramatic competitive advantage?" - Geoffrey Moore (Crossing the Chasm)
- “The second group is usually what we will get to see as the first users are [the early adapters. As soon as they realize that there is value, they're going to give it a try](#). And if there is value, then they will keep on using it, and if there is no value, then they will quit.”
- “When I used to work in client server startups, you knew that the early adopters were people who were using relational database servers and scalable front end programming interfaces and things like that, were trying to have distributed apps that they would roll out. You could tell who was [trying to play offense with the new trends](#).”

Visionaries are “Lighthouse Customers”: desperate customers willing to live in the future; your solution is the lighthouse they've been looking for;

Users that have to do Workarounds to achieve their Goal

- “The number one thing about the ideas goes back to the not playing the comparison game. So the importance of desperation in customer needs, the thing that I see people underestimate when they come up with ideas is the threshold of desperation required in the customer. So we want to solve problems for desperate people and it's like if we have

powerful inflections that really empower and we have something unique, there should be somebody who is irresistibly drawn to that empowerment. They should say, "Oh my God, this is incredible. This is a game changer. I can't unsee that." Why is that important? I like to say that if a customer has the ability to do something other than what you do to solve their problem, they won't be crazy enough to do business with a startup. So customer has to be so desperate that when they see what you have, they're like, "I've got to have it."

- "So McCracken had a term for it that I've always liked lighthouse customers. And so the lighthouse has this light that shines out and obscures the fog. And not all customers are equal and some customers are living in the future and those customers are gold. And those customers will, if you solve their needs, take you to the promise land."
- "Usually it has to do with how tech forward they are. There was a time when a lot of people didn't think the cloud was going to be a thing because it was insecure. And I'm not going to host my important data and let somebody else have it. But there were a set of customers who really excited about the cloud and they tended to adopt certain kinds of products."
- "There is likely a wide range of buyers that care about that value, but certain customers care a lot more than others. What are the characteristics of a customer that makes them care a lot about your differentiated value? That gives us an idea of who our best-fit customers are. Your best-fit target customers are customers that really care a lot about your unique value."

Start w/ a Pilot Project

- "...visionaries like a project orientation. They want to start out with a pilot project, which makes sense because they are "going where no man has gone before," and you are going there with them. This is followed by more project work, conducted in phases, with milestones, and the like. The visionaries' idea is to be able to stay very close to the development train to make sure it is going in the right direction and to be able to get off if they discover it is not going where they thought." - Geoffrey Moore (Crossing the Chasm)

Product Need: they do NOT need a Whole Product (a Fully Functional / Bug Free Product)

- "Being the first, they also are prepared to bear with the inevitable bugs and glitches that accompany any innovation just coming to market." - Geoffrey Moore (Crossing the Chasm)
- "They do not expect, therefore, to be buying a well-tested product with an extensive list of industry references." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries fail to acknowledge the importance of existing product infrastructure. Visionaries are building systems from the ground up. They are incarnating their vision. They do not expect to find components for these systems lying around. They do not expect standards to have been established—indeed, they are planning to set new standards. They do not expect support groups to be in place, procedures to have been established, or third parties to be available to share in the workload and the responsibility." - Geoffrey Moore (Crossing the Chasm)

Pricing: They are the LEAST price sensitive of any User Group

- "Often working with budgets in the multiple millions of dollars, they represent a hidden source of venture capital that funds high-technology business." - Geoffrey Moore (Crossing the Chasm)
- "...visionaries are the people who come in and soak up all the budget for their pet projects. If the project is a success, they take all the credit..." - Geoffrey Moore (Crossing the Chasm)



the Chasm)

- "...they are the least price-sensitive of any segment of the technology adoption profile. They typically have budgets that let them allocate generous amounts toward the implementation of a strategic initiative. This means they can usually provide up-front money to seed additional development that supports their project—hence their importance as a source of high-tech development capital." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries—the customers dominating the early market's development—are relatively price-insensitive. Seeking a strategic leap forward, with an order-of-magnitude return on investment, they are convinced that any immediate costs are insignificant when compared with the end result." - Geoffrey Moore (Crossing the Chasm)

Outreach: using your previously acquired Enthusiasts as references; they are easy to talk to; meet them at places where they congregate (e.g: tech conferences)

- "In terms of prospecting for visionaries, they are not likely to have a particular job title, except that, to be truly useful, they must have achieved at least a senior vice presidential level in order to have the clout to fund their visions. In fact, in terms of communications, typically you don't find them, they find you. The way they find you, interestingly enough, is by maintaining relationships with technology enthusiasts. That is one of the reasons why it is so important to capture the technology enthusiast segment." - Geoffrey Moore (Crossing the Chasm)
- "Early-adopting visionaries, for example, tend to keep in touch with and respect the views of technology enthusiasts; this is because they need the latter to serve as a reality check on the technical feasibility of their vision and to help evaluate specific products. As a result, enthusiasts can speak to at least some of the visionaries' concerns." - Geoffrey Moore (Crossing the Chasm)
- "Visionaries take a greater interest in technology than in their industry. Visionaries are defining the future. You meet them at technology conferences and other futurist forums where people gather to forecast trends and seek out new market opportunities. They are easy to strike up a conversation with, and they understand and appreciate what high-tech companies and high-tech products are trying to do. They want to talk ideas with bright people. They are bored with the mundane details of their own industries. They like to talk and think high tech." - Geoffrey Moore (Crossing the Chasm)

Customer Examples: VP Level Customers

References: from their own User Group OR from their own Pond

- "...visionaries are also effective at alerting the business community to pertinent technology advances. Outgoing and ambitious as a group, they are usually more than willing to serve as highly visible references, thereby drawing the attention of the business press and additional customers to small fledgling enterprises." - Geoffrey Moore (Crossing the Chasm)
- "Resistance has been a function of inertia growing out of commitment to the status quo, fear of risk, or lack of a compelling reason to buy. Our goal in the early market has been to enlist visionary sponsors to help overcome this resistance." - Geoffrey Moore (Crossing the Chasm)
- "...it is painfully obvious that visionaries, as a group, make a very poor reference base for pragmatists." - Geoffrey Moore (Crossing the Chasm)

## **Mainstream Market**

Mainstream Market [Big Fish in Small Pond] (Full of Generalists - customers follow the brands, and use market leaders)

- "First there is a market... Made up of innovators and early adopters, it is an early market, flush with enthusiasm and vision and, often as not, funded by a potful of customer dollars earmarked for accomplishing some grand strategic goal. Then there is no market... This is the chasm period, during which the early market is still trying to digest its ambitious projects, and the mainstream market waits to see if anything good will come of them. Then there is. If all goes well, and the product and your company pass through the chasm period intact, then a mainstream market does emerge, made up of the early and the late majority. With them comes the real opportunity for wealth and growth... In each case, the key to success is to focus in on the dominant "adoption type" in the current phase of the market, learn to appreciate that segment's psychographics, and then adjust your marketing strategy and tactics accordingly." - Geoffrey Moore (Crossing the Chasm)
- "...dominated by the early majority, who in high tech are best understood as pragmatists, who, in turn, tend to be accepted as leaders by the late majority, best thought of as conservatives, and rejected as leaders by the laggards, or skeptics." - Geoffrey Moore (Crossing the Chasm)
- "The key to making a smooth transition from the pragmatist to the conservative market segments is to maintain a strong relationship with the former, always giving them an open door to go to the new paradigm, while still keeping the latter happy by adding value to the old infrastructure." - Geoffrey Moore (Crossing the Chasm)
- "...if we now look back over the first four profiles in the Technology Adoption Life Cycle, we see an interesting trend. The importance of the product itself, its unique functionality, when compared to the importance of the ancillary services to the customer, is at its highest with the technology enthusiast, and at its lowest with the conservative." - Geoffrey Moore (Crossing the Chasm)
- "...the longer your product is in the market, the more mature it becomes, and the more important the service element is to the customer. Conservatives, in particular, are extremely service oriented." - Geoffrey Moore (Crossing the Chasm)
- "The single most important difference between early markets and mainstream markets is that the former are willing to take responsibility for piecing together the whole product (in return for getting a jump on their competition), whereas the latter are not." - Geoffrey Moore (Crossing the Chasm)
- "In the early market, where decisions are dominated by technology enthusiasts and visionaries, the key value domains are technology and product. In the mainstream, where decisions are dominated by pragmatists and conservatives, the key domains are market and company." - Geoffrey Moore (Crossing the Chasm)
- "...the mainstream is dominated by generalists who are more interested in market leadership and company stability than in the bits and bytes or speeds and feeds of particular products." - Geoffrey Moore (Crossing the Chasm)
- "In the case of the early market, the technology enthusiasts are the skeptical gatekeepers; in the case of the mainstream market, it is the pragmatists. Once they have given their blessings, then their companions—visionaries and conservatives, respectively—feel free to buy in." - Geoffrey Moore (Crossing the Chasm)
- "You develop an early market by demonstrating a strong technology advantage and converting it to product credibility, and you develop a mainstream market by

demonstrating a market leadership advantage and converting it to company credibility." - Geoffrey Moore (Crossing the Chasm)

**[STOP]** You shouldn't focus on this section UNLESS you are going after the BIG FISH in your SMALL POND

34%: Early Majority (Pragmatists; the Skeptics that are the Gatekeepers for the Conservatives); Now you can get the BIG Fish in your SMALL Pond

- "...there is something fundamentally different between a sale to an early adopter and a sale to the early majority..." - Geoffrey Moore (Crossing the Chasm)
- "...the real news is the deep and dividing chasm that separates the early adopters from the early majority. This is by far the most formidable and unforgiving transition in the Technology Adoption Life Cycle, and it is all the more dangerous because it typically goes unrecognized." - Geoffrey Moore (Crossing the Chasm)
- "Throughout the history of high tech, the early majority, or pragmatists, have represented the bulk of the market volume for any technology product. You can succeed with the visionaries, and you can thereby get a reputation for being a high flyer with a hot product, but that is not ultimately where the dollars are. Instead, those funds are in the hands of more prudent souls, who do not want to be pioneers ("Pioneers are people with arrows in their backs"), who never volunteer to be an early test site ("Let somebody else debug your product"), and who have learned the hard way that the "leading edge" of technology is all too often the "bleeding edge." - Geoffrey Moore (Crossing the Chasm)
- "Because pragmatists are in it for the long haul, and because they control the bulk of the dollars in the marketplace, the rewards for building relationships of trust with them are very much worth the effort." - Geoffrey Moore (Crossing the Chasm)
- "...once a start-up has earned its spurs with the pragmatist buyers within a given vertical market, they tend to be very loyal to it, and even go out of their way to help it succeed." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists, on the other hand, tend to be committed long term to their profession and the company at which they work. They are very cautious about grandiose schemes because they know they will have to live with the results." - Geoffrey Moore (Crossing the Chasm)
- "Crossing the chasm requires moving from an environment of support among the visionaries back into one of skepticism among the pragmatists. It means moving from the familiar ground of product-oriented issues to the unfamiliar ground of market-oriented ones, and from the familiar audience of like-minded specialists to the unfamiliar audience of wary generalists." - Geoffrey Moore (Crossing the Chasm)
- "A big company that uses Web-based applications is to that extent outsourcing IT. Drastic as it sounds, I think this is generally a good idea. Companies are likely to get better service this way than they would from in-house system administrators. System administrators can become cranky and unresponsive because they're not directly exposed to competitive pressure: a salesman has to deal with customers, and a developer has to deal with competitors' software, but a system administrator, like an old bachelor, has few external forces to keep him in line. At Viaweb we had external forces in plenty to keep us in line. The people calling us were customers, not just co-workers. If a server got wedged, we jumped; just thinking about it gives me a jolt of adrenaline, years later. So Web-based applications will ordinarily be the right answer for big companies too. They will be the last to realize it, however, just as they were with desktop computers. And partly for the same reason: it will be worth a lot of money to convince big companies that they need

[something more expensive.](#)"

Want: incremental improvements to productivity (improving established ways of doing business); they are very risk averse

- "By contrast, the early majority want to buy a productivity improvement for existing operations. They are looking to minimize the discontinuity with the old ways. They want evolution, not revolution. They want technology to enhance, not overthrow, the established ways of doing business. And above all, they do not want to debug somebody else's product. By the time they adopt it, they want it to work properly and to integrate appropriately with their existing technology base." - Geoffrey Moore (Crossing the Chasm)
- "...the goal of pragmatists is to make a percentage improvement—incremental, measurable, predictable progress. If they are installing a new product, they want to know how other people have fared with it. The word risk is a negative one in their vocabulary—it does not connote opportunity or excitement but rather the chance to waste money and time. They will undertake risks when required, but they first will put in place safety nets and manage the risks very closely." - Geoffrey Moore (Crossing the Chasm)
- "If pragmatists are hard to win over, they are loyal once won, often enforcing a company standard that requires the purchase of your product, and only your product, for a given requirement. This focus on standardization is, well, pragmatic, in that it simplifies internal service demands. But the secondary effects of this standardization on your growth and profitability—increasing sales volumes and lowering the cost of sales—is dramatic." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists, on the other hand, don't put a lot of stake in futuristic things. They see themselves more in present-day terms, as the people devoted to making the wheels of their industry turn." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists work to educate the company on the risks and costs involved." - Geoffrey Moore (Crossing the Chasm)
- "The key is to focus in on the values and concerns of the pragmatists, not the visionaries." - Geoffrey Moore (Crossing the Chasm)
- "...the pragmatists get stuck trying to maintain a system that is so "state-of-the-art" no one is quite sure how to keep it working." - Geoffrey Moore (Crossing the Chasm)
- "The challenge with this group, with the people in this group, is that [they're afraid of change. So their state of mind is, don't rock the boat. Whatever I'm currently doing is good enough for me.](#) So if you have Salesforce.com, which is absolutely amazing, their reaction is going to be, "What's wrong with Excel?"
- "And because they're afraid of change, they are not going to try something new. Now the reason is that at the end of the day, [they're afraid that this is going to be too complex for them and they will not get it, and they don't want to be embarrassed and they don't want to feel like idiots.](#) And guess what? People don't like to feel like idiots, and so they are not going to try."
- "[Web-based applications will often be the best thing for big companies too \(though they'll be slow to realize it\).](#) The best intranet is the Internet. If a company uses true Web-based applications, the software will work better, the servers will be better administered, and employees will have access to the system from anywhere."

Product Need: they DO need a Whole Product (a Fully Functional / Bug Free Product); they need reliable product support

- "...they do not want to debug somebody else's product. By the time they adopt it, they

want it to work properly and to integrate appropriately with their existing technology base." - Geoffrey Moore (Crossing the Chasm)

- "When pragmatists buy, they care about the company they are buying from, the quality of the product they are buying, the infrastructure of supporting products and system interfaces, and the reliability of the service they are going to get. In other words, they are planning on living with this decision personally for a long time to come." - Geoffrey Moore (Crossing the Chasm)
- "To get to the right of the chasm—to cross into the mainstream market—you have to first meet the demands of the pragmatist customers. These customers want the whole product to be readily available from the outset. They like a product such as Microsoft Office because virtually every desktop and laptop supports it, files are exchangeable without fuss, there are books in every bookstore about how to use it, not to mention seminars for training, hotline support, and a whole cadre of temporary office workers already trained on its core products of Word, Excel, and PowerPoint. If instead the pragmatists are offered a “great deal” on an alternative suite of products—say, Google Apps, for example—they are reluctant to switch because they fear some part of the whole product will be missing, and they will be left holding the bag." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists evaluate and buy whole products. The generic product, the product you ship, is a key part of the whole product, make no mistake. But once there are more than one or two comparable products in the marketplace, then investing in additional R&D at the generic level has a decreasing return, whereas there is an increasing return from marketing investments at the levels of the expected, the augmented, or the potential product." - Geoffrey Moore (Crossing the Chasm)
- “And you need to see those people to [understand their barriers for starting to use your service. And by the way, the solution is always the same. Simplicity.](#) Leonardo da Vinci said that simplicity is the ultimate sophistication. If you want to make it simple, in your journey of building a product, we basically say this is iteration to iteration to iteration. In many of those you add features and you add features and you add features until you all of a sudden you add the features that people are using. What you really want to do next is remove the rest of the features that people are not using because they're adding complexity.”

Pricing: they are reasonably price sensitive; they want the best deal

- "Pragmatists are reasonably price-sensitive. They are willing to pay a modest premium for top quality or special services, but in the absence of any special differentiation, they want the best deal." - Geoffrey Moore (Crossing the Chasm)
- "They expect to pay a premium price for the market leader relative to the competition, perhaps as high as 30 percent." - Geoffrey Moore (Crossing the Chasm)

Competition: they want competition in the market; and they want to buy from the Market Leader

- "Pragmatist customers want to buy from market leaders." - Geoffrey Moore (Crossing the Chasm)
- "One final characteristic of pragmatist buyers is that they like to see competition—in part to get costs down, in part to have the security of more than one alternative to fall back on should anything go wrong, and in part to assure themselves they are buying from a proven market leader." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists want to buy from proven market leaders because they know that third parties will design supporting products around a market-leading product. That is, market-leading products create an aftermarket that other vendors service. This radically reduces

pragmatist customers' burden of support... Market leadership is crucial, therefore, to winning pragmatist customers." - Geoffrey Moore (Crossing the Chasm)

- "...we know pragmatists tend to buy from market leaders, and our number-one marketing goal is to achieve a pragmatist installed base that can be referenced—the only right strategy is to take a “big fish, small pond” approach." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists will hold off committing their support until they see a strong candidate for leadership emerge. Then they will back that candidate forcefully in an effort to squeeze out the other alternatives, thereby bringing about the necessary standardization to ensure good whole product development in their marketplace." - Geoffrey Moore (Crossing the Chasm)
- "In the pragmatist's domain, competition is defined by comparative evaluations of products and vendors within a common category." - Geoffrey Moore (Crossing the Chasm)
- "All this is music to the ears of pragmatist buyers who do not like to buy until there is both established competition and an established leader, for that is a signal that the market has matured sufficiently to support a reasonable whole product infrastructure around an identified centerpiece." - Geoffrey Moore (Crossing the Chasm)
- "...the pragmatists are loath to buy until they can compare. Competition, therefore, becomes a fundamental condition for purchase." - Geoffrey Moore (Crossing the Chasm)
- "It begins with positioning your product within a buying category that already has some established credibility with the pragmatist buyers. That category should be populated with other reasonable buying choices, ideally ones with which the pragmatists are already familiar. Within this universe, your goal is to position your product as the indisputably correct buying choice." - Geoffrey Moore (Crossing the Chasm)
- "...pragmatists are more interested in the market's response to a product than in the product itself." - Geoffrey Moore (Crossing the Chasm)
- "...to the pragmatist buyer, the most powerful evidence of leadership and likelihood of competitive victory is market share. In the absence of definitive numbers here, pragmatists will look to the quality and number of partners and allies you have assembled in your camp, and their degree of demonstrable commitment to your cause." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists, as we have said repeatedly, want to back the market leader. They have learned that by so doing they can keep their whole product costs—the costs not only of purchase but of ownership as well—to their lowest, and still get some competitive leverage from the investment." - Geoffrey Moore (Crossing the Chasm)
- “The third group is the most important group. This is where market leaders are, right? This is called the early majority. This is about one third of the population, and [the one that wins the early majority wins the market.](#)”

Outreach: Word of Mouth, Conferences, Trade Shows, Forums, Articles mentions, Partnerships, etc.

- "...to market to pragmatists, you must be patient. You need to be conversant with the issues that dominate their particular business. You need to show up at the industry-specific conferences and trade shows they attend. You need to be mentioned in articles that run in the newsletters and blogs they read. You need to be installed in other companies in their industry. You need to have developed applications for your product that are specific to their industry. You need to have partnerships and alliances with the



other vendors who serve their industry. You need to have earned a reputation for quality and service. In short, you need to make yourself over into the obvious supplier of choice." - Geoffrey Moore (Crossing the Chasm)

- "...they tend to invest their convention time in industry-specific forums discussing industry-specific issues. Where pragmatists are concerned, sweeping changes and global advantages may make for fine speeches, but not much else." - Geoffrey Moore (Crossing the Chasm)
- "...there are ways to win over skeptics. Even the most skeptical specialists are always on the lookout for new technology breakthroughs. Thus, although you cannot initially get them to sponsor your product, you can get them involved in understanding its technology, and from that understanding, to gain an appreciation for the product itself. The more they appreciate the technology, the easier it becomes for them to support the product." - Geoffrey Moore (Crossing the Chasm)
- "...skeptical generalists may not take an interest in an unproven company but are always interested in new market developments. If you can show the generalists that there is an emerging unmet market requirement, one that you have specifically positioned your products and your marketing efforts to meet, then out of their appreciation for the market opportunity, they can learn to appreciate your company." - Geoffrey Moore (Crossing the Chasm)

Customer Examples: Fortune 500, Fortune 2000 customers

- "Typically, in either segment, you would see a list of Fortune 500 to Fortune 2000 customers making relatively large orders—five figures for sure, more often six figures or even higher." - Geoffrey Moore (Crossing the Chasm)
- "The Fortune 2000 IT community, as a group, is led by people who are largely pragmatist in orientation. Business demands for increased productivity push them toward the front of the adoption life cycle, but natural prudence and budget restrictions keep them cautious." - Geoffrey Moore (Crossing the Chasm)
- "The idea caught on with early adopters, but as you might expect, the pragmatists adopted a wait-and-see attitude. To cross the chasm, Lithium had to target a pragmatist enclave disaffected with the status quo. They found that enclave in tech support." - Geoffrey Moore (Crossing the Chasm)

References: established references from (ideally) their own User Group OR from their own Pond

- "...pragmatist buyers, as we have already noted, communicate along industry lines or through professional associations. Chemists talk to other chemists, lawyers to other lawyers, insurance executives to other insurance executives, and so on. Winning over one or two customers in each of five or ten different segments—the consequence of taking a sales-driven approach—will create no word-of-mouth effect. Your customers may try to start a conversation about you, but there will be no one there to reinforce it. By contrast, winning four or five customers in one segment will create the desired effect. Thus, the segment-targeting company can expect word-of-mouth leverage early in its crossing-the-chasm marketing effort, whereas the sales-driven company will get it much later, if at all. This lack of word of mouth, in turn, makes selling the product that much harder, thereby adding to the cost and the unpredictability of sales." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists won't buy from you until you are established, yet you can't get established until they buy from you." - Geoffrey Moore (Crossing the Chasm)
- "The early majority share some of the early adopter's ability to relate to technology, but

ultimately they are driven by a strong sense of practicality. They know that many of these newfangled inventions end up as passing fads, so they are content to wait and see how other people are making out before they buy in themselves. They want to see well-established references before investing substantially. Because there are so many people in this segment—roughly one-third of the whole adoption life cycle—winning their business is fundamental to any substantial profits and growth." - Geoffrey Moore (Crossing the Chasm)

- "...early adopters do not make good references for the early majority. And because of the early majority's concern not to disrupt their organizations, good references are critical to their buying decisions. So what we have here is a catch22. The only suitable reference for an early majority customer, it turns out, is another member of the early majority, but no upstanding member of the early majority will buy without first having consulted with several suitable references." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists tend to be "vertically" oriented, meaning that they communicate more with others like themselves within their own industry than do technology enthusiasts and early adopters, who are more likely to communicate "horizontally" across industry boundaries in search of kindred spirits. This means it is very tough to break into a new industry selling to pragmatists. References and relationships are very important to these people..." - Geoffrey Moore (Crossing the Chasm)
- "...the path into the pragmatist community is smoother if a smaller entrepreneurial vendor can develop an alliance with one of the already accepted vendors..." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists, on the other hand, deeply value the experience of their colleagues in other companies. When they buy, they expect extensive references, and they want a good number to come from companies in their own industry segment." - Geoffrey Moore (Crossing the Chasm)
- "The first is knocking over the head pin, taking the beachhead, crossing the chasm (and chaining together three mixed metaphors to do it!). The size of the first pin is not the issue, but the economic value of the problem it fixes is. The more serious the problem, the faster the target niche will pull you out of the chasm. Once out, your opportunities to expand into other niches are immensely increased because now, having one set of pragmatist customers solidly behind you, you are much less risky for others to back as a new vendor." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists and conservatives—the core of any mainstream market—like to do business with people they know." - Geoffrey Moore (Crossing the Chasm)

34%: Late Majority (Conservatives); they are less tech savvy

- "...for every pragmatist there is a conservative. Put another way, conservatives represent approximately one-third of the total available customers..." - Geoffrey Moore (Crossing the Chasm)
- "These individuals are [skeptical of change](#)."
- "You start seeing the people who sign up today, three or six months from now, they're signing up and they're doing a worse job. Nothing's changing the product, but just the understanding of how the product should work is different. [They might be less tech savvy](#). On a scale of an early adopter versus late majority, they might be closer to the late majority. And so we saw this at Instagram. We always knew working on our registration flow, and at one point we were converting at some insanely high percent, and then three months later it would go down by 15%, not because anything was broken, but just

because we'd broken into new markets.”

- “Computers are in this phase now. When you own a desktop computer, you end up learning a lot more than you wanted to know about what's happening inside it. But more than half the households in the US own one. My mother has a computer that she uses for email and for keeping accounts. About a year ago she was alarmed to receive a letter from Apple, offering her a discount on a new version of the operating system. There's something wrong when a sixty-five year old woman who wants to use a computer for email and accounts has to think about installing new operating systems. Ordinary users shouldn't even know the words "operating system," much less "device driver" or "patch."”

Want: an established industry standard

- "The late majority shares all the concerns of the early majority, plus one major additional one: Whereas people in the early majority are comfortable with their ability to handle a technology product, should they finally decide to purchase it, members of the late majority are not. As a result, they wait until something has become an established standard, and even then they want to see lots of support and tend to buy, therefore, from large, well-established companies. Like the early majority, this group comprises about one-third of the total buying population in any given segment. Courting its favor is highly profitable indeed, for while profit margins decrease as the products mature, so do the selling costs, and virtually all the R&D costs have been amortized." - Geoffrey Moore (Crossing the Chasm)
- "Conservatives, in essence, are against discontinuous innovations. They believe far more in tradition than in progress. And when they find something that works for them, they like to stick with it. Thus these folks are on Macs when everyone else is on Windows, then they are on Windows whenever everyone has switched back to Macs. They still use BlackBerrys, and they work just fine for them. They email rather than text and actually call each other from time to time. They neither tweet nor post, and their newspaper still arrives at the front door." - Geoffrey Moore (Crossing the Chasm)
- "...eventually conservatives do succumb to the new paradigm just to stay on par with the rest of the world. But just because they use such products doesn't mean they have to like them." - Geoffrey Moore (Crossing the Chasm)

Product Need: they DO need a Whole Product (a Fully Functional / Bug Free Product); they need reliable product support

- "The key issue now—transitioning from the early to the late majority—has to do with lingering residual demands on the end user to be technologically competent... the early majority is willing and able to become technologically competent where necessary; the late majority is not. When a product reaches this point in the market development, it must be made increasingly easier to adopt in order to continue being successful. If this does not occur, the transition to the late majority will stall." - Geoffrey Moore (Crossing the Chasm)
- "...conservatives often fear high tech a little bit. Therefore, they tend to invest only at the end of a technology life cycle, when products are extremely mature, market-share competition is driving low prices, and the products themselves can be treated as commodities." - Geoffrey Moore (Crossing the Chasm)
- "There are two keys to success here. The first is to have thoroughly thought through the “whole solution” to a particular target end-user market's needs, and to have provided for every element of that solution within the package." - Geoffrey Moore (Crossing the Chasm)

Chasm)

- "The key is to focus on convenience rather than performance, user experience rather than feature sets." - Geoffrey Moore (Crossing the Chasm)

Pricing: they are price sensitive, they want LOW prices, they want discounts

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- "...conservatives do not have high aspirations about their high-tech investments and hence will not support high price margins." - Geoffrey Moore (Crossing the Chasm)
- "Conservatives like to buy pre assembled packages, with everything bundled, at a heavily discounted price." - Geoffrey Moore (Crossing the Chasm)
- "At the other end of the market are the conservatives. They want low pricing. They have waited a long time before buying the product—long enough for complete institutionalization of the whole product, and long enough for prices to have dropped to only a small margin above cost. This is their reward for buying late." - Geoffrey Moore (Crossing the Chasm)

Competition: they want competition in the market; and they want to buy from the Market Leader

- "...conservatives often fear high tech a little bit. Therefore, they tend to invest only at the end of a technology life cycle, when products are extremely mature, market-share competition is driving low prices, and the products themselves can be treated as commodities." - Geoffrey Moore (Crossing the Chasm)
- "Customers cannot be completely secure in buying a product until they know it comes from a vendor with staying power who will continue to invest in this product category. This is the final extension of positioning needed to make a product easy to buy for a conservative." - Geoffrey Moore (Crossing the Chasm)

Outreach: bundles, brand awareness

- "The other key is to have lined up a low-overhead distribution channel that can get this package to the target market effectively. In this context, the rise of “as-a-service” offerings delivered over the Web creates a magnificent opportunity to make progress with this segment." - Geoffrey Moore (Crossing the Chasm)
- "Pragmatists and conservatives—the core of any mainstream market—like to do business with people they know." - Geoffrey Moore (Crossing the Chasm)

References: the Early Majority

- "...conservatives look to pragmatists to help lead them in their technology purchases." - Geoffrey Moore (Crossing the Chasm)

16%: Laggards (Skeptics); they will NEVER use your product unless they are required to

- "Laggards will never use the product. [They will use your product only if they have to.](#) Yeah. The laggards, I think he calls it."
- "Finally there are the laggards. These people simply don't want anything to do with new technology, for any of a variety of reasons, some personal and some economic. The only time they ever buy a technological product is when it is buried deep inside another product—the way, say, that a microprocessor is designed into the braking system of a new car—such that they don't even know it is there. From a market development perspective laggards are generally regarded as not worth pursuing on any other basis." - Geoffrey Moore (Crossing the Chasm)
- "Skeptics—the group that makes up the last one-sixth of the Technology Adoption Life

Cycle—do not participate in the high-tech marketplace, except to block purchases." - Geoffrey Moore (Crossing the Chasm)

- "One of the favorite arguments of skeptics is that disruptive innovations of any kind rarely fulfill their promises and almost always come with unintended consequences." - Geoffrey Moore (Crossing the Chasm)
- "...the spaces between segments indicate the credibility gap that arises from seeking to use the group on the left as a reference base to penetrate the segment on the right." - Geoffrey Moore (Crossing the Chasm)

## **Competition / Market**

Understand the Market

Large Competitors can NOT Easily Compete w/ NEW Ideas

- "So an interesting takeaway it sounds like is many people feel like, 'I'm going to build a social app.' They probably often hear, 'Facebook's going to do that. Instagram's going to copy you. Snap's going to do that.' And what I'm hearing here is it's not as easy as many people think, that it might be actually a lot harder for them to try something. It's not only harder for them to identify these opportunities and to verbalize it internally and align the company around it. It's also hard to respond to signals in the market. A lot of people think these incumbents are going to steal your ideas. And for the most part, it takes a pretty long time for them to respond to even the number one app or charting in the app because it'll start charting in the app store, a PM will make a post about it. And then the market's strategy or market research team might do a study to follow up on it. It'll kind of float around for a few months. They might put together a framing deck saying, 'Hey, we should go after this opportunity. Let's put together this team. It'll go through VP reviews. And then it'll start development. Development might take six to 12 months.' [Realistically, I think most companies, large companies take 12 to 24 months to respond to competitive threats in the market.](#) Do you think this is solvable? Is there something a company can change to get better at this? Are there companies that are good at this in your experience, or is this just as you grow, this is just what happens? The incentives within large companies make this very difficult, because you don't want to present something that you have a hunch about being a good idea because if there's not market signals already, then it's hard to defend. People in companies are focused on getting their yearly bonus or they're focused on their performance reviews. It's hard to show up into a framing meeting saying like... And a framing meeting is a meeting where you are positioning the opportunity and everything, 'Here's what we should go after.' It's hard to just say, 'Okay, by first principles, this is a good idea and here's some very vague market signals.' In reality, you need to walk in and say, 'Here's the number one app in the United States and we don't own it.' If you present something like that, that's pretty defensible if you fail because there was market evidence. But if you fail about something that's more based on kind of vague abstract... So you have to, generally, the only path is to copy existing products if you want to really get momentum inside of a large organization. And for completely new concepts, it's I think very difficult to present a lot of those ideas, either to verbalize them into a document or to even get rally the organization around it. That's a really interesting insight."
- "...there may be some larger company that has some distribution advantage, but large companies are slow and they lack conviction. One of the things that I've thought about from time to time is: why was it the case that we were able to build Facebook and that

some other company didn't? It wasn't like it was a super novel idea, there was Friendster before, there was Myspace, there's all this stuff, Google, Microsoft, Yahoo, they all had versions of it, why didn't they do it? It's not that they had a lack of talent, we were like a rag tag group of children, they had all these serious engineers and serious infrastructure, and so I think the reason is because people doubt new ideas before they come to fruition. So the narrative with social networking is it's just like this college kid thing, it's like, okay... probably a fad, oh, okay, maybe it seems like it's going to be around for a while, but it's probably not going to make money, oh, it's making money, but the switch to mobile is going to be pretty hard, and then it's like, okay, by the time we figured that out it was too late for anyone, the companies have lost their advantage, and so what was the issue? There's probably some team buried deep inside those companies that believed in it, and probably some like VP person who is like, "eh, that's probably not the biggest priority" and just like pour some sand in the gears or whatever your analogy you want, even for the things that look like they belong to large companies as opportunities because they have a big distribution advantage. I would guess that big companies are going to fumble 2/3rds of those, and then there are all these things where there is not an apparent big advantage because it plugs into an existing distribution channel and those are just kind of free..."

- "Disruptive innovation now comes from smaller and smaller companies, with lighter and lighter capital requirements, meaning they can be nimbler than your firm and take bigger risks." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Now let's talk about competition. What you're afraid of is not presumably groups of hackers like you, but actual companies, with offices and business plans and salesmen and so on, right? Well, they are more afraid of you than you are of them, and they're right. It's a lot easier for a couple of hackers to figure out how to rent office space or hire sales people than it is for a company of any size to get software written. I've been on both sides, and I know. When Viaweb was bought by Yahoo, I suddenly found myself working for a big company, and it was like trying to run through waist-deep water. I don't mean to disparage Yahoo. They had some good hackers, and the top management were real butt-kickers. For a big company, they were exceptional. But they were still only about a tenth as productive as a small startup. No big company can do much better than that. What's scary about Microsoft is that a company so big can develop software at all. They're like a mountain that can walk. Don't be intimidated. You can do as much that Microsoft can't as they can do that you can't. And no one can stop you. You don't have to ask anyone's permission to develop Web-based applications. You don't have to do licensing deals, or get shelf space in retail stores, or grovel to have your application bundled with the OS. You can deliver software right to the browser, and no one can get between you and potential users without preventing them from browsing the Web. You may not believe it, but I promise you, Microsoft is scared of you. The complacent middle managers may not be, but Bill is, because he was you once, back in 1975, the last time a new way of delivering software appeared."
- "When I got to Yahoo, I found that what hacking meant to them was implementing software, not designing it. Programmers were seen as technicians who translated the visions (if that is the word) of product managers into code. This seems to be the default plan in big companies. They do it because it decreases the standard deviation of the outcome. Only a small percentage of hackers can actually design software, and it's hard



for the people running a company to pick these out. So instead of entrusting the future of the software to one brilliant hacker, most companies set things up so that it is designed by committee, and the hackers merely implement the design. If you want to make money at some point, remember this, because this is one of the reasons startups win. Big companies want to decrease the standard deviation of design outcomes because they want to avoid disasters. But when you damp oscillations, you lose the high points as well as the low. This is not a problem for big companies, because they don't win by making great products. Big companies win by sucking less than other big companies."

- "Big companies can develop technology. They just can't do it quickly. Their size makes them slow and prevents them from rewarding employees for the extraordinary effort required. So in practice big companies only get to develop technology in fields where large capital requirements prevent startups from competing with them, like microprocessors, power plants, or passenger aircraft. And even in those fields they depend heavily on startups for components and ideas."

#### Competitors rarely Destroy Startups

- "Because a good idea should seem obvious, when you have one you'll tend to feel that you're late. Don't let that deter you. Worrying that you're late is one of the signs of a good idea. Ten minutes of searching the web will usually settle the question. Even if you find someone else working on the same thing, you're probably not too late. It's exceptionally rare for startups to be killed by competitors — so rare that you can almost discount the possibility. So unless you discover a competitor with the sort of lock-in that would prevent users from choosing you, don't discard the idea."

#### Product Ecosystem (Where do I Fit in the Market?)

- "Another reason to have a deep understanding of the competitive landscape is that your products will need to fit into a more general ecosystem of other products, and ideally your product is not only compatible with that ecosystem but adds significant value to it." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Good product strategy is intentional about whether to play head to head against incumbents or to play on a different turf entirely. Bad product strategy defaults to one of these stances without a rigorous assessment of options and industry trends."
- "We have already established the point of attack, a target market segment plagued by a problem that gives it a truly compelling reason to buy. We have already mapped out the whole product needed to eliminate this problem and have recruited the necessary partners and allies to deliver it. The major obstacle now is competition. To succeed in securing our beachhead we need to understand who or what the competition is, what their current relationship to our target customer consists of, and how we can best position ourselves to drive them out of our target market segment." - Geoffrey Moore (Crossing the Chasm)
- "Good product strategy presents an honest assessment of the market, the competition, and the product's current position. Bad product strategy either downplays the competition or ignores these factors altogether."
- "Competitor Analysis is all about a lot of research and elicitation of data. Competitor analysis is not an easy task because data is unstructured. It is tough to pick a better framework. The foremost thing is the next course of action based on the analysis. Competitors' analysis is not a war of features, but it gives us an actual picture of what is already there and how can we differentiate and innovate?"
- "How are the competitors solving this problem? What are the solutions we must come up with to generate traction? Are there other approaches that were tried before? Answer

these questions [plot the competitive landscape](#).”

- “Whilst you need to develop your search strategy based on customers needs (not just what other people like) it’s always useful to [have sight of what search functionality exists](#) that has helped them to find the right product, so capture these as you go along.”
- “Market Research is a broad term, and this process is never finished. Before we start thinking about the product, we must understand its market first. Market research tells us about the size of the market, past, present, and future. There are a lot of frameworks available to analyze the market. The main crux of market research is to [provide a 360-degree view of our market](#). Market research would give all the desired data and overall market view.”

Can You Create a New Market? (Airbnb, Apple iPhone)

- “...one other sidebar is that [the best companies will create a market](#) so if you look at sort of what Weebly done if you look at what AirBnB is done if you look at what Dropbox has done all all companies have created their own market... you're going to create a new market so how do you do that what does that look like...”
- “...then often what you initially create will seem to fit into an existing market but with less functionality right so is the same thing with the iPhone it's the same thing with Weebly oftentimes it doesn't have 3G it doesn't have apps it doesn't have any of these things initially but [what it does do is it enables a whole new market, whole set of new entrants to come and use your product](#) and so the success of the iPhone wasn't that it's successfully competing in smart phones it sure looked like a smart phone but it wasn't competing against any smartphones that were out there because what happened is there was maybe at that point in time I was a heavy Palm Treo user there is maybe a couple million smartphone users in the United States what the iPhone did is made everyone a smartphone user and so there is all send a whole bunch of new entrants and then over time it also cannibalized the existing smartphone market so a lot of times people may sort of mistake you for incumbents when you're creating an entirely new market...”
- “When I got to Yahoo, I found that what hacking meant to them was implementing software, not designing it. Programmers were seen as technicians who translated the visions (if that is the word) of product managers into code... [The place to fight design wars is in new markets, where no one has yet managed to establish any fortifications](#). That's where you can win big by taking the bold approach to design, and having the same people both design and implement the product. Microsoft themselves did this at the start. So did Apple. And Hewlett-Packard. I suspect almost every successful startup has.”

Understand the Competitive Arena: *Who do our users compare us to? (Competitive Arena - Product Substitutes)*

Define the Market Substitutes: IF “My JTBD is to grow my small business” THEN you can make a Website (via Squarespace) OR Social Media Page (via Facebook)

- “...but figure out what are you a substitute for, what need are you serving better, what job are people hiring you to do if you know the jobs would be done book and framework that's really helpful to think about what are people trying to do, [people aren't trying to make a website, people are trying to launch and grow their business, so understanding what's the job people are trying to do and then what substitutes are there for that job and so when you think from that mindset you might think well, there's a website, you can also create a Facebook page, you could also there's lots of different substitutes for that job...](#)”
- “...what you actually find out is that in the consumer's mind what they're thinking of and what you think of as competition is completely different, so all of a sudden you find that

cars don't compete with cars, [cars compete with bikes](#), [cars compete with taxis](#), [cars compete with rental services](#), there's a whole host of things that you start to realize that even at that level okay that's obvious but if you think about a snickers and the milky way they actually don't compete, people don't think of a snickers bar and go oh yeah maybe i'll have a milky way they think of a snickers and things like um you know a sandwich a coke other things, and so it's what are these competitive arenas from the consumer's perspective not from the industry perspective..."

- "In our experience to date with developing an early market, competition has not come from competitive products so much as from alternative modes of operation." - Geoffrey Moore (Crossing the Chasm)

Entering a Crowded Market (is an okay thing to do) as long as you can see what everyone else is overlooking

- "Err on the side of doing things where you'll face competitors. Inexperienced founders usually give competitors more credit than they deserve. Whether you succeed depends far more on you than on your competitors. So better a good idea with competitors than a bad one without. [You don't need to worry about entering a "crowded market" so long as you have a thesis about what everyone else in it is overlooking](#). In fact that's a very promising starting point. Google was that type of idea. Your thesis has to be more precise than "we're going to make an x that doesn't suck" though. You have to be able to phrase it in terms of something the incumbents are overlooking. Best of all is when you can say that they didn't have the courage of their convictions, and that your plan is what they'd have done if they'd followed through on their own insights. Google was that type of idea too. The search engines that preceded them shied away from the most radical implications of what they were doing — particularly that the better a job they did, the faster users would leave. A crowded market is actually a good sign, because it means both that there's demand and that none of the existing solutions are good enough. A startup can't hope to enter a market that's obviously big and yet in which they have no competitors. So any startup that succeeds is either going to be entering a market with existing competitors, but armed with some secret weapon that will get them all the users (like Google), or entering a market that looks small but which will turn out to be big (like Microsoft)."

Similarweb for Stack Ranking Competitors by Traffic Weight

Positioning: the goal is to make it easier for your customers to buy your product (no one likes talking to a salesman, but everyone loves going shopping)

- "But then the second thing that we did was we streamlined onboarding so that the first thing that they did after signing up for the product was to set up the antivirus and then get a message "you're now protected from viruses." And so it's really the combination of those two things. It's [set the right expectations](#) and then speed to value."
- "...it's really important that [when you're positioning, you're thinking about your competitors and how you're different](#)."
- "We actually think that [positioning is simply where you are on a grid](#). Counter positioning is drawing the grid. I would argue that you can position against your competitors. It is far better for someone to choose you instead of, rather than, over your competitors... if you're disagreeing with the market, you're probably disagreeing with how it scores value."
- "Positioning, first and foremost, is a noun, not a verb. That is, it is best understood as an attribute associated with a company or a product, and not as the marketing contortions that people go through to set up that association." - Geoffrey Moore (Crossing the

Chasm)

- "Positioning is the single largest influence on the buying decision. It serves as a kind of buyers' shorthand, shaping not only their final choice but even the way they evaluate alternatives leading up to that choice. In other words, evaluations are often simply rationalizations of preestablished positioning." - Geoffrey Moore (Crossing the Chasm)
- "Positioning exists in people's heads, not in your words. If you want to talk intelligently about positioning, you must frame a position in words that are likely to actually exist in other people's heads, and not in words that come straight out of hot advertising copy." - Geoffrey Moore (Crossing the Chasm)
- "People are highly conservative about entertaining changes in positioning. This is just another way of saying that people do not like you messing with the stuff that is inside their heads. In general, the most effective positioning strategies are the ones that demand the least amount of change." - Geoffrey Moore (Crossing the Chasm)
- "Here there is one fundamental key to success: When most people think of positioning in this way, they are thinking about how to make their products easier to sell. But the correct goal is to make them easier to buy." - Geoffrey Moore (Crossing the Chasm)
- "Most people resist selling but enjoy buying. By focusing on making a product easy to buy, you are focusing on what the customers really want. In turn, they will sense this and reward you with their purchases. Thus easy to buy becomes easy to sell. The goal of positioning, therefore, is to create a space inside the target customer's head called "best buy for this type of situation" and to attain sole, undisputed occupancy of that space. Only then, when the green light is on, and there is no remaining competing alternative, is a product easy to buy." - Geoffrey Moore (Crossing the Chasm)
- "Customers cannot be completely secure in buying a product until they know it comes from a vendor with staying power who will continue to invest in this product category. This is the final extension of positioning needed to make a product easy to buy for a conservative." - Geoffrey Moore (Crossing the Chasm)
- "...positioning is more about the audience's state of mind than yours. Most failed positioning statements arise from vendors being unable to see themselves from someone else's point of view." - Geoffrey Moore (Crossing the Chasm)
- "The key is to define your position based on the target segment you intend to dominate and the value proposition you intend to dominate it with. This is the "who for" and "what for" positioning statement that resonates with visionaries and kicks off the early market competition. At the same time, you also want to foreshadow your mainstream market future, leveraging the competition and differentiation positioning we discussed relative to market and product reference competitors." - Geoffrey Moore (Crossing the Chasm)
- "...the goal of positioning is to create and occupy a space inside the target customers' head." - Geoffrey Moore (Crossing the Chasm)
- "Communicate the value of your offering clearly and compellingly; otherwise you will not get customers to pay full measure." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Formula for Positioning: *"For {target customers—beachhead segment only} who are dissatisfied with {the FALSE first principle (aka "the current market alternative")}, our product is a {product category} that {solves problem - provides value (the NEW first principle / taboo)}. Unlike {the current market alternative}, we have assembled {whole product feature(s) for your specific use case(s)}."*

- "Here is a proven formula for getting all this down into two short sentences. Try it out on

your own company and one of its key products. Just fill in the blanks:

*For (target customers—beachhead segment only) who are dissatisfied with (the current market alternative), our product is a (product category) that provides (compelling reason to buy). Unlike (the product alternative), we have assembled (whole product features for your specific use case).*" - Geoffrey Moore (Crossing the Chasm)

- "You might have seen this one before. It nicely describes a product, who it's for, and why it's better than alternatives. Which is critical to know, and I hope you do... This is actually a product positioning statement. And, [it's important to position your current product in relation to competitors and other alternatives. It'll help your customers understand who you are. Not to mention helping you understand who you are.](#)"

Focus on the Value Proposition (Benefits, Value == Problem Solved; do not talk about Features)

- "The key idea here is to focus on the So what? and the Who cares? part of the value proposition. If "the who" has the clout and the budget, and "the what" is a big enough reward, then the risk of sponsoring an early market purchase is worth taking." - Geoffrey Moore (Crossing the Chasm)
- "...the SmugMug founders revisited how they positioned their products. After scrutinizing their marketing messages, [they realized they were spending a lot of time talking features and not benefits](#). SmugMug was trying too hard, and the value message was not reaching the average customer. The firm then revamped the messages for its packages (i.e. product configurations), using benefits—not features. They also moved the feature comparison to an optional section for those who still wanted to compare. They managed to condense the benefit statements from more than 100 to fewer than 10." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "The [benefit statements, such as "beautiful design" and "unlimited storage," were music to many ears](#). The average customer could now quickly understand what they would get with each product offering. If you wanted only photo storage, you would choose basic. Want personalization? Choose power. Did you want to sell online? Choose portfolio. How about marketing what you sell online? Then you would choose business. The messaging was simple with clear value statements. That was a big change from the way benefits had been articulated before." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "A company that excels at value communications articulates its products' benefits in meaningful terms to customers. This is not about describing product features. A feature belongs to the product; a benefit belongs to the customer. Value is a measure of the benefit to the customer. [Communicate benefits, not features. Take each feature and ask yourself this: What does the customer achieve because of this feature?](#) If you are still unsure about how to phrase your product's benefits, probe your customers about their pain points and how your product would solve them. Ideally, you should understand how customers measure their performance—and how your offering would affect those measures. Once you know that, you can tailor your messages to the customers' priorities. You should also quantify the relative value of your product: the value it would deliver compared to the value your customer gets today from other offerings." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Use the Language of your Target User

- "If you are not technically informed about these categories, these positioning statements



are not likely to mean a lot to you. But for the experts in the field, they are definitive. That's what you need to communicate with technology enthusiasts." - Geoffrey Moore (Crossing the Chasm)

- "...positioning is more about the audience's state of mind than yours. Most failed positioning statements arise from vendors being unable to see themselves from someone else's point of view." - Geoffrey Moore (Crossing the Chasm)
- "When communicating the benefit statements, it's easy to fall into the trap of thinking your features are the same thing as the benefits to your customers. They aren't. Take the case of Carbonite, the online data storage and backup company. The firm used to describe the storage amount for data backup services to consumers as "20 gigabytes." While an IT professional would understand how much storage that figure represents, the average consumer would not, and therefore they couldn't assess the benefit in a meaningful way. The offer of 20 gigabytes was most likely much more than what a majority of consumers would ever need. But the words "20 gigabytes" certainly did not identify a problem or a solution. Carbonite changed its description to "unlimited storage," and the message truly resonated. Consumers could say, "With this service, I don't have to worry about running out of online storage space." In reality, most consumers might still use less than 20 gigabytes, but the positioning strongly helped increase customer conversion." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Customers are hardly interested in how you created your innovation or how much you spent on it. What's fascinating for you is not necessarily fascinating to your customers. Americans didn't buy Thomas Edison's incandescent bulb upon learning that he tested over a thousand filaments before settling on tungsten. It was a heroic feat of innovation, but most Americans never knew about it, nor would they have cared. They bought Edison's bulb so they didn't trip over their kids' toys in the dark. And a message along the lines of "the product is good because it has seven patents" is pretty meaningless as well. Your customers couldn't care less." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "...we described how value communication can sometimes be the most difficult task of all. This was one area where even Uber stumbled, discovering just how hard it was to communicate that dynamic pricing was actually good for the customer. Many companies use dynamic pricing to charge more during peak periods. Think of a resort in the summer months or a stadium-adjacent parking lot on game day. This is usually done to boost profits. But as discussed previously, Uber's goal was ensuring 24/7 availability of cars, come rain, sleet, or snow. Rather than pocketing the surcharge, Uber passes most of it on to their drivers. Unfortunately, the term surge pricing does not communicate the value Uber brings to the rider, who otherwise might have been stranded: As Gurley points out, Uber's peak pricing typically occurs when every form of transportation is under stress. "I would have called it availability pricing in hindsight," Gurley smiles. "Funny thing," Gurley adds, "Travis wanted to be extremely transparent with the customer and felt the name helped achieve that goal."" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "The biggest unlock between \$1M and \$10M ARR wasn't product or sales. It was messaging. At \$1M ARR, I kept hearing the same question on sales calls: "So you're like [consumer note taking app], right?" We aren't a notetaker. We are the API powering them. But if every lead is comparing you to the wrong product, that's a messaging



problem. Here's what I changed: 1/ Clarified WHO we serve, not WHAT we do Before: "Capture and transcribe your meetings with ease" After: "The API for developers to get recordings, transcripts and metadata from meetings" 2/ Positioned as infrastructure, not a tool Before: "Works with Zoom, Meet, and Teams" After: "One API to access raw meeting data across Zoom, Meet and Teams" 3/ Used technical language with technical buyers. Before: "Get meeting insights and transcripts" After: "Programmatic access to real-time meeting data" The transformation was immediate: Wrong-fit leads dropped by 68%. Demo to close rate jumped from 12% to 31%. Average deal size increased by 67%. Your messaging doesn't describe your product. It determines who shows up to buy it."

Be Brief (Use a Headline)

- "You should also communicate those benefits with extreme brevity. Come up with a handful of words for a headline or sales pitch—not a line the length of Lincoln's Gettysburg Address (which by public speaking standards was a very short speech indeed, at only 272 words). The top-level messages about the core benefits to customers matter greatly. They must be short but sweet. You should test the messages with customers before finalizing them. Take the example of LinkedIn. In reformulating its Talent Solutions offering, the company found customers were clearly willing to pay for the opportunity to recruit "passive" job candidates—people not actually looking for jobs because they already were employed. LinkedIn's communications centered on recruiters' newfound ability to approach millions of these passive job candidates. The company led its messages with the very simple but very successful value message: "Find and engage the best passive talent." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Counter Positioning (Reframing) - Strategy for Pre-PMF Products

Disruption

- "How did Canva, Google Docs, and TurboTax disrupt their markets? They built worse and cheaper products compared to the market leaders. Many believe disruption means breakthrough technology. The reality? True disruptive strategy follows a counterintuitive path - one that most business leaders overlook."
- "Let me break down what a disruptive strategy really is: Performance: Intentionally worse than existing solutions. Price: Significantly cheaper than current options. Target: Overserved customers and non-consumers."
- "Here's 5 real-world examples of this in action: Google Docs versus Microsoft Office. Canva versus Adobe. TurboTax versus traditional tax services. Coursera versus traditional universities. Dollar Shave Club versus Gillette. There were a few factors that made it a critical success: Focus on simplicity. Dramatically lower prices. Increased accessibility. Gradual feature improvement."
- "Understanding this strategy explains why market leaders often miss disruptive threats: They're looking for better and more expensive solutions. But the real threat comes from worse and cheaper alternatives."
- "It would be pretty easy to write a better word processor than Microsoft Word, for example, but Microsoft, within the castle of their operating system monopoly, probably wouldn't even notice if you did."

1) Worse Performance (with gradual feature improvement as you gain market share)

- "Let me break down what a disruptive strategy really is: Performance: Intentionally worse than existing solutions..."

## 2) Cheaper Price

- “Let me break down what a disruptive strategy really is:... [Price: Significantly cheaper than current options](#)...”

## 3) Targeted Customers: remove “feature shock” for a small pond; significantly reduce the price for less features

- “Let me break down what a disruptive strategy really is:... [Target: Overserved customers and non-consumers](#).”
- “Two types of customers it serves: [1. Overserved customers who: Don't need all available features. Are willing to sacrifice performance for cost. Find current solutions unnecessarily complex.](#) [2. Non-consumers who: Can't afford existing solutions. Lack access to current offerings. Will embrace a basic solution.](#)”

## Differentiation

- “Good product strategy [meaningfully differentiates the product in the market with its value propositions](#). Bad product strategy makes proclamations about wanting to be “the best”, “most delightful”, “world-class”, etc. without adequately specifying the concrete product choices that will make it so.”
- “The way to get startup ideas is not to try to think of startup ideas. It's to look for problems, preferably problems you have yourself. The very best startup ideas tend to have three things in common: they're something the founders themselves want, that they themselves can build, [and that few others realize are worth doing](#). Microsoft, Apple, Yahoo, Google, and Facebook all began this way.”
- “If you're uncertain, ask users. The question of whether you're too late is subsumed by the question of whether anyone urgently needs what you plan to make. If you have something that no competitor does and that some subset of users urgently need, you have a beachhead. The question then is whether that beachhead is big enough. Or more importantly, who's in it: if the beachhead consists of people doing something lots more people will be doing in the future, then it's probably big enough no matter how small it is. For example, [if you're building something differentiated from competitors by the fact that it works on phones, but it only works on the newest phones, that's probably a big enough beachhead](#).”
- “...average performance means that you'll go out of business. The survival rate for startups is way less than fifty percent. So [if you're running a startup, you had better be doing something odd. If not, you're in trouble](#).”
- “[You need to kind of be irrationally optimistic that what you're going to do is going to be differentially important](#). Because otherwise, why would you go out and do what you're doing? And if it's obvious, then a bigger company would've already done it, right? But then you also need to be really, really realistic because most ideas that are, I guess, non-conventional are usually bad ideas, right? So it's this weird tightrope you need to kind of balance on top of where you're pushing for a future that you believe is true, but all the while you're getting new information.”
- “...so early last year we decided to refocus back on our core of gaming, and that's kind of the push of the company now, and it's working well, and I think it speaks to my point earlier around [if you're going to build a general purpose app for mass market consumers then it really needs to be differentiated, and better, and easy in a 10x way](#)...”

Use “Release Notes” to understand the direction competitors are moving in, who they are targeting (E.g: [Airbnb](#)); keywords: **competitorName release notes; press; product releases; product updates; product changes; documentation updates; version notes; what’s new;**

## changelog; change log

- “The next area is competitive analysis. So if there is a product marketing person, they can do it for you. If there isn't, the PM should do it themselves. And basically the idea is you try to understand who are the comparables or the competitors in the space, and you sort of [build a little bit of a head-to-head and sort a stack chart of where's everybody going and what are of the angles of investment for different people based on the explicit signals, which is what are they releasing? You don't really know what their strategies are, but you can kind of tell when you look at the features they're putting out that, oh, they seem to be focusing on this particular area.](#) And so that's sort of competitive analysis.”

Use “Job Listings” or “Job Descriptions” of Competitors

- “If you ever do find yourself working for a startup, [here's a handy tip for evaluating competitors. Read their job listings.](#) Everything else on their site may be stock photos or the prose equivalent, but the job listings have to be specific about what they want, or they'll get the wrong candidates.”
- “During the years we worked on Viaweb I read a lot of job descriptions. A new competitor seemed to emerge out of the woodwork every month or so. The first thing I would do, after checking to see if they had a live online demo, was look at their job listings. [After a couple years of this I could tell which companies to worry about and which not to. The more of an IT flavor the job descriptions had, the less dangerous the company was.](#) The safest kind were the ones that wanted Oracle experience. You never had to worry about those. You were also safe if they said they wanted C++ or Java developers. If they wanted Perl or Python programmers, that would be a bit frightening-- that's starting to sound like a company where the technical side, at least, is run by real hackers. If I had ever seen a job posting looking for Lisp hackers, I would have been really worried.”

## **Hypothesis (Diagnosis)**

Diagnosis (Define the Hypothesis):

**[action focused]** If we do X (*productChange*) then Y (*metricChange*) will happen;

OR

**[user focused]** X problem (*depVar: real evidence*) is happening {*for target customer*} “because” of Y (*indVar: supporting evidence*); (Initiative-Level)

- “One of my favorite quotes is a quote from a guy Kettering, who was a hundred years ago at GM running innovation. And he says, ["A problem well stated is a problem half solved."](#) And so I think a lot of it comes down to not the things you try, but how you deeply understand the problem that's preventing someone from using your product effectively.”
- “A product hypothesis is [a statement expressing an assumption](#), used as a tool to test and validate ideas about your customers’ wants, needs, and/or values, and how your product can deliver all of them. In general, hypotheses are used by product managers to make or discard market decisions and prioritize activities based on their impact on the product.”
- “Imagine that your idea is to create a platform for buying and selling used objects – something similar to eBay. Your hypothesis could look like this: [if we allow free shipping for a small category of products \(Variable A\), it will drive up user activity in this category by 10% \(Variable B\).](#) The hypothesis contemplates two variables that are related, where if

variable B results in an increase of more than 10% we can define it as a valid hypothesis – otherwise, it has been refuted.”

- “Examples of a hypothesis: If we implement sales notifications via WhatsApp to the platform, we will see an increase in the use of our API linked to the WhatsApp platform. If we organize an interview with our CEO on ITV, 5200 people will engage with the interview, and we will increase our marketing traffic by 10%.”
- “When a hypothesis is formulated with poorly defined variables, it is not clear whether it creates a problem or a solution. Let's take a look at this example: "Users do not use the platform because it is difficult for them to sell their products" – in this case, the variables are qualitative and very vague, there is no way to measure them. Instead, the correct way to form a hypothesis would be: "If we offer a free delivery service for a small category of products, the sales rate will increase by 15% over the period."”
- “By its very nature a hypothesis is a proposition fueled by a little bit of data but not enough to be fully validated... You are looking for patterns but we can't tell you what constitutes a pattern for something we aren't familiar with.”
- “...you could create a much stronger relationship between the variables if you changed the hypothesis to "our top-rated sales category will offer free delivery for a period of time, which will increase sales by 10% in this category over said period"”
- “So part of what a diagnosis is, is a decision about what you're going to pay attention to and the hypothesis or several hypotheses about what's going on, how do things connect together. And that's the beginning of the diagnosis. And so diagnosis is an understanding of the situation that you're in.”
- “...I think teams often skip the step of clearly, very, very clearly working very hard to be super crisp in articulating their hypothesis. If you don't have a hypothesis, you're going to spend a lot of time researching, you're going to get a lot of data back, qualitative, anecdotal or quantitative and you're not going to know what to make of it because it's not either validating or invalidating your hypothesis because there isn't a hypothesis. So it just becomes an interesting conversation.”
- “He started out saying the United States is falling behind in education. And he's looking at the piece of the PISA test scores of 15 year olds around the world. And it's true, the United States is down, number of 30 countries in terms of the scores of our 15-year-olds, in math and in general knowledge. Okay, correct statement, we're falling behind. A real diagnosis would say we're falling behind “because”, but we didn't say “because”. We jumped immediately to “therefore” we're going to have more people go to college than any other country. Well, having more people go to college doesn't solve the problem of 15 year olds not being able to do elementary math. Hopefully it doesn't screw up colleges everywhere. So that kind of gap, it's there, where you don't do the diagnosis. Why do we have this? We argue over diagnosis as part of politics and part of organizational politics. That's what we do, and that's important. To do a strategy, you have to resolve the argument at some point.”
- “Why do we have a homeless explosion in Portland or Seattle or Los Angeles? And people argue about that. Some people say, "Oh, drugs." Some people say, "Oh no, housing is too expensive." There are different diagnoses. But to deal with the issue, you have to decide on the diagnosis. The politicians right now sort of decided for a few years that the problem is housing's too expensive, we're going to build housing at \$700,000 a unit and give it to all the people. Okay. If you build it, they will come. But then the next problem is, we can't seem to build the housing. And so again, you need a new diagnosis.

Why can't you build the housing? You're a rich, powerful country. Why can't you build some housing? So diagnosis is critical to understanding it. And in public policy, we argue over the diagnosis. And in organizations we argue. And unless you resolve it, you can't act. So lacking diagnosis is one of the key reasons for bad strategy.”

- “Is there a quick example of a hypothesis? One of the famous examples that's somewhat hypothesis related and somewhat observation related is [the invention of the Swiffer from Procter & Gamble. Right. The people hate mopping and they will do it and they won't even realize how painful an experience it is because they've just developed the work arounds and they just deal with the burden](#). But if you observe very granularly what the problems are, then you can see where the problems are. And so if you bring a strong hypothesis to, that this is a real problem, even if customers aren't telling you it's a problem because they've just sort of gotten used to it. So that's one.”
- “We have a hypothesis at Nubank. I'll give you one that's live...The joint bank account was invented in the early, it's actually hard to say, but it was invented, depending on what source you believe, in the late 19th or early 20th century. And it was basically invented coincident with the social movement, sort of the women's liberation social movements before women in the US were legally allowed to vote, where women were not allowed to open a bank account without their husbands prior approval. That is the era from which the joint bank account that we still live with today came from. It's 120 to 150 years old. I don't think it's surprising. Our hypothesis is... that that product is not made for the modern customer, that it is easier for me to share a Spotify playlist with my wife or my daughter than it is for me to share a savings goal just mechanically. So we're going into a product development cycle that says there is a new social banking arrangement that is not about tweeting and it's not about social very broadly defined. It is about [our financial lives are inherently social. And it is very hard to share with my spouse, with my kids, with my parents who might be helping me pay for my child's education as an example, use case. It's a very strong hypothesis](#). But when you go into the research with the customer, you don't try to sell them. You try to see if they're experiencing pain points. And it becomes very hard when you're in and they say even something a little bit in the direction of what you hope they would say to not be like, jump in with a lot of excitement and then get into more of a sell mode with them and almost try to sell against your idea, push back against your idea, make the customer sell you in the interaction. And you play the devil's advocate. So those are the kinds of things we search for as we build products.”
- “Every founder does some form of diagnosis before starting a company. [They survey the landscape of available products and unmet customer needs](#), and evaluate their own abilities and the inputs available to build a better solution.”
- “A hypothesis is [a statement made with limited knowledge about a given situation that requires validation to be confirmed as true or false](#) to such a degree where the team can continue their investigation and find the best solution to a given problem.”
- “In the most simple form a hypothesis comes as an [‘if... then’ statement](#), here’s a common example: ‘If I add water to my garden, then my flowers will grow faster.’ Now if this statement proved to be false and the desired outcome is that the flowers will grow faster and live longer we can add more statements to the list to either prove true or false: ‘If I move the flowers to an area of the garden with the most daily sunlight, then those flowers will grow faster’; ‘If I plant all the same type of flowers together, then those flowers will grow faster’; ‘If I add nutrients to the left side of the garden, then those flowers will grow faster than the ones on the right.’”



- “...step 1: you need to form a hypothesis, so if you’re studying a new feature or product area then you want to go a little bit more broad and go with this format of ‘I believe [some type of person] experiences [some type of problem] when [doing some type of task]’, so for example I believe parents experience fear about infant health when putting their infants to sleep’...”
- “...if you’re testing out a solution to a problem then it’s a little more specific, so you can take this pattern ‘if we [do this] then [this will happen] because of [this]’, so one example is ‘if we give travelers a way to contact the vacation rental owners about questions on the property details page then path progression from the details page to checkout will increase because travelers will have more confidence that the vacation rental meets their requirements for the trip’...”
- “It’s important to identify an actual known user or business problem to form hypothesis statements from. Although hypothesis statements are an exercise in educated guessing, without a focus point it’ll be hard to identify when the hypothesis statement has been proven true or false.”
- “...it gets at the why, so sometimes you might have a problem like people aren’t discovering this page and that is a problem that we need to solve. But it doesn’t go one layer deeper, it doesn’t get at well why, what’s actually the root cause of why people aren’t discovering this page. Is it too hidden for them, is it too confusing for them to find, it’s gotta get to not just what is happening, but what is the reason why it’s happening.”
- “So you could say that using Lisp was an experiment. Our hypothesis was that if we wrote our software in Lisp, we’d be able to get features done faster than our competitors, and also to do things in our software that they couldn’t do. And because Lisp was so high-level, we wouldn’t need a big development team, so our costs would be lower. If this were so, we could offer a better product for less money, and still make a profit. We would end up getting all the users, and our competitors would get none, and eventually go out of business. That was what we hoped would happen, anyway.”

Choose 3 LARGE Problems to Solve at a time for YOUR TARGET CUSTOMERS; THESE ARE YOUR BIG BETS;

Initiative Level Problems (*focus on 3 unless your manager tells you to do more, but start by trying to get approval with 3*);

**Define hypotheses for these 3 large problems (these are your initiatives)**

- “And by the way, these 3 pillars, they didn’t emerge from this method, but it helped you see the power of being very clear... And having everything centered around, we all agree, these are the 3 ways we win. Okay, cool. And then I think the number 3, again, I just want to highlight the power of just very few bets in investments. So it’s always 3. I’ve always suggested 3 as well. Some people are like, “3 to 5,” but I think, in general, 3 is the right number... try very, very hard to make it 3... Maybe one other thing I just want to highlight while we’re on this topic is just the power of focus. In the case of Zynga, just this focus on everything we do needs to get these things, these 3 things, everything we do, we need to do in order to win.”
- “So I approach the question of the problem now through the filter of the ambition, that these ambitions, fine, let’s accept them all, and which one can you actually make some progress on today? And what’s making that hard? What are the challenges? So you’re choosing a challenge. You’re choosing, of the possible challenges you could face up to, you can’t do them all. So there’s a focus thing. You’re choosing which challenge to focus on, and that challenge has to be, A, important, and, B, it has to be achievable. It has to be



something that you can address. It has to be an addressable challenge. And so the search for an action agenda, I'm not calling it a strategy, is this balance between problems that are important because they're close to your ambition and problems that you can actually address and do something about. And that overlap then becomes the choice you make.

"Okay, we're going to go after this and here's the action steps we're going to take to do that." And if it's a big company, the action steps may extend over two or three years.

Smaller company, took a year, six months to a year. These are things we're going to do, not goals we're going to achieve. These are things we're going to do, action steps."

- "There's also, I think, an element of coherence. The actions have to connect and there have to be a few, very few of them. I always like to think of three as a good number. Is that something you think about, the rule of thirds for actions you want to take or even the guiding policy, or is there a number that you think about just like no more than this? A few. A few. Not too many. Not 17. It's hard. Numbers. We work best when we concentrate. We're more effective when we concentrate on a few things, a few people, a few... focus, it's the fundamental source of power and strategy. Trying to do too many different things is defocusing."

#### Hypothesis Variables

- "Each hypothesis statement is different and may vary according to its subject, tone, and wording. It should be noted that a hypothesis statement should always have two or more variables and a connecting factor."

Dependent Variables [**the metric that shows there is a Problem (Real Evidence)**] (outcomes): metrics that are impacted

- "Independent variables are any changes in your product, whether it is a modification of the search engine, home page, payment interface, etc. This kind of variable modification will have an impact on the customer, and you will be able to observe it through dependent variables, such as the number of registrations, number of transactions, number of purchases and sales, number of active users, and so on."

Measurable Success: What does the world look like if the problem is solved?

- "Okay so that brings us to the last question, so let's say we built this, we validate it's something that people want or we think there's enough reason to believe that it's something that is a real problem and that's something that is worth solving so now we build it and we put it out there. But even actually before the thing is out in the world, in fact even before maybe we have a full prototype, the question for us to ask is how will we know if we solved this problem? What would be different in the world? If we fast forward and now this thing that we've done is out there, how would we know if we should be happy if we should be excited, if we think it didn't live up to our expectations, what exactly should our expectations be? And I think this is a really important question to ask up front, too often what ends up happening is we have this idea and then we build it and we launch it into the world and then results come in. We're looking at the dashboards, we're looking at how many people are downloading it and what they're saying and there's tons of data points that we're trying to interpret and put together. But it's hard at that point in time to be very objective about did we solve the problem because a lot of our natural inclination is to read into the good things that people are saying and to consider all of that effort to have been worth it. And that there's biases that come from when you're already looking at data and you're trying to interpret whether or not it's good or bad. It's much better before you launch to figure out what constitutes success for you so that you can go into the launch with that understanding and as results come in you can map it to your

previous, this was my criteria for whether or not we solved the problem or whether this was successful. And [so what we do here is we want to make sure we set measurable goals and metrics and measurable is really key, measurable doesn't always mean like numbers or data. But it does mean there's a criteria where if I did this thing and I got this result I know what to make of that result.](#)”

Independent Variables [**what *causes* the Problem (Supporting Evidence)**] (inputs): changes to your product

- “[Independent variables are any changes in your product, whether it is a modification of the search engine, home page, payment interface, etc.](#) This kind of variable modification will have an impact on the customer, and you will be able to observe it through dependent variables, such as the number of registrations, number of transactions, number of purchases and sales, number of active users, and so on.”

## **Assumptions (Risks)**

Types of Assumptions

Value (Desirability) [PM];

Usually Validated with Usability Testing;

Value == the Price users are “[Willingness to Pay](#)”;

*Willingness to Pay will tell you if you have PMF BEFORE you launch;*

- “...when we say price we mean it to be [an indication of what customers value and a measure of how much they are willing to pay for that value. To build a product around a price, you must engage in deep discussions with potential customers before you design and develop it. Your dialogue must be specifically about their willingness to pay for the product you have in mind.](#)” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- “Desirability assumptions: Does anyone want it? Will our customers get value from it? As we create solutions, we assume that our customers will want to use our solution, that they will be willing to do the things that we need them to do, and that they’ll trust us to provide those solutions. All of these types of assumptions fall into the desirability category.” ~ [Continuous Discovery Habits by Teresa Torres](#)
- “...look, at the end of the day, the entrepreneurship journey is about value creation. [The simplest way to create value is solve a problem.](#) That's the simplest way...”
- “...the primary purpose of prototyping in product discovery (user prototype or live-data prototype) is intended [to assess the value of the product.](#)”
- “First, we will usually assess value. This is often the toughest—and most important—question to answer, and if the value isn't there, not much else matters. We likely will need to address usability before the user or customer can even recognize the value. In either case, we usually assess usability and value with the same users and customers at the same time.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “The most important thing is to establish compelling value. It's all hard, but the hardest part of all is creating the necessary value so that customers ultimately choose to buy or to use. We can survive for a while with usability issues or performance issues, but without the core value, we really have nothing. As a result, this is generally where we'll need to spend most of our discovery time.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “We must also consider value risk—do the customers want this particular problem solved and is our proposed solution good enough to get people to switch from what they have

- now?" - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “So value means for the customer, viability means for your business. So that means it works for your business. You can sell it, market it. It's legal, you can service it. It's compliance. All of these constraints. Remember Airbnb, it wasn't so hard to get people to sign up. It was hard to make listings legal in San Francisco. That's the hard part, is the compliance side.” ~ [Marty Cagan](#)
  - “...but on an empowered product team where you're trying to come up with a solution that solves the problem you've been assigned, that's much harder because that means we have to discover a solution that's: valuable, usable, feasible, viable. Now while the engineers definitely own feasible, and the designer definitely owns usable, [valuable and viable, which are two of the hardest things to do, that's the product manager](#), and that's a pretty those are pretty big shoes to fill, those are hard that that takes skill, it takes knowledge, that's why we say you know in order to be a product manager on a real product team you've got to do your homework...”
  - “...I mean there are different taxonomies out there, the one I use is it's got to be valuable, usable, feasible, viable, but most products fit, those are the risks, you can call them different things, but those are the risks, and [the product manager is responsible for making sure that the solution is valuable and viable](#) and that is hard, that is hard, that takes real work and that's part of the how, that's a pretty damn integral part of the how as well, now you don't tell the engineers how to code, you don't tell the designer how to design, but you do have a big part, all of us together are coming out with that how, so the how is how it all works and obviously how you monetize privacy issues, security issues, how it's going to go to market, these are all how, but their product responsibilities, product management responsibilities, they're not more or less important than what the designer or engineer does because all four of those risks if any one of them fails you've got a failure of a product so those are table stakes...”
  - “A test for [desirability focuses on whether your solution is a nice to have or a must have for your customer](#). Ask yourself, what task am I helping my customer complete? What does successful completion of that task look like for them? Looking at what they are trying to do and why it is important to them puts yourself in their shoes, lets you look at your solution from their eyes. If you are solving the key pain points they encounter when trying to complete this task, your solution has met the test for desirability. If not, and there are other pain points that you haven't addressed, then pivoting your solution might put you on a better path.”
  - “When researching desirability, the intention is to [stress-test your idea to find the gaps that need fixing](#). The more gaps you fill, the stronger your product and the better it will stand up against rigorous stakeholder questioning and customer satisfaction.”
  - “A need is [something your customers cannot live without](#), while a want is often a more desirable option to fulfilling that need. Both check the box for desirability, but a product that fulfills someone's need is far more valuable than something someone wants or is “nice to have.””
  - “...problem discovered through customer interaction; [validate problem with other customers...](#)”
  - “Sometimes customers just aren't as excited about this idea as we are, so they choose not to use it or buy it (the value isn't there). This is the most common situation.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
  - “If you try to do a value test without giving the user or customer the opportunity to learn

how to use the product, then the value test becomes more like a focus group where people talk hypothetically about your product, and try to imagine how it might work... focus groups might be helpful for gaining market insights, but they are not helpful in discovering the product we need to deliver." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Usability [Design]

- "Usability assumptions: Is it usable? Can customers find what they need? Will they understand how to use it or what they need to do? Are they able to do what we need them to do? Is it accessible?" ~ [Continuous Discovery Habits by Teresa Torres](#)
- "Usability testing is typically the most mature and straightforward form of discovery testing, and it has existed for many years... The main difference today is that we do usability testing in discovery—using prototypes, before we build the product—and not at the end, where it's really too late to correct the issues without significant waste or worse." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "As hard and important as the engineering is, coming up with a good user experience is usually even harder, and more critical to success..." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...but on an empowered product team where you're trying to come up with a solution that solves the problem you've been assigned, that's much harder because that means we have to discover a solution that's: valuable, usable, feasible, viable. Now while the engineers definitely own feasible, and [the designer definitely owns usable](#), valuable and viable, which are two of the hardest things to do, that's the product manager, and that's a pretty those are pretty big shoes to fill, those are hard that that takes skill, it takes knowledge, that's why we say you know in order to be a product manager on a real product team you've got to do your homework..."
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- "Qualitative usability testing focuses on collecting insights, findings, and anecdotes about how people use the product or service. Qualitative usability testing is [best for discovering problems in the user experience](#). This form of usability testing is more common than quantitative usability testing."
- "In field studies and usability testing, for example, researchers directly [observe how people use \(or do not use\) technology to meet their needs or to complete tasks](#). These observations give them the ability to ask questions, probe on behavior, or possibly even adjust the study protocol to better meet study objectives. Analysis of the data is usually not mathematical."
- "Usability testing (aka usability-lab studies): Participants are brought into a lab, one-on-

one with a researcher, and [given a set of scenarios that lead to tasks and usage of specific interest within a product](#) or service.”

- “In a usability-testing session, [a researcher \(called a “facilitator” or a “moderator”\) asks a participant to perform tasks, usually using one or more specific user interfaces](#). While the participant completes each task, the researcher observes the participant’s behavior and listens for feedback.”
- “[The goals of usability testing vary by study, but they usually include](#): Identifying problems in the design of the product or service, Uncovering opportunities to improve, Learning about the target user’s behavior and preferences”
- "Sometimes they do want to use it, and they try to use it, but it's so complicated that it's simply more trouble than it's worth, which yields the same result—the users don't use it (the usability isn't there)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
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- “[The goals of usability testing vary by study, but they usually include](#): Identifying problems in the design of the product or service, Uncovering opportunities to improve, Learning about the target user’s behavior and preferences”
- "Preparing a value test therefore includes preparing a usability test... it's important to conduct the usability test before the value test, and to do one immediately after the other." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "To test usability and value, the user needs to be able to use one of the prototypes we described earlier. When we're focused on testing value, we usually utilize high-fidelity user prototypes. High-fidelity means it feels very realistic, which turns out to be especially important for value testing. You can also use a live-data prototype or a hybrid prototype." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "During the usability test, we test to see whether the user can figure out how to operate our product. But, even more important, after a usability test the user knows what your product is all about and how it's meant to be used. Only then can we have a useful conversation with the user about value (or lack thereof)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Finally, it is not enough to know that your product is feasible to build and will be usable, but what really matters is whether or not your product is something users will want to buy



– i.e. how much do users and customers like and value what you're doing? This testing can typically be combined with the usability testing, and the prototypes used can generally be the same, but in usability testing you're seeing if users can figure out how to do the necessary tasks, while [in desirability testing you're seeing if they actually care about those tasks and how well you solve them.](#)"

- "...the main way we validate value for a for-fee product is by making sure that prospective [customers will pay real money for this...](#)"
- "User testing is much broader than usability testing. Product designers and their product teams utilize the opportunity to assess the value of their ideas. [Will customers actually use or buy the product](#) and if not, what would it take?"

#### Usability Testing

- "A user test is when we test our product ideas on real users and customers. It is a qualitative usability and value-testing technique, and we let the user drive. The purpose is to test the usability and value of the prototype or product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

##### 1) [Recruit Users](#)

##### 2) Prepare the Test

- "We usually do usability testing with a high-fidelity user prototype. You can get some useful usability feedback with a low- or medium-fidelity user prototype, but for the value testing that typically follows usability testing, we need the product to be more realistic..." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Attendees

- "...when we do a usability and/or value test, it's with the product manager, the product designer, and one of the engineers from the team (from those that like to attend these). I like to rotate among the engineers... the magic often happens when an engineer is present, so I try to encourage that whenever possible. If you have a user researcher helping with the actual testing, they will typically administer the test, but absolutely the product manager and designer must be there for each and every test." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "You should have one person administer the usability test and another person taking notes. It's helpful to have at least one other person to debrief with afterward to make sure you both saw the same things and came to the same conclusions." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Set Test Tasks

- "You will need to define in advance the set of tasks that you want to test. Usually, these are fairly obvious. If, for example, you're building an alarm clock app for a mobile device, your users will need to do things like set an alarm, find and hit the snooze button, and so on. There may also be more obscure tasks, but concentrate on the primary tasks—the ones that users will do most of the time." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Is the feature discoverable?

#### Does the participant know how to use the feature?

#### What about the feature matters to the participant?

#### Set Test Location

- "The other environment that works really well is your customer's office. It can be time consuming to do, but even 30 minutes in their office can tell you a lot. They are masters of their domain and often very talkative. In addition, all the cues are there to remind them



of how they might use the product. You can also learn from seeing what their office looks like. How big is their monitor? How fast is their computer and network connectivity? How do they communicate with their colleagues on their work tasks?" - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "There are tools for doing this type of testing remotely, and I encourage that, but they are primarily designed for usability testing and not for the value testing that will usually follow. So, I view the remote usability testing as a supplement rather than a replacement." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### 3) Test the Prototype

- "...we want to learn whether the user or customer really has the problems we think they have, and how they solve those problems today, and what it would take for them to switch." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...before you jump into your tasks: See if they can tell from the landing page of your prototype what it is that you do, and especially what might be valuable or appealing to them... You'll find that landing pages are incredibly important to bridging the gap between expectations and what the product does." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "When testing, you'll want to do everything you can to keep your users in use mode and out of critique mode. What matters is whether users can easily do the tasks they need to do. It really doesn't matter if the user thinks something on the page is ugly or should be moved or changed. Sometimes misguided testers will ask users questions like "What three things on the page would you change?" To me, unless that user happens to be a product designer, I'm not really interested in that. If users knew what they really wanted, software would be a lot easier to create. So, watch what they do more than what they say." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "There are three important cases you're looking for: (1) the user got through the task with no problem at all and no help; (2) the user struggled and moaned a bit, but he eventually got through it; or (3) he got so frustrated he gave up. Sometimes people will give up quickly, so you may need to encourage them to keep trying a bit longer. But, if he gets to the point that you believe he would truly leave the product and go to a competitor, then that's when you note that he truly gave up." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "During the testing, the main skill you have to learn is to keep quiet. When we see someone struggle, most of us have a natural urge to help the person out. You need to suppress that urge. It's your job to turn into a horrible conversationalist. Get comfortable with silence—it's your friend." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...you'll want to avoid giving any help or leading the witness in any way. If you see the user scrolling the page up and down and clearly looking for something, it's okay to ask the user what specifically she's looking for, as that information is very valuable to you." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...you're trying to get an understanding of how your target users think about this problem and to identify places in your prototype where the model the software presents is inconsistent or incompatible with how the user is thinking about the problem." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### Set Expectations

- "When you first start the actual usability test, make sure to tell your subject that this is

just a prototype, it's a very early product idea, and it's not real. Explain that she won't be hurting your feelings by giving her candid feedback, good or bad. You're testing the ideas in the prototype, you're not testing her. She can't pass or fail—only the prototype can pass or fail." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### 4) Summarize the Learnings

- "After each test subject, or after each set of tests, someone—usually either the product manager or the designer—writes up a short summary e-mail of key learnings and sends it out to the product team." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

What to Watch Out for in User Feedback:

Authenticity: is the feedback *true*?

- "This dimension refers to how natural the comment or behavior was. When a participant commented that they liked something, did they mean it? While we can't read minds, we do make judgments about things our participants say by paying attention to how something is said or done. Was the participant trying to please the session facilitator? Did the participant feel compelled to comment on a feature or design?"
- "There are various reasons why a comment or behavior may not be authentic. The participant might have been influenced by how we framed the research, may have been a misrecruit or professional participant, or may have altered their behavior because they were conscious of being "watched."

Appropriateness: is this a representative candidate?

- "This dimension relates to whether the participant and task were well-suited to the research goals. Key questions to consider include: Was the participant representative of the target user? Did the participant sample adequately reflect the characteristics of the target user population? Was the task realistic and fair, or did it ask participants to do something they wouldn't typically do?"

Repetition: suggests authenticity

- "This dimension considers how often a comment or behavior occurs across a session or participants. Repeated behaviors can reveal underlying patterns, tendencies, or mental models. Repeated comments often reflect strong, genuine emotions or attitudes. For example: Repetitive comments: If a participant mentions liking a feature multiple times, we may be more confident that the sentiment is authentic. Repeated errors: When several participants make the same error, or we see the same error repeated in the same session, it's a strong indicator of a real usability issue.

Spontaneity: suggests authenticity

- "This dimension refers to whether the participant's comment or behavior were cued in some way by the facilitator. When actions or comments are introduced spontaneously, without any priming, we can be more confident that the feedback or behavior is genuine. Watch out for priming, as it can skew participants' spontaneous behavior. For example: Revealing the study purpose too early, such as during the session introduction or directly in the usability-testing tasks. Mentioning UI elements or features in questions or conversations."

Confounds: complexities, boredom, etc.

- "This final dimension looks at aspects of the study design that may unintentionally influence participant behavior and skew results. Common issues include: Order effects: Did completing one task impact how participants approached subsequent tasks? For example, if the test included many repetitive tasks, participants might have become bored

or fatigued towards the end, which could affect performance. Complex task instructions: When task wording isn't clear — too long, overly technical, or not in plain language — participants may struggle to complete the activity, even if the design itself works well."

Consistency: is the feedback consistent?

- "This dimension refers to how much a data point (whether verbal or behavioral) is consistent with others. For example: Did a participant say something that contradicts another piece of feedback they gave at a different point in time? Did a participant's comment align with their behavior?"
- "For example, a participant might say that a task was easy, but their behavior tells a different story — they struggled, made errors, or restarted multiple times. This mismatch can happen when participants want to be polite to the researcher or are reluctant to admit difficulty. When inconsistencies between behavioral and verbal data occur in usability testing, pay more attention to what people do than to what they say."

Update the Prototype and Re-Test (Iterate)

- "The point is to gain a deeper understanding of your users and customers and, of course, to identify the friction points in the prototype so you can fix them. It might be nomenclature, flow, visual design issues, or mental model issues, but as soon as you think you've identified an issue, just fix it in the prototype. There's no law that says you have to keep the test identical for all of your test subjects... We're not trying to prove anything here; we're just trying to learn quickly." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Feasibility [ENG]

- "Feasibility assumptions: Can we build it? We primarily think about feasibility as technical feasibility. Is it technically possible? Feasibility assumptions, however, can also include, "What's feasible for our business?" For example, will our legal or security team allow for it? Will our culture support it? Does it comply with regulations?" ~ Continuous Discovery Habits by Teresa Torres
- "Most of the time your engineers will review your product ideas and tell you that they have no real concerns about feasibility. This is because they have likely built similar things many times before." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "With most product ideas that your engineers review in discovery, they will quickly consider these points and simply say "No problem." That's because most of our work is not all that new, and engineers have usually built similar things many times before. However, there are definitely ideas where this is not the case, and some or many of these questions can be very difficult for the engineers to answer." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Once we have something that our customers believe is truly valuable, and we have designed it in a way that we believe our users can figure out how to use, then we'll typically review the approach with the engineers to make sure this is doable from their technical feasibility perspective." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "When we talk about validating feasibility, the engineers are really trying to answer several related questions: Do we know how to build this? Do we have the skills on the team to build this? Do we have enough time to build this? Do we need any architectural changes to build this? Do we have on hand all the components we need to build this? Do we understand the dependencies involved in building this? Will the performance be

acceptable? Will it scale to the levels we need? Do we have the infrastructure necessary to test and run this? Can we afford the cost to provision this?" - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "...there are several situations wherein your engineers may identify a significant feasibility risk involved in solving a particular problem they are working on. Common examples include: Algorithm concerns, Performance concerns, Scalability concerns, Fault tolerance concerns, Use of a technology the team has not used before, Use of a third-party component or service the team has not used before, Use of a legacy system the team has not used before, Dependency on new or related changes by other teams." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...but on an empowered product team where you're trying to come up with a solution that solves the problem you've been assigned, that's much harder because that means we have to discover a solution that's: valuable, usable, feasible, viable. Now while [the engineers definitely own feasible](#), and the designer definitely owns usable, valuable and viable, which are two of the hardest things to do, that's the product manager, and that's a pretty those are pretty big shoes to fill, those are hard that that takes skill, it takes knowledge, that's why we say you know in order to be a product manager on a real product team you've got to do your homework..."
- "...I mean there are different taxonomies out there, the one I use is it's got to be valuable, usable, feasible, viable, but most products fit, those are the risks, you can call them different things, but those are the risks, and the product manager is responsible for making sure that the solution is valuable and viable and that is hard, that is hard, that takes real work and that's part of the how, that's a pretty damn integral part of the how as well, now [you don't tell the engineers how to code](#), you don't tell the designer how to design, but you do have a big part, all of us together are coming out with that how, so the how is how it all works and obviously how you monetize privacy issues, security issues, how it's going to go to market, these are all how, but their product responsibilities, product management responsibilities, they're not more or less important than what the designer or engineer does because all four of those risks if any one of them fails you've got a failure of a product so those are table stakes..."
- "I wouldn't estimate time as a product manager, but rather have the [lead dev or project lead](#) do that."
- "Tech Team Leader. A role which is essential for the technology team, since they are responsible for managing all the members of the development team (developers and Tech Lead I). Moreover, they are the guardian of the processes and metrics of the delivery stage. During Discovery, [a Tech Team Leader usually estimates efforts](#) and helps to align delivery estimates with Business Owners."
- "We need to validate the feasibility of our ideas during discovery, not after. If the first time your developers see an idea is at sprint planning, you have failed. We need to ensure the feasibility before we decide to build, not after. Not only does this end up saving a lot of wasted time, but it turns out that getting the engineer's perspective earlier also tends to improve the solution itself, and it's critical for shared learning." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "If, however, the engineers have been following along as the team has tried out these ideas with customers (using prototypes) and seen what the issues are and how people feel about these ideas, the engineers have probably already been considering the issues for some time. If it's something you think is worthwhile, then you need to give the engineers

some time to investigate and consider it. The question isn't, "Can you do this?" Rather, you are asking them to look into it and answer the question, "What's the best way to do this and how long would it take?" The engineers will sometimes come back and say they need to create a feasibility prototype to answer one or more of these questions. If that's the case, first consider whether the idea is potentially worth investing the necessary time in discovery. If so, then encourage the engineers to proceed... when engineers are given even a day or two to investigate, they often come back not only with good answers to the feasibility question but also with better ways to solve the problem. " - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "Sometimes the issue is that the customers might have loved it, but it turns out to be much more involved to build than we first thought, and we simply can't afford the time and cost to deliver (the feasibility isn't there)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "I have seen many teams proceed to delivery without adequately considering the feasibility risk. Whenever you hear stories of product teams that grossly underestimated the amount of work required to build and deliver something, this is usually the underlying reason." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Technical Discovery: Build vs Buy, Algorithmic, Performance, Scalability, Fault Tolerance, etc.

- "Technical discovery is how you come to terms with the work you have on hand. You explore its scope to the fullest, map out each individual step's requirements, and assign an internal weight to it. In other words, a healthy discovery defines every aspect of a product's design and delivery. By the time you're done, [you'll know exactly how much time each step will take and how you need to allocate your resources](#). It's the surest way to win every stakeholder's trust before you start work."
- "[Cross-Functional Effort](#): Any story that needs a significant effort across more than one person (back-end to front-end, engineer to business stakeholders, team to team, etc.). Use a tech discovery to build a communication plan, data contracts, etc."
- "[Technical Unfamiliarity](#): working in a new domain / with new technology."
- "[Oversized Story](#): this is a gut thing. If the story feels like more than a few days of engineering work it may need a discovery to break it down."
- "[Technical Risk](#): the work revolves around critical systems (ex. checkout, payment systems) and the team must work to minimize impact."

Viability [PM]

- "Viability assumptions: Should we build it? There are many ideas that will work for our customers but won't work for our business. If we want to continue to serve customers over time, we need to make sure that our solutions are viable—that they create a return for our business. This typically means that the idea will generate more revenue than it will cost to build, service, and maintain. However, some ideas are designed to be loss leaders and instead contribute to another business goal besides revenue. But somewhere down the line, the idea must create enough value for the business to be worth the effort to create and maintain." ~ [Continuous Discovery Habits by Teresa Torres](#)
- "...this is what is really meant by being the CEO of the product... You need to help protect your company's revenue, reputation, employees, and customers you've worked so hard to earn." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "We need to validate the business viability of our ideas during discovery, not after. Similarly, it is absolutely critical to ensure that the solution we build will meet the needs

of our business—before we take the time and expense to build out that product. Business viability includes financial considerations, marketing (both brand and go-to-market considerations), sales, legal, business development, and senior executives. Few things destroy morale or confidence in the product manager more than finding out after a product has been built that the product manager did not understand some essential aspect of the business." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "If we're also good on feasibility, then we'll show it to key parts of the business where there may be concerns (think legal, marketing, sales, CEO, etc.). We'll often address these business risks last because we don't want to stir up the organization unless we're confident it's worthwhile. Also, sometimes the ideas that survive are not so similar to the original ideas that we started with, and those original ideas may have come from a business stakeholder. It's much more effective to be able to show that stakeholder some evidence of what did and didn't work with customers and why and how you ended up where you are." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Testing business viability means making sure that the product solution that your team is proposing will work within the constraints of each of these areas. For those stakeholders that are impacted, it's important that they have a chance to review the proposal and ensure their concerns have been addressed." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "So value means for the customer, viability means for your business. So that means it works for your business. You can sell it, market it. It's legal, you can service it. It's compliance. All of these constraints. Remember Airbnb, it wasn't so hard to get people to sign up. It was hard to make listings legal in San Francisco. That's the hard part, is the compliance side." ~ [Marty Cagan](#)
- "...but on an empowered product team where you're trying to come up with a solution that solves the problem you've been assigned, that's much harder because that means we have to discover a solution that's: valuable, usable, feasible, viable. Now while the engineers definitely own feasible, and the designer definitely owns usable, [valuable and viable, which are two of the hardest things to do, that's the product manager](#), and that's a pretty those are pretty big shoes to fill, those are hard that that takes skill, it takes knowledge, that's why we say you know in order to be a product manager on a real product team you've got to do your homework..."
- "...I mean there are different taxonomies out there, the one I use is it's got to be valuable, usable, feasible, viable, but most products fit, those are the risks, you can call them different things, but those are the risks, and [the product manager is responsible for making sure that the solution is valuable and viable](#) and that is hard, that is hard, that takes real work and that's part of the how, that's a pretty damn integral part of the how as well, now you don't tell the engineers how to code, you don't tell the designer how to design, but you do have a big part, all of us together are coming out with that how, so the how is how it all works and obviously how you monetize privacy issues, security issues, how it's going to go to market, these are all how, but their product responsibilities, product management responsibilities, they're not more or less important than what the designer or engineer does because all four of those risks if any one of them fails you've got a failure of a product so those are table stakes..."
- "The final test for your innovation focuses on the value chain of your solution to ensure



that it is viable now and in the future. Testing for viability asks, [does our business model fit with the way our customers want to use and pay for our solution?](#) Is the way we build our solution and the way we buy from our suppliers profitable? Viability not only looks at profit, it also looks at sustainability to ensure that your business contributes to community and society.”

- “Viability tells you whether or not your product makes business sense. Even if you have the most desirable product in the world, [if it's too expensive or isn't profitable](#), then it's not a good business model. A truly viable product idea makes business sense in the short-term and into the future. The quicker and longer it can deliver a positive return on investment, the higher the viability of your design idea.”
- “A product is [viable when it can generate a profit in the long-run](#). For simplicity, let's say viability has three main ingredients: Pricing power, Market size, Cost structure”
- "And then there's the often-messy business risk, where we have to make sure that the solution we come up with in discovery works for the different parts of our company. Here are some common examples of that: Financial risk—can we afford this solution? Business development risk—does this solution work for our partners? Marketing risk—is this solution consistent with our brand? Sales risk—is this solution something our sales staff is equipped to sell? Legal risk—is this something we can do from a legal or compliance perspective? Ethical risk—is this solution something we should do?" - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "And, sometimes the issue is that we encounter serious legal, financial, or business constraints that block the solution from launch (the business viability isn't there)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The last thing you want to have happen is that your team moves forward and takes the time to commercialize the solution and deliver a shippable product, only to find out that you can't ship because you are violating one of these constraints. Make no mistake about it, when that happens, it's on the product manager. It is your job to ensure that you understand each of the relevant constraints, and take positive action to work within them." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Commercial constraints are linked to [business resources like time, budget, and manpower](#). In design projects, commercial constraints are weighed against each other. When clients compose briefs, commercial constraints are prominently featured. “We need X deliverable, in Y amount of time, for Z cost.””
- “...writing down any [workflow constraints \(for example, budgeting or resources\) can also provide a more accurate picture of the factors affecting timing](#). With both the constraints and rough date in writing, you have a more informed way to work backwards from the end date and assign realistic sprint lengths to each feature.”
- “[Find out your limitations or your constraints](#), so ask yourself: what are my constraints? How much time do I have? So time is one of those. Money is another one of these. Resources. And there could be some other constraints: like rules and policies and regulations. So ask yourself: what are the constraints that I have? And put a plan, and you're going to put a plan to deliver within that time frame or within that budget, so basically, if I have a critical need and I'm coming to you (you're the business analyst) and I'm asking you to get something done that we're looking to roll out in three months, then your business analysis process definitely can't take that long, can't take three months, you'll probably want to take about a month, month and a half, because you've got to consider there's an implementation process: somebody's got to go and code this, and then

they got to build the system, and then they got to test it, so you have a very limited time frame to work with and that time frame you need to understand it.”

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#### Financial Viability

- "Finance often represents several different constraints and considerations, not the least of which is whether you can afford to build, sell, and operate your new product. But, business analytics and reporting are often in finance, and investor relations and other concerns may bring their own set of constraints. If there are cost issues involved, sitting down with someone in finance and modeling the costs will be critical to demonstrating to leadership that you have worked out a viable approach." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Marketing Viability (Brand, GTM)

- "Marketing needs the resulting products to be relevant and compelling, and work with the go-to market channels. So, anything that you're considering that puts those at risk will be a major concern. If what you are proposing to build could impact the sales channel, the major marketing programs, or is potentially outside of the brand promise (the range of things your customers expect from your company), then you'll want to discuss this with marketing and show them prototypes of what you are proposing before you consider building anything. Work with them to find ways to address their concerns." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Sales Viability

- "If what you are proposing would represent a departure from what the sales channel has proven their ability to sell, sit down with the sales leadership and show them what you are proposing before you build anything, and see if together you can figure out a way to effectively sell this." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Customer Success Viability

- "Some tech companies have what's referred to as a high-touch model of helping their customers, and some have a low-touch model. You need to understand what your company's customer success strategy is, and you need to ensure that your products are

aligned with that strategy. Again, if you are proposing something that would represent a change, you'll want to sit down with leadership and discuss the options. As a side note, if you have a high-touch service model, these people are exceptionally helpful for product insights and prototype testing." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Legal Viability

- "Privacy concerns, compliance concerns, intellectual property, and competitive issues are all common constraints related to legal. You can save yourself a whole lot of time and grief by sitting down early with someone from your legal team and discussing with them what you are proposing and whether they anticipate any issues or areas you should be aware of." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Ethical Viability

#### Business Development Viability

- "Most businesses have some number of close business relationships with partners of various types, usually with a contract behind each that has a defined set of commitments and constraints. Sometimes these agreements can cripple your company's ability to compete. Sometimes they are a huge win. In either case, you need to understand the impact of these relationships on your products and what you are proposing to do." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Security Viability

- "...the issues involving security are so important for so many technology-powered companies that I think it's useful to call the area out. If you are proposing anything at all remotely related to security, you will probably want to bring your tech lead and sit down with the security leadership early to discuss the ideas and how you will address their concerns." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Senior Executives Viability (CEO, COO, GM)

#### Define Assumptions (anything we can't at the moment prove to be fact)

- "In modern product organizations, [product managers and designers spend the majority of their time on discovery work](#). Their discovery involvement is rarely questioned. It's a different story when it comes to engineering. If you have five engineers should all of them get involved with considerable time invested in every single discovery initiative you're running? Probably not. It would be inefficient and costly. But how then do you make sure that engineering is represented?... Have a lead engineer, or engineering manager, take up an active role with notable time invested in your discovery work. Identify those engineers in your team who are interested in taking an active role in discovery. They can then get involved in your discovery work either on a rotating basis or split up by initiatives."
- "No matter the topic or discipline, everyone should actively contribute to your discovery work. The key question to ask is: [how can they best contribute?](#) For me, it's worth assigning people to one or two of four 'perspectives': value, usability, feasibility, or viability?"
- "I've seen some people falling in the trap of treating assumptions/hypotheses as absolute truths. The whole point of having assumptions and hypotheses is [being transparent upfront about educated guesses, unknowns or risks](#)."
- "Our first step is a definition. Agile teams tend to create definitions of Ready and Done for product delivery together and as a team, so we did the same here for discovery and co-created our definitions, including a Definition of Needed. A discovery can be big or

small depending on the uncertainties we have and how big they are but, as a rule of thumb, if there are no uncertainties we may not need a discovery at all. Within this context, [assumptions and personal opinions need to be considered uncertainties](#). We came up with a list of questions to go through when evaluating a new idea and assess whether or not you need some extent of discovery work before you start building it.”

- “I’ve benefited enormously from using simple prototypes to validate risky assumptions such as [“this feature will definitely solve my customer’s problem”](#) or [“customers will definitely pay for this service”](#) before committing lots of time, money and effort to solving a problem.”
- “An assumption is a statement for which we only have limited (to no) evidence. We tend to make assumptions based on experience, observations, data or gut feeling. Example of an observation: many customers rate their delivery on their first order, but they often don’t answer any of the questions on the satisfaction survey. Which is a pity because this feedback is key to improving our services. [Example of an assumption: We can increase feedback \(comments\) from our customers on their first delivery.](#)”
- “Let’s turn our assumption into something “usable”. To do so, we will [convert it into a hypothesis](#). The difference between these is straightforward. A hypothesis is a statement that is actionable, and that we will attempt to prove is true by testing it with experiments.”
- “We make assumptions all the time. [Anything we can’t prove is an assumption](#). We assume who our customers are, what they need, and how we can help them. In the end, not only do many of our assumptions turn out to be invalid, but even these valid ones are rarely 100% what we expected.”
- “To surface assumptions, we need to answer one question — [what must be true for our idea to be successful?](#) To improve our chances of spotting all relevant assumptions, we can try to answer the question from different perspectives.”
- “You probably already have an idea of what kind of problem you’re dealing with and how you’re going to approach it, right? That’s great! [We want to gather as many assumptions as possible](#). If it’s a new product or feature, start with the core problem. What is the primary need you’re trying to accommodate? If it’s an improvement to an existing problem, you should start with potential solutions from existing knowledge. If existing data or information on the issue is available to you, build your assumptions on that. You will be one step ahead in articulating hypotheses that are relevant to test.”
- “Go through the questions and answer yes or no; if you can answer yes to all the statements, based on evidence rather than assumptions, you can confidently say you don’t need a discovery and can jump to delivery, if on the other hand you answer no [to one or more of these statements](#) you will need at least some degree of discovery work.”

Story Mapping (Task Flow) - [\[Doc Template\]](#)

- “Story mapping is a popular technique in which teams map out each step end-users have to take to get value from a product or service.<sup>49</sup> Story mapping forces you to get specific about how an idea will work and what you expect your end-users will do. While many teams use story mapping to align around product requirements, it’s also a great technique for helping us to surface underlying assumptions.” ~ [Continuous Discovery Habits by Teresa Torres](#)

1) Assume your solution exists

- “Start by assuming the solution already exists. You aren’t story mapping what it will take

to implement an idea. Instead, you are mapping what end-users will do to get value from the solution once it exists in the world.” ~ [Continuous Discovery Habits by Teresa Torres](#)

2) Identify key actors

- “Identify the key actors. Who needs to interact with whom for the idea to work? Some products like Slack or Facebook require that two or more end-users interact with each other for anyone to get value from the product. If this is the case, you’ll want to represent multiple end-users in your story map. In two-sided marketplaces, you might have different types of end-users (e.g., buyers and sellers). In some products or services, the interface or software itself may be an actor in your map (e.g., for an end-user conversing with a chatbot, the chatbot should be listed as a player in the story map).” ~ [Continuous Discovery Habits by Teresa Torres](#)

3) Uncover assumptions by mapping out the steps each actor takes to get value from the solution

- “Map out the steps each actor has to take for anyone to get value from the solution. Be specific. What does each actor need to do in order for someone to get value from the solution? For example, an actor has to engage with a chatbot by asking a question or making a request, the chatbot then needs to respond, and so on.” ~ [Continuous Discovery Habits by Teresa Torres](#)
- “Now that your product trio has a clear concept of what your idea means, you can use your story map to uncover hidden assumptions. Throughout your story map, every time you assume that an end-user will do something, you are making desirability assumptions (i.e., that your user wants to do what you are asking them to do and that they are willing to do it), usability assumptions (i.e., your user understands what needs to be done and is able to do it), and feasibility assumptions (i.e., you can build whatever is required to support each step of the map). You can literally go step by step through your story map and generate dozens of assumptions.” ~ [Continuous Discovery Habits by Teresa Torres](#)

4) Sequence the steps horizontally over time

- “Sequence the steps horizontally over time. Lay out the steps horizontally one after the other. Sequence them in the order they need to happen. You may need to jump back and forth between players if they need to take turns taking actions. It’s okay if some steps are optional. List them in the map where they might occur. If an end-user can choose multiple paths, map out the successful path. If there are multiple successful paths, map them out sequentially.” ~ [Continuous Discovery Habits by Teresa Torres](#)

## **Collect Evidence**

Validate Assumptions (in a sequence; via this Order of Operations)

- “You can use these hypotheses to test a specific product area or workflow. The key thing with assumptions and hypotheses is their focus on behavioral outcomes or changes, not just on the feature or solution in its own right. The other important thing I learned about assumptions is to [validate your riskiest assumptions first](#). I’ve benefited enormously from using simple prototypes to validate risky assumptions such as “this feature will definitely solve my customer’s problem” or “customers will definitely pay for this service” before committing lots of time, money and effort to solving a problem.”
- “Prototyping is at the core of experimentation; [it provides a quick way to validate your assumptions](#) with real users and tackling key product risks early on in the process. It can be as simple as using a piece of paper with a sketch of a new feature for initial product validation. The main thing is that you use a prototype to mitigate risk by getting feedback



early and often in the product (development) lifecycle.”

- “What are assumptions? — When thinking about problems and solutions we often make a lot of assumptions. For example, I like how Alan Klement points out that when we create user stories there’s a risk of making lots of assumptions (see below). I believe that [the biggest problem isn’t so much in the assumptions themselves but more in not validating one’s assumptions before designing a product or service](#). What I love about the “Lean UX” approach is that it exposes assumptions early on and provides a way to validate these assumptions early and often.”
- “In a world saturated with A/B tests, focus groups, and the fetishization of “data-driven” everything, it’s easy to strangle a young idea in the crib. [If you rush to validate too soon —before the idea has a coherent form, before you’ve given it the time and space to grow —you merely confirm that the infant cannot run a marathon](#). Of course it can’t. Greatness isn’t summoned by a hasty thumbs-up or thumbs-down. Instead, internalize the doubts as signals that more exploration is needed. Refine the concept, enrich it, feed it new inputs. Later, once it stands on its own feet, the world can judge its stride. But kill it too early, and you destroy something that never had a chance to prove itself.”

Assumptions == Risks

- “Information describes [raw, often context-less, incoming data and can include opinions](#). Product Teams collect a lot of information through the various Product Discovery activities they work through in an adaptable, non-linear way.”
- “Evidence, on the other hand, is a piece of [qualitative or quantitative data that supports or refutes an assumption](#). To do that, it has to be contextually relevant in relation to the Discovery goal a team is working on.”

When to NOT Validate Assumptions

- “If the product manager, designer, and tech lead do not feel there’s a significant risk in any of these areas, then normally we would just proceed to delivery — fully realizing there’s a chance the team will occasionally be proved wrong. This, however, is preferable to the alternative of having the team be extremely conservative and test every assumption.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “...for many of the things we work on, most or all of these questions are very straightforward and low risk. Your team is confident. They have been there and done this many times before, and so we will proceed to delivery. The main activity of discovery is when these answers are not so clear.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

What is Needed to Validate Assumptions?

List of Assumptions in the order of their Sequence:

1. Will customers use the core flow?
2. Will customers do X next?
3. Will customers do Y next?

- “...are there any lasting lessons that you took away from Gas as a product that you take with you to advising startups in terms of building the product design? I know there’s many, but any that stand out most that you think are really interesting to share? I think I kind of touched on this before, which was [trying to validate things in a sequence of like, will people use the core flow? Will people spread it within their peer group? Will it hop peer groups? And what I think the most important thing that I learned is that’s actually a really great way to do zero to one product development is execute at 100% for the thing](#)



[you're trying to validate at that specific stage of the product development cycle. And then you can kind of half-ass the rest just so you can get 100% signal on that one part.](#) And so we made the polling experience just perfect. The questions were great. Push notifications, everything worked. And then the next stage was getting sharing and virality working. And so compartmentalizing those things because ultimately you'll have too much scope creep if you try to solve everything at once and validate. And also you're not going to get signal too, like you're trying to test one thing at a time. So the way that now I approach a lot of consumer product development is if this is true, then what next needs to be true for this thing to work out? And these layers of conditional statements. And the more layers you have, the higher risk your product is, so you should try to condense it to about like four things that must be true for the thing to work. And this comes back to your advice of the thing you need to get good at is testing and learning and making it really quick.”

#### Collect Evidence for each Assumption

- "Much of the key to effective product discovery is getting access to our customers without trying to push our quick experiments into production." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “It is [the most crucial part of the product development stages](#). We do a lot of research, validate our hypothesis, and filter our ideas in this stage. Ideas are categorized in the Ideation stage. Now let’s pick each idea and check whether it is worth pursuing. First, we will understand the market, users, and competitors, respectively, and it will help us collect the data. Second, we will validate our ideas based on... framework. Hence, there are four activities in this stage. Market Research, User Research, and Competitors Research to collect the data for each idea and... analysis to validate the ideas.”
- “It’s critical that search product managers use data to drive their decisions. That goes beyond making launch decisions through A/B testing (which has unique challenges for search). It also means [using analysis to prioritize development efforts based on the expected return on investment](#). Data should drive every aspect of the product development life cycle.”
- “As a rule of thumb, [you should be willing to invest a day in analysis before deciding to invest a week into development and experimentation](#). If analysis seems as expensive as experimentation, you’re doing it wrong. Remember that analysis is a heuristic, so it’s ok to simplify your models. Save your rigor for when you perform A/B testing.”
- “Run reviews and retros on both discovery and delivery work: When doing so, it’s important to get comfortable with failure. Discovery is all about learning and there is no learning without failure. Get people to celebrate and [talk about hypotheses that could not be validated](#), ‘failed’ experiments, and things they have stopped exploring. Make sure everyone understands that this ‘failure acceptance’ is in contrast to delivery work where you would never release a failing feature. By failing in discovery we avoid failing in delivery.”
- “Always make data-driven decisions. Whether it’s data from your product access and usage, or data from your customer and user conversations, [use data to make your decisions and present it to the team](#). This will give more consistency to the items you will place on your product roadmap.”
- “Background and Strategic Fit: Why do you want to develop the product? How are the

efforts made to match the goals to be achieved? At this point, customer research can also be added, such as the [results of surveys or user interviews](#).”

- “...the best teams also work bottom-up. They use their assumption tests to help them evaluate their solutions and evolve the opportunity space. As they learn more about the opportunity space, their understanding of how they might reach their outcome (and how to best measure that outcome) will evolve.” ~ [Continuous Discovery Habits \(ebook\)](#)
- "For many things, we won't have concerns along these dimensions, but, when we do, it's something that we must tackle aggressively." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "We ask the executives and our other stakeholders to give us a little time in product discovery to investigate the necessary solution. We need the time to validate that solution with customers to ensure it has the necessary value and usability, with engineers to ensure its feasibility, and with our stakeholders to ensure it is viable for our business... The product team asks for a little time to do product discovery before commitments are made, and then after discovery, we are willing to commit to dates and deliverables so our colleagues can effectively do their jobs as well." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The purpose of product discovery is to address these critical risks: Will the customer buy this, or choose to use it? (Value risk) Can the user figure out how to use it? (Usability risk) Can we build it? (Feasibility risk) Does this solution work for our business? (Business viability risk) And it's not enough that it's just the product manager's opinion on these questions. We need to collect evidence." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...even with the ideas that do prove to be valuable, usable, feasible, and viable, it typically takes several iterations to get the execution of this idea to the point where it delivers the expected business value... strong product teams understand these truths and embrace them rather than deny them. They are very good at quickly tackling the risks (no matter where that idea originated) and are fast at iterating to an effective solution. This is what product discovery is all about, and it is why I view product discovery as the most important core competency of a product organization." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “...but on an empowered product team where you're trying to come up with a solution that solves the problem you've been assigned, that's much harder because that means [we have to discover a solution that's: valuable, usable, feasible, viable](#). Now while the engineers definitely own feasible, and the designer definitely owns usable, valuable and viable, which are two of the hardest things to do, that's the product manager, and that's a pretty those are pretty big shoes to fill, those are hard that that takes skill, it takes knowledge, that's why we say you know in order to be a product manager on a real product team you've got to do your homework...”
- “...I mean there are different taxonomies out there, the one I use is [it's got to be valuable, usable, feasible, viable](#), but most products fit, those are the risks, you can call them different things, but those are the risks, and the product manager is responsible for making sure that the solution is valuable and viable and that is hard, that is hard, that takes real work and that's part of the how, that's a pretty damn integral part of the how as well, now you don't tell the engineers how to code, you don't tell the designer how to design, but you do have a big part, all of us together are coming out with that how, so the how is how it all works and obviously how you monetize privacy issues, security issues,

how it's going to go to market, these are all how, but their product responsibilities, product management responsibilities, they're not more or less important than what the designer or engineer does because all four of those risks if any one of them fails you've got a failure of a product so those are table stakes..."

- "Our goal in discovery is to validate our ideas the fastest, cheapest way possible. Discovery is about the need for speed. This lets us try out many ideas, and for the promising ideas, try out multiple approaches. There are many different types of ideas, many different types of products, and a variety of different risks that we need to address (value risk, usability risk, feasibility risk, and business risk). So, we have a wide range of techniques, each suitable to different situations." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Qualitative Data (about "why there is" or "how to fix" a problem)

- "The most common type of qualitative value testing is focused on the response, or reaction. Do customers love this? Will they pay for it? Will users choose to use this? And most important, if not, why not?" - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...qualitative testing is not about proving anything. That's what quantitative testing is for. Qualitative testing is about rapid learning and big insights." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...qualitative testing of your product ideas with real users and customers is probably the single most important discovery activity for you and your product team. It is so important and helpful that I push product teams to do at least two or three qualitative value tests every single week." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "When you do this type of qualitative user testing, you don't get your answer from any one user, but every user you test with is like another piece of the puzzle. Eventually, you see enough of the puzzle that you can understand where you've gone wrong." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Qualitative data is a type of data that describes characteristics and qualities or any information as such. Examples include data like [sex \(male or female\)](#), [color](#), [demographics](#), etc."
- "If quantitative evidence can help you answer the what and the how, [qualitative information is your key to the why](#)."
- "...your hard numbers can tell you that recently onboarded users are embracing a new feature far more than your early adopters, but [it can't tell you why](#). Were they attached to your previous UX? Was the feature more effectively explained in your initial onboarding sequence than in your broader introduction strategy? Is there another functionality they wish you'd prioritized instead? You need those answers to effectively redirect your team's energy."
- "Quantitative data is just behavioural data representing what people are doing in your application. [It doesn't tell you why they are doing those things. For that, you still need to supplement your quantitative data with qualitative analysis](#)."
- "But there are some questions that quantitative methods can't answer, such as ["Why do account executives reach out to this lead instead of that lead?"](#) or ["How do small businesses make the decision to sponsor or not sponsor a job?"](#) Or the truly deep question: ["Why do you want to get to the center of the Tootsie roll pop?"](#)"

Quantitative Data (about "how many" problems or "how often" a problem occurs)

- "...quantitative techniques are all about collecting evidence." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "We will sometimes collect enough data that we have statistically significant results (especially with consumer services with a lot of daily traffic), and other times we'll set the bar lower and just collect actual usage data that we consider useful evidence—along with other factors—to make an informed decision." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "For many products, we need to test efficacy, which refers to how well this solution solves the underlying problem. In some types of products, this is very objective and quantitative. For example, in advertising technology, we can measure the revenue generated and easily compare that to other advertising technology alternatives. In other types of products, such as games, it's much less objective." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...in the spirit of data beats opinions, we have the option of simply running a test, collecting some data, and then using that data to inform our decisions." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Quantitative research is a research strategy that focuses on quantifying an observation or data. It is carried out on the basis of data collected through various forms of survey with close-ended questions, in-person interviews, polls, etc. Quantitative research is conducted to develop theories, statistical models, hypotheses, etc. Generally, quantitative analysis answers questions like 'how many' and 'how often'."
- "If quantitative evidence can help you answer the what and the how, qualitative information is your key to the why."
- "...your hard numbers can tell you that recently onboarded users are embracing a new feature far more than your early adopters, but it can't tell you why. Were they attached to your previous UX? Was the feature more effectively explained in your initial onboarding sequence than in your broader introduction strategy? Is there another functionality they wish you'd prioritized instead? You need those answers to effectively redirect your team's energy."
- "Quantitative data is just behavioural data representing what people are doing in your application. It doesn't tell you why they are doing those things. For that, you still need to supplement your quantitative data with qualitative analysis."
- "They're more deeply familiar with quantitative methods like A/B testing, surveys, and regressions. Quantitative methods are great for answering questions like "How much does the average small business spend on a job posting?", "What are the skills that make someone a data scientist?", or even "How many licks does it take to get to the center of a Tootsie roll pop?" (The answer is 3. Three licks.)"

What Sample Size to Use?

n=40 (Recommended for most Quantitative UX studies)

- "In quantitative ux research studies we're doing something similar, we're counting various things that users do like task success rates, or time on task. We typically suggest going with 40 participants for most quantitative usability studies, it's a good fault for these benchmarking studies where we're collecting these sorts of task metrics. You might wonder why 40 participants and not 20 or 50 or even 100? It's based on a few simple statistical assumptions..."
- "So the number 40 is not arbitrary, it's calculated to achieve a 15% margin of error at a 95% confidence level for binary metrics, like ear position in dogs or task success in ux

studies. It's actually 39 participants, but we round up to 40 to account for any potential dropouts. Usually these binary metrics are the most difficult to deal with compared to continuous metrics like dog weight or user time on task, so we use these to estimate our sample size thus 40 participants is not arbitrary, but a strategic selection to guarantee the reliability and accuracy of our quantitative ux research findings. It's a great starting point for any quantitative benchmarking study, it gives us a really good balance of precision with a 15% margin of error risk, with a 95% confidence level, and practicality with only 40 participants.”

#### Binary Tasks

- “First when I count upright ears versus floppy ears, that's a binary metric, we either count up or down for each dog's ears. Let's say I do my study and I find that 70% of dogs in my sample had floppy ears, but how sure am I that it's not just random chance from the dogs I picked? If I ran my study a second time or a third or a fourth I might get a different mix of ear types, my numbers might change, that means there's an inherent fuzziness to the measurement anytime I'm sampling rather than checking the entire population. We can calculate that uncertainty around our measurement and that's called the margin of error, even though I measured 70% of dogs have floppy ears I might have a 15% margin of error which means the true number of floppy eared dogs in the world could be anywhere from 55% to 85%, we don't know for sure, we call that range a confidence interval. It's just twice the margin of error including both the plus and minus side.”

Avoid Anecdotes as Primary Evidence and Use REAL Actions Instead;

Use Anecdotes to Guide Assumption Validation

- “The most reliable evidence results from activities the team ran itself, as well as results from real decisions by users or customers. Examples can include: Interviewees actually went ahead and recommended a product via LinkedIn DMs to five peers after they told you they “like it” in the interview. Analytics data about the actions the most important audience segment took on the product detail page, indicating what information they value, compared to stack-ranking preferences in a survey.”

Anecdotes vs Real Actions (usually the anecdote is right, but you want real actions to support your hypothesis)

- “Jeff Bezos had this quote on his Lex Friedman podcast where if you have data and you have an anecdote, usually the anecdote is right.”
- “First off, per your Jeff Bezos anecdote, the anecdote usually trumps the data. And there are many times when I see teams that are doing very sophisticated analysis and they've sort of forgotten what the question is or what the conclusion they can draw from it truly is. So never lose sight of the value of the customer's words and the anecdote.”
- “In the upper left quadrant you'll find the type of evidence whose validity is often grossly overestimated, like information about what “others” were doing. Examples can include: Feature launches by competitors. Yes, it takes serious commitment from a competitor to ship something, but you never know what this move is built on. It could be driven by a top-down HiPPO idea, n=1 user insights, or poorly interpreted quantitative data. Regulatory announcements. These are definitely real and often require action, but they are rarely informed by actual needs and behaviors of the users they are trying to serve. They mostly originate from ivory tower decisions.”
- “It's easy to mistake the evidence in the lower right quadrant for a serious commitment. “Lip service” is shorthand for every time the observed or recorded action didn't really come with consequences for the user or customer. Examples can include: Submitted



feature requests or online reviews that don't come with consequences for the submitters. Expert decisions whose judgment is informed by their own experience, but not necessarily the behavior of your users."

- "Evidence in the lower left quadrant [shouldn't inform decisions about actions, but may guide the additional steps required to refine anecdotal evidence](#). Examples can include: Comments about what existing or potential users think "would be nice" that have been watered down to solely align with the goals of proxy departments. A manager coming back from a family gathering over the weekend with tons of feedback about colors or where a button "should be."

#### Validation Methodologies to Collect Evidence

- "We must validate our ideas on real users and customers. One of the most common traps in product is to believe that we can anticipate our customer's actual response to our products. We might be basing that on actual customer research or on our own experiences, but in any case, we know today that we must validate our actual ideas on real users and customers. We need to do this before we spend the time and expense to build an actual product, and not after." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Validate with Feelings (Anecdotal Evidence: Helpful Evidence, but != Real Evidence)

[!!!] LLMs to Summarize Feedback, Surveys, Etc...

User Feedback (natural use of product) - "Anecdotes";

Validates: Value, Usability

- "Customer feedback: [Open-ended and/or close-ended information](#) is provided by a self-selected sample of users, often through a feedback link, button, form, or email."
- "Whether in the form of structured or unstructured feedback, with site search critical to a successful customer experience, your customers will undoubtedly be providing you with a wealth of feedback. Take the time to [read through as much of it as possible](#). Even better, walk through some of the journeys yourself to understand the experience from the eyes of your customers. Whilst the feedback might be vague you'll quickly find you can classify and pull out key themes. Internal customer service departments can also provide you with customer logs and real life scenarios. Involving them up front to identify problem areas can help in the long term as they can be an invaluable resource when testing different search set ups."
- "NPS is a classic user satisfaction tool that I really like. You ask your customer [one standard question: "How likely are you to recommend this product to a friend or colleague?"](#) . The user gives a grade between 1 and 10; 9 or 10 means your user is a promoter, this answer results in +1; 7 or 8 means your user is neutral, this answer results in 0; 6 or less means your user is a detractor, this answer results -1. In the end you get a number between -100 and +100. (Of course there are tools calculating that for you!). The user also gives you a qualitative answer to the question "What would you do to improve our product?"."
- "...the ease of use of the product; this could be measured in several ways including ["user satisfaction scores" in surveys](#) or qualitative studies, or "number of steps it takes for search users to click on a result" where steps could be many activities including querying, sorting, filtering and more. the number of steps would vary by the shopping category, the device the user is on and more. Hence, it is important to look at these metrics from those angles too."
- ["The feedback you get from engaging directly with your earliest users will be the best](#)



[you ever get](#). When you're so big you have to resort to focus groups, you'll wish you could go over to your users' homes and offices and watch them use your stuff like you did when there were only a handful of them.”

- “Given an initial critical mass and enough time, a programming language probably becomes about as popular as it deserves to be. And [popularity further separates good languages from bad ones, because feedback from real live users always leads to improvements](#). Look at how much any popular language has changed during its life. Perl and Fortran are extreme cases, but even Lisp has changed a lot. Lisp 1.5 didn't have macros, for example; these evolved later, after hackers at MIT had spent a couple years using Lisp to write real programs.”

Reviews (e.g: app store)

Surveys / Forms: NPS, Surveys

- “I'll give you an example. Early on, we did a survey to find some stuff out about pricing and customers and we said, "Look, if you answer this survey, someone will get a free hour-long consulting Zoom presentation with us. You can use it for your conference or whatever. We don't care." [The problem with that is you are disincentivized from sharing that survey with other people because you want as few people on the survey as possible. So we created two teams, Team Orange and Team Black, and we said we would choose the survey winner from the survey that had the most people submitting to it.](#) It immediately caused people to go, "I'm Team Orange. You should vote Team Orange." You look at the problem, you find a way to move around it.”

Customer Support Tickets

Calling Customers

- “I was like, ["hey, why don't we just call everyone, because clearly they were buying it, but they're not buying it now, why are they not buying?"](#) Well, just ask... in August of 2018 they sent out an email to all of their customers with a calendly link, their goal was to talk to every single one of their customers and ask them why they stopped buying the blankets, and every single person said the exact same thing: "Aaron, we love the blanket, it's so amazing, it's incredible, but I'm sweating in places I've never sweat before, it's disgusting, so I'm putting it in my closet and in the winter I'll pull it back out".”
- “...we spent three months calling customers because we were so nervous, the inventory was so expensive, [so for the next few months they spend all of their time calling up their customers and asking them what would make the perfect mattress](#) and to their surprise the biggest pain point was that their current mattresses were super uncomfortable when it came to making love...”

Live Chat Logs

- “I recommend all companies do this, is put live chat customer support in your app 24 hours a day. It sounds insane. It's like the whole point of tech is you don't need to do that. That's the whole point of a software. But then users get this white glove experience, and that eliminates another confounding variable, like did they think their problems were solved or they were treated well? But most of all, one of the reasons [I actually recommend people put live chat in their app is it's the best vehicle for getting feedback and doing user research because users will literally tell you the problem they're having](#). So we had our person that was running this. He's name is Michael Gutierrez. He's done it for all my companies actually. He's the community and customer support rep. He would paste any interesting feedback into Slack and then we would be like, "Oh, this user has a great idea. We should consider turning that into a feature." So you really want your finger

on the pulse as you roll these things out so you can get a sense for what's working, what isn't, and also make users feel great and make sure at the end they promote your app positively to their peers.”

3rd Party Sites (Data, Posts): Google Reviews, Reddit, Twitter, YouTube Reviews, Online Forums

Qualitative User Surveys (e.g: Open-Ended);

Validates: Value

- “Surveys measure and categorize attitudes or collect self-reported data that can [help track or discover important issues to address](#).”
- “For example, you run a quantitative survey asking your customers to rate your product and 80% of the respondents give you a poor rating. But this survey won’t tell you why! To understand this, you can go for [a qualitative survey asking questions like “what can we do to improve our product?”](#), [“what features do you expect from our product?”](#), etc.”
- “Let us know what you think of the recent changes and any wishlist items you think we should tackle next. [We’ll use your feedback to help prioritize](#) the next round of work.”
- “[Take this quick, completely anonymous survey](#) to let us know about your experiences with Reddit search. It should only take about 5 minutes, and all questions are optional. Thanks for your help in making Reddit search better!”
- “But this list is incomplete...what else should we add to it? [To get to a truly effective search experience, we’d like to hear more from you. Take this quick survey](#) to let us know what you think of Reddit search, what is and isn’t working for you, and how you think we can make it better. As we make improvements, we’ll be sharing our progress and learnings with the community and gaining more feedback along the way. We know Reddit search can use more TLC and we’re excited to work with you to make it easier for Redditors to find the communities and content they’re looking for.”
- “Qualitative survey questions on the other hand are subjective questions. [Respondents generally write lengthy answers to such questions](#).”

User Interviews (no use of product);

Validates: Value, Usability;

*PMs should aim to sit in 2-3 hours of customer interviews per week (ideally joined by a designer and engineer partner);*

- “Interviews: a researcher meets with participants one-on-one to [discuss in depth what the participant thinks about the topic in question](#).”
- “Ask your customers open-ended questions like ‘What do you think about our product?’, ‘What do you think about our pricing?’, etc. These are descriptive questions and will fetch detailed answers from your customers. Your job is to [go through these answers and find out what your customers like or dislike about your page](#). And based on this analysis you will know what changes you need to bring on the pages that you have already shortlisted through the quantitative analysis previously.”
- “User interviews have become a popular technique for getting user feedback, mainly because they are fast and easy. Use them to [learn about users’ perceptions of your design](#), not about its usability.”
- “A user interview is a UX research method during which [a researcher asks one user questions about a topic of interest](#) (e.g., use of a system, behaviors and habits) with the goal of learning about that topic. Unlike focus groups, which involve multiple users at the same time, user interviews are one-on-one sessions (although occasionally several facilitators may take turns asking questions).”

- "...this is one of the most powerful and important skills for any product manager and very often the source or inspiration for many breakthrough product ideas." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "[Interviews](#): Structured conversation in which the interviewer asks the interviewee about a specific topic."
- "An interview is a systematic approach to [elicit information from a person or group of people](#). In this case, the business analyst acts as an interviewer. An interview provides an opportunity to explore and/or clarify requirements in more detail. Without knowing the expectations and goals of the stakeholders it is difficult to fulfil requirements."
- "Establish a regular cadence of customer interviews. This should not be a once-in-a-while thing. A bare minimum would be two to three hours of customer interviews per week, every week... You are not trying to prove anything during these interviews, one way or the other. You're just trying to understand and learn quickly. This mindset is critical and needs to be sincere." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...be sure to talk primarily to people in your intended target market. You're looking for about an hour of their time." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "It's always amazing to see customers in their native habitat. There's so much to learn just by observing their environment. But it's also fine to meet them somewhere convenient or have them come to your office. If you need to do this over a video call, that's not as good, but much better than not doing at all." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Be clear beforehand what problem it is you think they have, and think about how you'll either confirm or contradict that." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "My favorite is to bring three people to these interviews: the product manager, the product designer, and one of the engineers from the team (we normally rotate among those that want to attend). Usually, the designer drives (because they've usually been trained how to do this well), the product manager takes notes, and the developer observes."
- "Here's what I'm always trying to understand: Are your customers who you think they are? Do they really have the problems you think they have? How does the customer solve this problem today? What would be required for them to switch? Now there are lots of ways to get these answers, and if you have access to a user researcher, you would normally follow their lead." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...this hour consistently yields a great return on your time. It's critical to learn the answers to these key questions." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Work to keep things natural and informal, ask open-ended questions, and try to learn what they're doing today (not so much what they wish they were doing, although that's also interesting)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Debrief with your colleagues to see if you've all heard the same things and had the same learnings. If you made any promises to the customer during that session, be sure you keep them." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Focus Groups (no use of product);

Validates: Value, Viability

- “Focus groups tend to be less useful for usability purposes, for a variety of reasons, but can provide a top-of-mind view of [what people think about a brand or product concept](#) in a group setting.”
- “Focus groups: Groups of 3–12 participants are led through a discussion about a set of topics, [giving verbal and written feedback through discussion and exercises](#).”
- “Focus groups can be a powerful tool in system development, but they should not be the only source of information about user behavior. In interactive systems development, the proper role of focus groups is not to assess interaction styles or design usability, but to [discover what users want from the system](#).”
- “Focus groups require several representative users. Because you need a flowing discussion and various perspectives, the initial focus group should have [at least 6 users](#). Typically, you should run more than one focus group, because the outcome of any single session may not be representative and discussions can get sidetracked.”
- "...focus groups might be helpful for gaining market insights, but they are not helpful in discovering the product we need to deliver." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “[Focus groups](#): Small number of segmented participants react and discuss a specific topic.”
- "With initial research showing Porsche had real opportunities with an SUV and a four-door family sedan, the next step was to determine exactly what had to be in those vehicles. The company knows designing a viable vehicle means giving customers the features they want, not what Porsche wants. For Cayenne and Panamera, it conducted extensive value analysis to determine the features for each car. [Porsche did its value analysis in so-called “car clinics” in exhibition halls, where it rented competitors' cars and presented them alongside the new Porsche models. It then invited potential customers to evaluate the vehicles. Of course, part of what Porsche asked these potential customers about was their willingness to pay for the cars. This, too, went above and beyond the industry's typical customer research](#). Most automakers only gather customer perceptions, asking such questions as, “Do you like the car overall, the front, the interior?” or “How do you like this feature?” and “Would you be interested to buy?” But they typically don't take the next crucial step and ask the willingness to pay questions." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Stakeholder Walkthrough (limited use of product);

Validates: Viability, Feasibility

- "A walkthrough is when you show your prototype to a stakeholder and you want to make sure they see and note absolutely everything that might be a concern. The purpose is to give the stakeholder every opportunity to spot a problem. The product manager usually drives, but if the stakeholder would like to play with the prototype we are happy to let them. You are not trying to sell them anything, you're not trying to test on them, and you're definitely not trying to hide anything from them." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Validate with Real Actions (Real Evidence)

Analytics (natural use of product); [Storytelling w/ Charts <Doc>](#);

Validates: Value, Usability

- “Analytics: Analyzing data collected from [user behavior like clicks, form filling, and other recorded interactions](#). It requires the site or application to be instrumented properly in advance.”
- “Software should do what users think it will. But you can't have any idea what users will be thinking, believe me, until you watch them. [And server-based software gives you unprecedented information about their behavior. You're not limited to small, artificial focus groups. You can see every click made by every user](#). You have to consider carefully what you're going to look at, because you don't want to violate users' privacy, but even the most general statistical sampling can be very useful.”

#### Adoption Metrics (Low Adoption of, or Interest in a Product, Feature)

- “Data: 75% of traffic is mobile, but the app has a 2.9-star rating.  
Hypothesis: Frequent bugs or crashes are driving down satisfaction.  
Next Step: Correlate crash logs with app reviews; prioritize stability fixes.” - ChatGPT

#### Engagement Metrics (Low Engagement of a Product, Feature)

- “Data: Only 8% of users interact with a recently launched “Favorites” feature.  
Hypothesis: The feature is not discoverable in the UI. Users don't notice the "Favorites" button.  
How to Go Deeper:  
UI tracking: Look at click-through rates on the feature’s entry points.  
Experiment: Run an A/B test that changes button prominence.  
Funnel analysis: What % of people who view the page actually click it?  
Surveys or interviews: Ask users what “Favorites” means or if they knew it existed.  
Next Step: Move the feature to a more prominent location or introduce an onboarding nudge.” - ChatGPT

#### Session Duration

- “Data: Users spend an average of 8 minutes per session but have a 1% conversion rate.  
Hypothesis: Users are interested but confused by too many choices or unclear CTAs.  
Next Step: Simplify the product catalog or test CTA copy and placement.” - ChatGPT

#### Bounce Rate

- “Data: 45% of users bounce after viewing only the search results page.  
Hypothesis: Search results aren’t perceived as relevant or trustworthy. Results don’t feel relevant.  
How to Go Deeper:  
Click distribution by position: Do people scroll or click the top results?  
Query abandonment: % of sessions where people reformulate queries.  
CTR by query type: Segment by broad vs. specific queries, or category (e.g. books vs. audiobooks).  
Manual review: Sample low-CTR queries and judge result quality (LLM, human labeling).  
Next Step: Audit ranking logic, enrich metadata, or test preview snippets in results.” - ChatGPT

#### Conversion Rate

- “Data: Conversion rate dropped from 12% to 9% after a homepage redesign.  
Hypothesis: The new design removed a key trust signal (e.g., reviews or testimonials). A trust element was removed.  
How to Go Deeper:  
Before/after screenshots and audits: What exactly changed?



A/B testing logs: Compare click paths and conversion funnels.

Trust element tracking: If you log clicks on reviews or badges, did those fall to 0?

Sentiment analysis: Did user feedback change in tone or volume?

Next Step: A/B test versions with and without that element reintroduced.” - ChatGPT

Predictive Modeling (Logistic Regression to predict conversion)

- “Use logistic regression to model what behaviors predict conversion, engagement, etc.” - ChatGPT

Retention Metrics (Low Retention of a Product, Feature)

- “Data: LATAM region shows a 15% higher churn rate than the global average.  
Hypothesis: Payment method availability or language support is inadequate in LATAM.  
Next Step: Survey users in that region or test introducing local payment options.” - ChatGPT
- “Data: Users spend an average of 8 minutes per session but have a 1% conversion rate.  
Hypothesis: Users are interested but confused by too many choices or unclear CTAs.  
Next Step: Simplify the product catalog or test CTA copy and placement.” - ChatGPT

Data Mining (Pattern Matching, ML, Statistics)

- “[Data Mining](#): It’s the process of extracting and discovering patterns in large data sets via machine learning, statistics, and database systems. It facilitates decision-making by uncovering insights.”

Rage Metrics

Clicks or Taps

ALL CAPS Typing

Clickstream / Click Trails (e.g: clicking the “back” button)

- “Clickstream analytics: A particular type of analytics that involves [analyzing the sequence of pages that users visit as they use a site](#) or software application.”
- “[I studied click trails of people taking the test drive and found that at a certain step they would get confused and click on the browser's Back button](#). (If you try writing Web-based applications, you'll find that the Back button becomes one of your most interesting philosophical problems.) So I added a message at that point, telling users that they were nearly finished, and reminding them not to click on the Back button. Another great thing about Web-based software is that you get instant feedback from changes: the number of people completing the test drive rose immediately from 60% to 90%. And since the number of new users was a function of the number of completed test drives, our revenue growth increased by 50%, just from that change.”

Drop-off Points (Funnel Analysis)

- “...you need to [find out why your customers are dropping off](#) and work on those areas specifically. And this is where qualitative analysis comes in.”

Onboarding Flow

- “Data: 60% of users drop off at step 2 of a 4-step onboarding flow.  
Hypothesis: Users drop off in step 2 because the form is confusing. Users are confused or overwhelmed by the information requested in step 2.  
How to Go Deeper:  
Heatmaps/Session replays: Watch where users hover, scroll, or rage click.  
Field-level analytics: Measure completion/drop-off per field.  
User feedback: Surface in-app micro surveys like “Was this step clear?”  
Cohort analysis: Does drop-off differ by device, language, or referral source?  
Next Step: Run usability tests or simplify the UI for step 2 and A/B test the impact.” -



## ChatGPT

### Form Completion

- “Companies often collect excessive data or create unnecessary steps for tasks. [These additional interactions mean users spend more time completing tasks and forms than they should](#). For example, asking for a customer’s age, gender, and income bracket on an eCommerce checkout form might help with future marketing initiatives, but it’s intrusive and creates a point of friction.”

### Collecting Excessive (too much) Data in form completion so users drop

- “Companies often collect excessive data or create unnecessary steps for tasks. These additional interactions mean users spend more time completing tasks and forms than they should. [For example, asking for a customer’s age, gender, and income bracket on an eCommerce checkout form might help with future marketing initiatives, but it’s intrusive and creates a point of friction.](#)”

### Abandonment

#### Cart Abandonment

#### Search Bar Abandonment (how many users focus on the search bar, but don’t search?)

#### Decision Trees (identify patterns among users vs drop-offs)

- “Build a decision tree to identify behavioral patterns among power users vs. drop-offs.” - ChatGPT

### Latency / Speed (slow load times)

- “[Slow response time is one of the most common factors that make organizations lose leads](#). Delay in uploading elements makes users lose interest and result in dissatisfaction. Ultimately, it decreases user engagement.”

### Intervention Analysis (e.g: Rollout Dates)

- “Look at the impact across cohorts by rollout date (did drop-off start right after the change?).” - ChatGPT
- “Run backtests—what changed after specific interventions?” - ChatGPT

### Eye / Click Tracking

- “...eye tracking seeks to understand [how users visually interact with a design or visual stimulus](#).”
- “Eyetracking: an eyetracking device is configured to [precisely measure where participants look as they perform tasks](#) or interact naturally with websites, applications, physical products, or environments.”
- “Eye tracking equipment [can track and show where a person is looking](#). To do so, it uses a special light to create a reflection in the person’s eyes. Cameras in the tracker capture those reflections and use them to estimate the position and movement of the eyes. That data is then projected onto the UI, resulting in a visualization of where the participant looked.”

### Gazeplots

- “This gaze plot shows how one participant processed a web page in a few minutes. The [bubbles represent fixations](#) – spots where the eyes stopped and looked at; the size of the bubble is proportional with the duration of the fixation.”
- “Gazeplots: If you want [static visualizations of where individuals looked on a page](#), you could use a setup similar to ours, but you wouldn’t need as many users. You could collect data from 8-12 participants. (For regular qualitative usability testing, it’s usually best to test with around 5 users, but for a qualitative eyetracking study you’ll want to recruit a few extra test users to account for calibration problems and other technical issues.)”

## Gaze Replays

- “This video clip is a gaze replay — it [shows how one participant’s eye processed a page](#) on Bose.com.”
- “Gaze replays and anecdotes: If you’re looking for video clips and qualitative insights, a lightweight tool might work for you. Instead of the complex setup we used for this study, you could consider using lightweight USB-connected eyetracker systems or special eyetracking goggles (particularly for testing mobile designs). Those types of studies can be much easier to run than full-fledged quantitative eyetracking studies. Be aware, though, that those products are often not capable of producing gazeplots or heatmaps. Lightweight systems also tend to be less precise — [instead of a little dot showing you which word someone is reading, you might get a big bubble that just shows you which paragraph he’s looking at.](#)”

## Heatmaps

- “This heatmap is an aggregate from many participants performing the same task. The [colored areas indicate where people looked, with red areas signifying the most amount of time, followed by yellow and green](#), respectively. To get this type of visualization, we recommend having at least 39 participants perform the same task on the same page.”
- “Heatmaps: If you want static visualizations that [summarize where many people looked at a page on average](#), you’ll need to run a quantitative study like we did. We usually recommend having 39 participants complete the task you want to use for a heatmap.”
- “Product Managers use heatmaps to observe user behavior and how users are engaging with their products. With heatmaps, you can [track where users click most, where they get stuck, how far they have scrolled down a page, what are the best CTAs, and what areas are not being used.](#)”
- “Another cool feature is heatmaps, which is a data visualization technique that shows the magnitude of a phenomenon as color in dimensions. Hotjar provides click, move & scroll heatmaps. Using heatmaps we can [analyze what action users are performing on the site](#). It gives the result in the form of colors, red being the hot (most used) and grey being the cold (low used).”
- “As its name suggests, Hotjar is a user tracking tool that [uses heat maps to track website visitor activity](#). It also has the option of recording user sessions to display and analyze a visitor’s activity. It monitors clicks, mouse movements, and taps, which helps product owners identify usability issues. And if monitoring your user does not give you the answers you need, you can simply create a targeted survey to hear it from the users themselves.”

## Screen Recordings (natural use of product);

*PMs should aim to watch at least 10 minutes of recordings every day;*

Validates: Usability;

- “As its name suggests, Hotjar is a user tracking tool that uses heat maps to track website visitor activity. It also has the option of [recording user sessions to display and analyze a visitor’s activity](#). It monitors clicks, mouse movements, and taps, which helps product owners identify usability issues. And if monitoring your user does not give you the answers you need, you can simply create a targeted survey to hear it from the users themselves.”
- “Start recording user sessions and force yourself to watch a few of them every day. I personally watch between 30 to 50 sessions every week, it’s a 10 minute morning routine. It will give you a knowledge base about what your customers do on your website. For

instance, these sessions showed me the importance of images in DIY: users zoom on them to see technical details, to read the back of paint tins or to see the details of a curtain fabric. [After a month you will have watched around 160 sessions, which starts to give you a fair overview of user problems](#). Disclaimer: unfortunately, Hotjar does not support iOS or Android Apps.”

- “[Watching users can guide you in design as well as optimization](#). Viaweb had a scripting language called RTML that let advanced users define their own page styles. We found that RTML became a kind of suggestion box, because users only used it when the predefined page styles couldn't do what they wanted. Originally the editor put button bars across the page, for example, but after a number of users used RTML to put buttons down the left side, we made that an option (in fact the default) in the predefined page styles.”
- “...by [watching users you can often tell when they're in trouble. And since the customer is always right, that's a sign of something you need to fix](#).”

Quantitative User Surveys (e.g: Multiple Choice, Ratings, Scales);

Validates: Value, Viability

- “Surveys: A quantitative measure of attitudes through a series of questions, [typically more closed-ended than open-ended](#). A survey that is triggered during the use of a site or application is an intercept survey, often triggered by user behavior. More typically, participants are recruited from an email message or reached through some other channel such as social media.”
- “To ensure high response rates and avoid misleading survey results, [keep your surveys short and ensure that your questions are well written and easy to answer](#).”
- “Conducting surveys is probably one of the most common methods used to collect quantitative data. Surveys involve open-ended questions, large sample groups, and [help answer how many and how much](#)? They are considered a fast and inexpensive way to gather data. Although there are a few negatives to surveys, it can be one of the easiest ways to collect a large sample size of data.”
- “Big quantitative insight works best with a few, well targeted questions. [People hate filling in questionnaires where they have to rate dozens of items on scales of 1–10, so to get the best engagement rates, and thus the best reflection of the whole population, you have to focus on the important questions](#), and not a scatter-shot approach. Fortunately, small qual precursor studies will help you refine this, and get the right questions with the right language.”
- “Quantitative survey questions are ideal for gaining a larger perspective of the market as a whole. [With quantitative survey questions, you get precise and objective answers](#). Therefore they are also used to predict the market trends.”
- “Over a year ago, [we put together a survey on Reddit search, and over 3,000 people responded—out of that feedback, comment search was one of the most requested features](#). (Thank you to those who responded!) Fast forward five months, and we showed you a sneak peek of what it might look like to search comments on Reddit. At the time, frontend improvements were just getting rolling, and now, for the first time in sixteen years, everything on Reddit (posts, people, communities, and now comments) is searchable!”
- “...[good surveys are short, they should be less than 5 minutes, they should be multiple choice](#)... but most surveys should be very short because who here has looked at a survey that looked too long and said “i’m not going to do that”...”
- “As its name suggests, Hotjar is a user tracking tool that uses heat maps to track website

visitor activity. It also has the option of recording user sessions to display and analyze a visitor's activity. It monitors clicks, mouse movements, and taps, which helps product owners identify usability issues. And if monitoring your user does not give you the answers you need, [you can simply create a targeted survey to hear it from the users themselves.](#)"

- "Surveys: It's an effective and low-cost method for gathering data. Questionnaires, for example, can be easily distributed, answered, and processed."
- "Questionnaires are [useful when there is a lot of information to be gathered from a larger group of stakeholders](#). This enables the business team to gather requirements from stakeholders remotely. The design of the questionnaire is very important, since it can influence the answers that people provide."

[Where] to Run Surveys? IN TARGET CUSTOMER SYSTEMS: Social Media, LinkedIn - B2B, Twitter, Reddit, Facebook Groups, Slack / Discord, Email Lists / Newsletters, Landing Pages

[Tools] for Surveys: [Google Forms](#), [Typeform](#), [Tally.so](#), [SurveyMonkey](#),

[Types] of Surveys

Short Surveys (1-Question Surveys);

Validate: Problem

*E.g: to test the assumption "Our subscribers want to watch sports" you can ask: "Have you watched a sporting event in the last week? Y/N"*

- "To ensure high response rates and avoid misleading survey results, [keep your surveys short](#) and ensure that your questions are well written and easy to answer."
- "Many assumptions can be tested with quick answers to a single question. This is where one-question survey tools can be tremendously helpful. If we wanted to test the "Our subscribers want to watch sports" assumption in more than one way, we could launch a one-question survey asking them, "When was the last time you watched a sporting event?" We could use their answers to triangulate with our prototype simulation." ~ [Continuous Discovery Habits by Teresa Torres](#)
- "Sometimes we simply need to learn about our customers' preferences. For example, if we were testing the assumption "Our platform has the sports our subscribers want to watch," we could test this with a one-question survey. We could ask, "Please select all the sports you've watched in the past month." ~ [Continuous Discovery Habits by Teresa Torres](#)
- "Sometimes you can use one-question surveys to simulate an experience. For example, if one of our ideas depends on the assumption "Our subscribers will tell us who their favorite sports teams are," you might be tempted to ask customers, "Are you willing to tell us who your favorite sports teams are?" But this is a question about future behavior. The answers are unreliable. Instead, ask, "What are your favorite sports teams?" Evaluate the results based on the percentage of people who answer as compared to the percentage of people who skipped it." ~ [Continuous Discovery Habits by Teresa Torres](#)
- "When using one-question surveys, we want to make sure we are following the same research rules we've outlined before. When asking about past behavior, we want to ask about specific instances (as you learned in Chapter 5). So, we are asking about the last week and the last month, not in general. We also want to avoid asking about what they might do in the future. We know this leads to unreliable data." ~ [Continuous Discovery Habits by Teresa Torres](#)

Ratings Questions (e.g: App store, Google maps, etc... offers these surveys for FREE)

- “For the Quantitative method, I will collect or [survey 400 samples of students from the university and ask them to answer for the satisfaction they got with their professors teaching on a scale from 1–5](#). Then, with the collected data, statistical data analysis is performed and I can draw conclusions. For example, the students got satisfaction with their professors on an average of 4.5.”
- “Data: 75% of traffic is mobile, but the app has a 2.9-star rating.  
Hypothesis: Frequent bugs or crashes are driving down satisfaction.  
Next Step: Correlate crash logs with app reviews; prioritize stability fixes.” - ChatGPT

Purchase Probability Questions: “On a scale of 1-5, would you buy this?”

Validate: Value;

- “For instance, [purchase probability questions. So if you ask someone, "Okay, would you buy this product?" That's a meaningless question. At least if you ground them on a scale and say, "On a scale of one to five, would you buy it?" One is, "I'm not at all interested", five is, "Most likely I would buy it," or, "I would buy it for certain." And four is, "Most likely", for instance, and three is, "I'm neutral."](#) What we are actually seeing is, even if people say, "Five", they are probably only 30 to 50% sure about whether they would buy, so you can start, and if they say, "Four", it's 10 to 20%. If they say, "Three and below", they're never going to buy it. So if you do this at scale, you can start coming up with, let's say a demand curve. And then say, "Where is the price optimal?" et cetera. So you can understand purchase probabilities. And if someone says, let's say, three, for a certain price point, then you can lower the price and say, okay, would they actually move their ratings to a four or five. So I think these are some simple ways to understand purchase probabilities and elasticities.”

Stack Ranking Questions (Most & Least Questions);

Validates: Value

- “...one other option you have is online surveys, this one is probably the least personal in the sense that you can send it to thousands of people and you don't actually have to talk to anyone on the phone or on a zoom call, but you can reach a large number of people, a really big audience, so if you have some kind of question like ‘[What is the most important criteria that you consider when you're booking your trip? Can you stack rank them 1-8?](#)’ This kind of question is pretty useful in an online survey because it's helpful to have 100 people answer it as opposed to 6 or 10, you can get a really large volume and have more confidence in the results...”
- “...another one is what we call is most and least questions. And the thesis behind this is, if you go and ask people, "Okay, I give them a list of 10 features", let's say. And I say, "Rank them one to 10", most people will find that exercise painful, horrible, because there's always this messy middle where everything is gray. They all look the same. There's a lot of psychological theory that people are very adept at identifying the extremes. When it gets in the between, that's when things become tougher. So [what we do is, if we have a list of 10 features that we want to understand whether people have willingness to pay for, when we are prioritizing the R&D roadmap for our clients, we would take a subset of, let's say six or so features out of those 10. And then they say, "In this set of features, identify the most important for you, and the least important." And the most important is defined as, "Must have, I will pay for it." Least important is, "I don't need it. I won't pay for it"](#), connotation. This, people can do all day long, because they're just picking the two. And then we will change the set of six, another combination from



the 10, and ask that same question. So if you do this a few times, you will be able to prioritize the entire feature set in a relative fashion, and truly understand what drives willingness to pay.”

Feature/Price Trade Off Questions:

Question: If you had PackageA and PricingA, would you buy this? If you had PackageB and PricingB, would you buy this? ...

Validate: Value (of Scope);

- “The last method, which gets into more advanced methodology, is what we call is more trade-off exercises. So here, what we do is we put people through actual buying patterns, or actual buying scenarios and say, "Okay, if you had this packaging and pricing, for instance, for your software product, what would you do?" Which is akin to a real life question. You have all the features, all the price, the number of plans, et cetera. Then we would change that and say, "Okay. If you change the features and the price, how would you react? Would you buy any of these products? Or would you say, I won't choose any of these?" These are more like shopping scenarios for your products, but it's realistic, and it's akin to real life. Based on how they choose these products, what we are trying to reveal is the mental models and rules that people use to make decisions.”
- “So for instance, if I add certain amount of features and increase the price, people say, "You know what? I'm not going to buy anything more." What that actually tells you is the addition of those features, people are not willing to pay the addition in terms of price, so they would actually opt out of the lineup that you actually have for your customers. So these kind of things, if you do these kind of exercise, you can get more precise on things like price elasticity, build some simulation models, try to understand how the market would react, et cetera. And different methods are actually applicable at different stages of a product and different stages of a company.”

Exit Polls

- “Prompt users after they get no results or bounce quickly: “Did you find what you were looking for?”” - ChatGPT

Odds Ratios (X times more likely...);

Implies that there is a relationship between {variable} and {event};

Validate: Problem, Value

- “...odds ratios are sometimes interpreted as causal (i.e. variable A caused Event A) but this is often not the case. Odds ratios merely imply that there is a relationship between a variable and an event, but there may be a number of underlying variables, some that are not even included in the original analysis, that are actually causing the effect.”
- “The general formula for calculating odds ratio is Event A Occurrences / Event B Occurrences. The first step is calculating the odds ratio for Democrats. Using the general formula of Event A Occurrences / Event B Occurrences, I get  $0.38 / 0.57 = 0.66$ . This can be interpreted as for every 66 Democrats who believe A.D.i.O, 100 do not. Based on the survey results, Democrats are actually more likely to think the American Dream is not obtainable for most people living in the US. This is only half of the equation though, and now we repeat the process for the Republican responses. Using the same formula, I get  $0.79 / 0.17 = 4.64$ . This is a pretty significant odds ratio — for every 464 Republicans who believe A.D.i.O, 100 do not. The final step is comparing these odds against each other, because right now both have been calculated within the same group (i.e. all Republican or Democrat responses). This can be done through obtaining the ratio of Republican Odds to Democrat Odds, which is  $4.6/0.66 (6.96)$ . This means Republicans



are ~7x more likely to believe in the American Dream than Democrats, and 4.6x more likely to believe in the American Dream than not.”

- “The [probability of a respondent thinking “American Dream is Attainable” is Total Count of Attainable Responses / All Responses, or \(1383 + 1911\) / 6588. This works out to be 51%, which means ~1 in 2 Americans](#) think “American Dream is Attainable””
- “People who smoke are 15–30x more likely to get lung cancer. Black men and women are 1.9x more likely to die from a COVID-19 related reason than their white counterparts. Chances are, you’ve seen one of these “x times more likely” claims on a headline or in a newspaper article... These statistics are called odds likelihood ratios, and they are often used to describe how certain populations are more or less likely to experience something. Some benefits of odds ratios are that they are easily interpretable by a wide audience (i.e. 2x means more to most people than 0.7 regression coefficient), and [can highlight the effect of a single variable across 2 populations](#) (i.e. rates of cancer across smokers and non-smokers).”
- “This is because the 6.96 [refers to how the odds of one event is better than the odds of another event](#), not the probability of one event occurring over another.”
- “[Odds ratio of 1 or close to 1](#) means that neither event is more or less likely than the other, and the variable under investigation (i.e. political affiliation) has no relationship with the event (believing in the American Dream).”
- “[Odds ratios greater than 1 mean that event A is more likely than event B](#), and the variable is probably correlated with the event. However, statistical significance still needs to be tested.”
- “[Odds ratios less than 1 mean that event A is less likely than event B](#), and the variable is probably correlated with the event. However, statistical significance still needs to be tested.”

Field Studies // Shadowing (natural use of product);

Field Study is like a “Contextual Inquiry” but instead it has no user interaction (you don’t ask questions in a Field Study, only observe);

Validates: Value

- “In field studies and usability testing, for example, researchers directly [observe how people use \(or do not use\) technology to meet their needs or to complete tasks](#). These observations give them the ability to ask questions, probe on behavior, or possibly even adjust the study protocol to better meet study objectives. Analysis of the data is usually not mathematical.”
- “Field studies: Researchers [study participants in their own environment](#) (work or home), where they would most likely encounter the product or service being used in the most realistic or natural environment.”
- “To learn about the day-to-day sales experience, each member of our team shadowed different reps and listened to them on sales calls. We observed [how they would select which lead to call, how they would decide what to talk about on the call, and how they actually made deals](#).”
- “[Observation](#): Directly observing an activity is a simple and powerful elicitation technique used to identify needs and opportunities, understand a business process, set performance standards, evaluate solution performance, and support training and development.”
- “This elicitation technique [helps in collecting requirements by observing users or stakeholders](#). This can provide information about the existing process, inputs and outputs.

There are two kinds of observations — active and passive. In active observation, the business analyst directly observes the users or stakeholders, whereas in passive observation the business analyst observes the subject matter experts. This helps the business team understand the requirements when users are unable to explain requirements clearly.”

- "...before sketching out its new product design, the Guard, [Gillette spent thousands of hours interviewing people in India and other emerging markets. It observed them in their homes and on shopping trips to understand what features were must-haves and what features were nice-to-haves](#). From this analysis, the company determined a price that Indian consumers were willing to pay. The target price: 15 rupees for the razor, with 5 rupees for the replacement blades. P&G designed the Guard around the price. It cut the Mach 3's 25 components down to four for the Guard, making it much simpler and cheaper to manufacture. They made the handle hollow. "I can remember talking about changes to this product that were worth a thousandth, or two thousandths of a cent," Jim Keighley, the company's associate director for product engineering, told a reporter.<sup>3</sup> The results were swift and stunning." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Drews and other Dräger Safety [employees went to such dark places as pipelines and parts of Hamburg's sewage canals to talk to the workers who spend 80 to 90 percent of their job time underground](#). The Dräger Safety crew asked them for pointed advice on how to improve the firm's products. They spoke with workers who monitored manholes and operated underground in sewage canal pipes. These workers, called testers, must continually sample the air from canals to detect toxic or combustible gases. The interviews found the testers had two main problems. First, pedestrians often accidentally kicked the gas detectors into a canal because they didn't see them. Second, when it rained, a tester had to stay out in the rain rather than work from a truck, because the detector's visual alarm wasn't bright enough and the audio alarm wasn't loud enough. Dräger Safety's new X-zone 5000 portable gas detector addressed both issues." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "[I think it's just very obvious as soon as you step into a corporation and spend a couple of days there really...](#) let's suppose your job is to increase sales, so the first thing you want to do is get a clear picture of what's going on. All right, so let me go and query the sales database. Oh wait, where's the sales database? I can't get access to this. Okay, I need to file an access ticket. All right, now I have to wait one week. And so everywhere we went, this was the big pain point, was we have to wait six to eight weeks just to get data access, and then when you do get data access, it's not like the data's in an easily queryable format, you actually really have to know what you're doing in order to get the right metrics out, and so on and so forth. And so it turned out like, okay, it's this iceberg analogy where the actual analysis is actually just the tip of the iceberg, it's kind of the last five or 10%, and the 95% before that is, I am gaining access to the data, I am cleaning the data, I'm joining the data, I'm normalizing it, putting it all in the same format. And so once we spotted that, then it's like, okay, there's actually a lot of product to be built there just to make that process easier.”

Use a Professional Friend or Family Member’s Career

- “...I have a story on that type of way of generating ideas... so I think one of their parents, I think it was [one of the founders’ mothers, was a dentist who ran her own small dentist](#)

[office, and he just went to work with her for a day](#) just to see like how does a dentist office work, and like is there anything that software could do better, and he realized a lot of the admin work involved in processing someone's insurance and pre-authorizing them and all of this work was just like routine that could really be processed away by an LLM and so they started working on that, they started building an LLM powered back office for dentists, and it's working really really well...”

#### Reach Out to Professionals to Shadow

- “...he found out about this problem... one of his friends was the victim of a crime, he started doing research and discovered, as I discovered in San Francisco, that many police officers are actually just drowned in paperwork, you might do an you know 8-10 hour shift and then you're spending 2-3 hours of those 8-10 hours just filling out paperwork at the end of it. San Francisco has this crazy law where if you stop anyone to even talk to them you have to fill out as much paperwork as if you had arrested them, so how can you do police work when you have a police commission that drowns you in paperwork like that, and this is not merely a San Francisco thing this is like almost all over of the United States, and so this is a very good example of literally going undercover, in that he went on ride alongs, he investigated this thing that was very upsetting to him in society, discovered the root cause, and then LLMs were happening, he's like, why would anyone sit in front of a web browser filling out multiple hours of like click, click, click, like entering data literally, like transcribe people's driver's licenses, like this is why are we turning police officers who are supposed to look out for Public Safety, and a lot of the job is clerical work, and of course you can use LLMs plus computer vision to take that 2-3 hours down to 5-10 minutes, especially because you already have camera data all day from the person doing the work...”

#### Actually do the “Job”

- “...I'm going to uh not put this company on blast, because they are an AI billing company that is doing well, but the way they came to the idea was not through connections per se, [one of the co-founders actually got a job doing medical billing, as a biller, as a remote person for a new york-based office, and he did not actually disclose that he was using software or building software](#), but that's what he did, he got a job, it was like an undercover job, like it wasn't like he happened to be working as a medical biller, he's like, I want to automate medical billing, but in order to do that I need to understand how it works, so I'm going to get a job as a medical biller in order to understand how it works from the inside... he actually got a real job and was paid as a medical biller.”
- “...that's [something founders should totally do, they should just go get random jobs like working in random Industries and learn about them from the inside, it doesn't take that long, it's not like you have to get an MD](#) or something in order to become a medical biller, I think it's like a two to four week training program or something, and those are actually sort of the ideal things to get automated right now: remote laptop jobs, that you can get very easily, it turns out LLMs are very good at doing those jobs these days, and laptops are very powerful...”
- “...when it came to DoorDash, the initial idea really came when we visited a macaroon store owner. [Our question that we tended to ask business owners was: "can we follow you around for a day?" So we'll go and pack boxes with you, do your accounting with you, make salads with you... we wanted to actually feel what it was like, their lived experience, versus just asking a bunch of survey questions. Sometimes it's very very hard for any customer to tell you exactly what is inside their brain when you ask them what](#)

[problems they have, and so we wanted to feel and try to figure it out ourselves](#), and it was toward the end of the time we spent with the store manager that she had showed us a booklet of orders she had turned down, all of them were delivery orders... and it just made no sense to us, we said "You're a one person shop, this is a big deal, this is a thick booklet of orders that probably is very meaningful to you, we don't understand why you're not pursuing it?" And so we really just unraveled that thread. As we kept studying this problem we found more and more interesting threads of where it would go... we could have done delivery just for this macaroon store owner, but then you can imagine you could do it for all bakeries, all types of restaurants, all types of retailers, and we started hearing the need from so many different merchants that we knew there was something there. What we didn't know was whether or not consumers cared and whether or not there could be a driver workforce that we could partner with, and so those turned out to be the key things we worked on at YC."

Contextual Inquiry (natural use of product);

Used to explore unmet needs or understanding user workflows;

Contextual Inquiry is like a "Field Study" but instead it DOES have user interaction (you DO ask questions in a Contextual Inquiry);

*Contextual Inquiries can surface Anecdotal Evidence IF you ask open-ended questions to the participant;*

Validates: Value, Feasibility

- "Its [name describes exactly what makes it valuable — inquiry in context: Context: The research takes place in the users' natural environment as they conduct their activities the way they normally would. The context could be in their home, office, or somewhere else entirely. Inquiry: The researcher watches the user as she performs her task and asks for information to understand how and why users do what they do.](#)"
- "Contextual inquiry: Researchers and participants collaborate together in the participants own environment to [inquire about and observe the nature of the tasks and work at hand](#). This method is very similar to a field study and was developed to study complex systems and in-depth processes."
- "Through observation and collaborative interpretation, contextual inquiry [uncovers hidden insights about customer's work](#) that may not be available through other research methods."
- "Contextual inquiry is useful for many domains, but it is especially [well-suited for understanding users' interactions with complex systems](#) and in-depth processes, as well as the point of view of expert users."
- "The contextual-inquiry method uses the relationship between a master craftsman and apprentice as a model for the interaction between the participant and the researcher. Though apprenticeship is less common today than it used to be, people are still fairly familiar with the idea and able to draw inspiration from it. Just as a master craftsman teaches an apprentice a skill through doing, [a researcher \("the apprentice"\) learns about users' tasks by observing a user \("the craftsman"\) and asking questions.](#)"

Diary Studies (natural use of product);

Validates: Value, Usability

- "Diary studies: Participants are using a mechanism (e.g., paper or digital diary, camera, smartphone app) to [record and describe aspects of their lives that are relevant to a product or service or simply core to the target audience](#). Diary studies are typically longitudinal and can be done only for data that is easily recorded by participants."

- “User logs (diaries) of daily activities as they occur give [contextual insights about real-time user behaviors and needs, helping define UX feature requirements.](#)”
- “A diary study is a research method used to [collect qualitative data about user behaviors, activities, and experiences over time.](#) In a diary study, data is self-reported by participants longitudinally — that is, over an extended period of time that can range from a few days to even a month or longer. During the defined reporting period, study participants are asked to keep a diary and log specific information about activities being studied. To help participants remember to fill in their diary, sometimes they are periodically prompted (for example, through a notification received daily or at select times during the day).”

Task Completion Testing:

Moderated Testing (scripted use of product);

Validates: Value, Usability;

*Can produce anecdotal evidence if asking open-ended questions;*

- “Remote moderated testing: Usability studies are conducted remotely, with the use of tools such as [video conferencing, screen-sharing software, and remote-control capabilities.](#)”
- “Remote moderated usability testing has a lot of advantages. Compared to in-person studies, it’s often less expensive, less time-consuming, and more convenient for participants. In cases [where participants can’t travel to a testing location, remote moderated usability testing is an excellent alternative.](#)”
- “Moderated sessions allow for back and forth between the participant and facilitator, because both are online simultaneously. [Facilitators can ask questions for clarification or dive into issues through additional questions after tasks are completed.](#)”
- “Moderated remote testing involves a researcher meeting with a participant via remote screen-sharing software, which [allows the researcher to provide instructions, observe the user’s interaction with the design in real time, and ask followup questions](#) specific to that participant’s session.”

Unmoderated Testing (scripted use of product);

Validates: Usability;

*Can produce anecdotal evidence if asking pre-determined open-ended questions;*

- “Unmoderated testing: An automated method that can be used in both quantitative and qualitative studies and that uses a specialized research tool to capture participant behaviors and attitudes, usually by [giving participants goals or scenarios to accomplish with a site, app, or prototype.](#) The tool can record a video stream of each user session, and can gather usability metrics such as success rate, task time, and perceived ease of use.”
- “Unmoderated remote testing does not require a researcher to attend each test session; instead, [a software application provides instructions to users, records their actions, and may ask them predetermined followup questions.](#)”
- “Unmoderated usability sessions are completed alone by the participant. Although there is no real-time interaction with the participant, some tools for remote testing allow predefined follow-up questions to be built into the study, to be shown after each task or at the end of the session. Questions can also be emailed to be completed after the user has finished her session. In both cases, questions are the same across users. There is no opportunity to ask detailed questions specific to the user’s actions. Users don’t have real-time support if they have a question, need clarification, or can’t get the technology to work, although you can provide them with an email address or phone number to contact someone for assistance. This disconnect also means you don’t know what the session was



like until it's finished. [If a user did run into a problem, skipped tasks, or failed to complete what was asked, you don't know until it's over.](#) Some sessions may end up being unusable or less valuable, depending on the issue."

Usability Benchmarking (scripted use of product);

Validates: Usability

- "Quantitative usability testing focuses on collecting metrics that describe the user experience. Two of the metrics most commonly collected in quantitative usability testing [are task success and time on task](#). Quantitative usability testing is best for collecting benchmarks."
- "Usability benchmarking: tightly scripted usability studies are performed with larger numbers of participants, using precise and predetermined measures of performance, usually with the [goal of tracking usability improvements of a product over time or comparing with competitors](#)."

Participatory Design (limited use of product);

Validates: Value, Usability

- "Participatory design: Participants are given design elements or creative materials in order to [construct their ideal experience in a concrete way](#) that expresses what matters to them most and why."

Card Sorting, or Search Result Ranking (limited use of product);

Validates: Usability

- "Card sorting: A quantitative or qualitative method that asks users to [organize items into groups and assign categories to each group](#). This method helps create or refine the information architecture of a site by exposing users' mental models."
- "For example, card sorting provides insights about users' mental model of an information space and [can help determine the best information architecture for your product](#), application, or website."
- "...card sorting [uses no technology](#)..."
- "Card sorting is a UX research method in which study [participants group individual labels written on notecards according to criteria that make sense to them](#). This method uncovers how the target audience's domain knowledge is structured, and it serves to create an information architecture that matches users' expectations."
- "Hertz.com: In recent user testing on ecommerce websites, participants saw a dropdown list of Rental Car Types, but they weren't sure what categories such as Dream Cars or Prestige Collection meant. Fortunately, the site included a photo and a brief description of each category, but comparing the different car types still required a fair amount of effort. Card sorting [can reveal what kinds of cars users expect to find on a car-rental site](#)."
- "Fortunately, there are fast and effective techniques you can [use to create categories and labels that will make sense to your audience](#). The most well-known technique is probably card sorting, in which users are given a list of representative content items to group and label as they see fit. Card sorting is invaluable for understanding how your audience thinks, but it does not necessarily produce the exact categorization scheme you should follow."
- "For example, [participants in a card sort often create a generic category to hold a few items which don't seem to fit anywhere else](#); this is understandable, but if you were to actually include an "other stuff" category in your menu, the same users would avoid it like the plague. (Website visitors are notoriously reluctant to click on vague labels because they quite rightly suspect they'll have to do a lot of work to sift through the



content.)”

- “All very good, but how do you find out the users' view of an information space and where they think each item should go? For researching this type of mental model, [the primary method is card sorting](#):
  - 1) Write the name (and perhaps a short description) of each of the main items on an index card. Yes, good old paper cards. (Taking care not to use terms that bias the users.)
  - 2) Shuffle the cards and give the deck to a user. (The standard recommendations for recruiting test participants apply: they must be representative users, etc.)
  - 3) Ask each user to sort the cards into piles, placing items that belong together in the same pile. Users can make as many or as few piles as they want; some piles can be big, others small.
  - 4) Optional extra steps include asking users to arrange the resulting piles into bigger groups, and to name the different groups and piles. The latter step can give you ideas for words and synonyms to use for navigation labels, links, headlines, and search engine optimization.”
- “Testing ever-more users in card sorting has diminishing returns, but test [at least 15 users](#) — 3 times more than you would in traditional usability tests.”
- “You must test [15 users to reach a correlation of 0.90](#), which is a more comfortable place to stop. After 15 users, diminishing returns set in and correlations increase very little: testing 30 people gives a correlation of 0.95 — certainly better, but usually not worth twice the money. There are hardly any improvements from going beyond 30 users: you have to test 60 people to reach 0.98, and doing so is definitely wasteful.”
- “Tullis and Wood recommend testing [20–30 users](#) for card sorting. Based on their data, my recommendation is to test 15 users.”

Tree Testing (limited use of product);

Validates: Usability

- “Tree testing: A quantitative method of testing an information architecture to determine how easy it is to find items in the hierarchy. This method can be [conducted on an existing information architecture to benchmark it and then again, after the information architecture is improved](#) with card sorting, to demonstrate improvement.”
- “For best results, [a card sort should be followed up by a tree test to evaluate the proposed menu structure](#).”
- “A tree test evaluates a hierarchical category structure, or tree, by [having users find the locations in the tree where specific tasks can be completed](#).”
- “Tree testing is incredibly useful as a follow-up to card sorting because it: [Evaluates a hierarchy according to how it performs in a real-world scenario, using tasks similar to a usability test](#); and Can be conducted well in advance of designing page layouts or navigation menus, allowing inexpensive exploration and refinement of the menu categories and labels.”
- “To conduct a tree test, you don’t need to sketch any wireframes or write any content. [You only need to prepare two things: the tree, or hierarchical menu, and the tasks, or instructions which explain to study participants what they should attempt to find](#).”

Discovery A/B Testing [1/99] (natural use of product; live-data prototype);

Validates: Value, Viability

- “A/B testing (aka multivariate testing, live testing, or bucket testing): A method of [scientifically testing different designs on a site by randomly assigning groups of users to interact with each of the different designs and measuring the effect](#) of these assignments

on user behavior.”

- “For example A/B testing presents changes to a site's design to random samples of site visitors but attempts to hold all else constant, in order to [see the effect of different site-design choices on behavior](#)...”
- "The gold standard for this type of testing is an A/B test. The reason we love A/B tests is because the user doesn't know which version of the product she is seeing. This yields data that is very predictive, which is what we ideally want." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "In discovery A/B testing, we usually have the current product showing to 99 percent of our users, and the live-data prototype showing to only 1 percent of our users or less. We monitor the A/B test more closely." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...we can isolate the contribution of new features, new versions of workflows, or new designs by running A/B tests and then comparing the results. This lets us prove which of our ideas work. We don't have to do this with everything, but with things that have high risk or high deployment costs, or that require changes in user behavior, this can be a tremendously powerful tool. Even where the volume of traffic is such that collecting statistically significant results is difficult or time consuming, we can still collect actual data from our live-data prototypes to make decisions that are much better informed." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "This is the main purpose of the live-data prototype we discussed earlier. As a reminder, a live-data prototype is one of the forms of prototype created in product discovery intended to expose certain use cases to a limited group of users to collect some actual usage data." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Keep in mind that this is a slightly different type of A/B test than optimization A/B testing. Optimization testing is where we experiment with different calls to action, different color treatments on a button, and so forth. Conceptually they are the same, but in practice there are some differences. Optimization testing is normally surface-level, low-risk changes, which we often test in a split test (50:50)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Invite-Only Testing (When there is NOT enough traffic to do Discovery A/B Testing);

Validates: Value

- "...if you just don't have enough traffic to be able to show to 1 percent—or even 10 percent—and get useful results anytime soon, then another effective way to collect evidence is the invite-only test. This is where you identify a set of users or customers that you contact and invite to try the new version. You tell them that it is an experimental version, so they are effectively opting in if they choose to run it." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Unfortunately, with a quantitative test like this all we know for sure is that they're not using it—we can't know why. That's when we'll follow up with a qualitative test to try and quickly learn why they're not as into it as we had hoped." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The data that this group generates is not as predictive as from a true, blind, A/B test. We realize that those who opt in are generally more early adopter types; nevertheless, we are getting a set of actual users doing their work with our live-data prototype, and we are collecting really interesting data." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

# User Interview Question Bank

User Interview Question Bank (or Sales Phone Call Question Bank)

- "...we want to learn whether the user or customer really has the problems we think they have, and how they solve those problems today, and what it would take for them to switch." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Validate Problem Questions

1) How do you complete your job? (JTBD)

- "...the main thing [when you're trying to find somebody's needs](#) is that you're trying to not sell, and you're trying to not talk about yourself, and so for example, when I was an entrepreneur we used to have this "rule of 20"... so the rule of 20 was you talk to 20 people that don't really know you, but that are in your target market segments... the first five discussions you have you just sit there and you just ask them about how they do their job, and you say nothing about what you do, nothing at all..."

Why did you do that?

- "...so I was sitting there in a guy's cubicle and the guy gets on the phone, he gets a call, he starts talking on the phone, and I was like how did you know to ask those questions? And he says Joe told me, I said who's Joe? And he said Joe is the guy that knows Netscape's server the best, and I'm like where did you get those questions? He goes right there and points to a corkboard and there's the five questions, and then another call comes in he asked the exact same five questions, and I was like, huh, that's interesting, so I look over this guy's cubicle and there's hundreds of people asking the same five questions... so the first five interviews were exactly like that, just [an hour watching people asking questions, whenever they did something ask "why did you do that"?](#)"

2) Wouldn't it be better if ...?

- "And then the next set of questions are, I'm curious, I've noticed you're taking all these calls, [wouldn't it be better if](#) you could just get that digitally without asking? Because isn't all that stuff you asked: open this file, run this command, tell me this version, tell me this date, that's knowable, that's objective facts, it's not subjective. And you know you're on the right scent when they say, oh, yeah we tried that already before but it didn't work and most people think that's bad. But it's good, and the reason it's good is because they know they have the problem, and they've actually done something to try to fix it, and they failed at fixing it, so now if I could show you that I can do it now all of a sudden I've got their attention..."

Validate Hypothesis Questions

- "...then the next five interviews are more around the solution experiments, it's like, hey, I've noticed the last three calls you took you asked the same five questions, what's up with that? And then they say usually something similar, but then you say [where do those questions come from? And do you get different types of problems? Or you have to ask different questions? And is that documented? How does that work?](#) And they show you all that stuff."

Understand the "why" behind the problem

1) Why do you bother attempting to solve the problem? (to get to the real problem)

- ""Why do you bother?" Good question. I love this sort of question. It's great for getting from the perceived problem to the real one. For example, some founders I knew were talking to finance guys spending hours each day sending emails about their spreadsheets. The finance guys were asking for better messaging tools so they could save time. The

“why do you bother” question led to “so we can be certain that we’re all working off the latest version.” Aha. The solution ended up being less like the requested messaging tool and more like Dropbox. A question like “why do you bother” points toward their motivations. It gives you the why.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

- “So I think the first is it has to be a growing and widening problem. No one's going to spend time fixing a pretty fixed problem, because it's not necessarily really a priority anymore. It's maybe a pain in the butt, but it's not a priority if it's not growing or widening. So gate check one is like, what is the implication? Are you measuring? Are you managing this problem today? Yes or no? If they don't know, great to know. If they said no, okay, move on to the next. That's pretty powerful. No, we're not measuring or managing this. Okay, there's probably not much there.”

Is this a problem where someone would spend money in order to solve it?

- ““What are the implications of that?” Good question. This distinguishes between I-will-pay-to-solve-that problems and that's-kind-of-annoying-but-I-can-deal-with-it “problems”. Some problems have big, costly implications. Others exist but don’t actually matter. It behooves you to find out which is which. It also gives you a good pricing signal. I once had someone keep describing the workflow we were fixing with emotionally loaded terms like “DISASTER”, accompanied by much yelling and arm waving. But when I asked him what the implications were, he sort of shrugged and said “Oh, we just ended up throwing a bunch of interns at the problem—it’s actually working pretty well.”” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- ““Does-this-problem-matter” questions: “How seriously do you take your blog?” “Do you make money from it?” “Have you tried making more money from it?” “How much time do you spend on it each week?” “Do you have any major aspirations for your blog?” “Which tools and services do you use for it?” “What are you already doing to improve this?” “What are the 3 big things you’re trying to fix or improve right now?” Some of these questions are generic, but give us signals that we can anchor on and dig around. The bulk of them are about finding out whether the person we’re talking to is taking this space seriously. Are they spending money? Making money? Is the problem in their top 3? Are they actively looking for solutions? When you fall into a premature zoom, you can waste a ton of time figuring out the minutia of a trivial problem. Even if you learn everything there is to know about that particular problem, you still haven’t got a business.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

2) Have you solved the problem?

Did you try to solve the problem? (does this problem really matter?)

- “I was checking out an idea with a potential customer and they excitedly said, “Oh man, that happens all the time. I would definitely pay for something which solved that problem.” That’s a future-promise statement without any commitment to back it up, so I needed to learn whether it was true or not. I asked, “When’s the last time this came up?” Turns out, it was pretty recent. That’s a great sign. To dig further, I asked, “Can you talk me through how you tried to fix it?” He looked at me blankly, so I nudged him further. “Did you google around for any other ways to solve it?” He seemed a little bit like he’d been caught stealing from the cookie jar and said, “No... I didn’t really think to. It’s something I’m used to dealing with, you know?” In the abstract, it’s something he would

“definitely” pay to solve. Once we got specific, he didn't even care enough to search for a solution (which do exist, incidentally). It's easy to get someone emotional about a problem if you lead them there. “Don't you hate when your shoelaces come untied while you're carrying groceries?” “Yeah, that's the worst!” And then I go off and design my special nevercome-untied laces without realising that if you actually cared, you would already be using a double-knot.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

- “...all of a sudden they're like, wait a second, [we've tried solving for this and it's still not solved for](#). Or you know what? We hired someone last year to manage this. Great understanding. Is it being measured? Is it being managed and have they tried to solve for it? The leading indicators that you're onto something here... There's these signals that you're talking about of signs that there's something here. Like a big enough pain point where they're excited to basically they want to pay for it, they will pay to solve a problem. So maybe just again, say the things you notice that are signs like, okay, you have something here.”

If you didn't solve the problem, but you did try to solve the problem, then what is stopping you from solving it?

- “And then the next set of questions are, I'm curious, I've noticed you're taking all these calls, wouldn't it be better if you could just get that digitally without asking? Because isn't all that stuff you asked: open this file, run this command, tell me this version, tell me this date, that's knowable, that's objective facts, it's not subjective. And you know you're on the right scent when they say, oh, yeah we tried that already before but it didn't work and most people think that's bad. But it's good, and the reason it's good is because [they know they have the problem, and they've actually done something to try to fix it, and they failed at fixing it](#), so now if I could show you that I can do it now all of a sudden I've got their attention...”

Understand the current “what” and “how” to solve the problem;

The responses to these questions are great candidates for **First Principles Thinking**

1) How do you currently try to solve the problem?

- "Say you're building an app to help construction companies manage their suppliers. You might ask them to show you how they currently do it. Talk about which parts they love and hate. Ask which other tools and processes they tried before settling on this one. Are they actively searching for a replacement? If so, what's the sticking point? If not, why not? Where are they losing money with their current tools? Is there a budget for better ones? Now, take all that information and decide for yourself whether it's a good idea." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- "Ask how they currently solve X and how much it costs them to do so. And how much time it takes. Ask them to talk you through what happened the last time X came up. If they haven't solved the problem, ask why not. Have they tried searching for solutions and found them wanting? Or do they not even care enough to have Googled for it?" - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- "How much does the problem cost them? How much do they currently pay to solve it? How big is the budget they've allocated? I hope you're noticing a trend here." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)



- “...the next question you want to get into is [how have you tried to solve for it?](#) Is it through that head count that you just hired? Is it through another tool? Is it just still an open gap because nothing exists yet to solve it? Just understand their maturity around how they've tried to plug it. These are all that make the secret moments in intel to close that gap... essentially it's showing you that there's a pain here that they're paying attention to and are trying to solve. And what you're psychologically doing is now you're flipping them into a buyer where they're like, wait a second, hold on. I need to bring on so-and-so on the next call, they also think that this is not good enough.”

Talk me through what happened the last time you experienced the problem?

- ““Talk me through the last time that happened.” Good question. Your high school writing teacher may have told you that stories are meant to “show, not tell”. Whenever possible, you want to be shown, not told, by your customers. Learn through their actions instead of their opinions. If you ran a burger joint, it would be stupid to survey your customers about whether they prefer cheeseburgers or hamburgers. Just watch what they buy (but if you’re trying to understand why they prefer one over the other, you’ll have to talk to them). Folks can’t be wishy-washy when you’re watching them do the task in question. Get as close to the real action as you can. Seeing it first hand provides unique insight into murky situations. But if you can’t get in there, asking them to talk you through the last time it happened is still a huge help. Being walked through their full workflow answers many questions in one fell swoop: how do they spend their days, what tools do they use, and who do they talk to? What are the constraints of their day and life? How does your product fit into that day? Which other tools, products, software, and tasks does your product need to integrate with?” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

2) Which steps do you like/love when solving the problem? [\[Existing Value\]](#)

What is the main benefit you get from that process?

- “To [understand why users loved Superhuman](#), we once again turned to the segment of those who would be very disappointed without our product. This time, we looked at their answers to the third question on our survey: “What is the main benefit you receive from Superhuman?”... After throwing the responses into a word cloud, some common themes emerged: the users who loved our product most appreciated Superhuman for its speed, focus and keyboard shortcuts.”

3) Which steps do you dislike/hate when solving the problem? [\[Pain Points\]](#)

How would you improve that process?

- “Focusing on this last group, we looked more closely at their answers to the fourth question on our survey: “How can we improve Superhuman for you?” After some analysis, [we found that the main thing holding back our users was simple: our lack of a mobile app](#). In 2015, we had taken the contrarian approach of starting with the desktop. Most emails are sent from desktop, so that's where we thought we could add most value. We were always planning on building a mobile app, but at the beginning of our journey — like every startup — we had the chips for just one bet. In 2017, it was clear that we could no longer delay this, and that mobile had become critical for product/market fit. Probing further, we found some less obvious and more interesting requests: integrations, attachment handling, calendaring, unified inbox, better search, read receipts and so on into the long tail. For example, as an early-stage company, internally we weren’t making heavy use of our calendar and we wouldn’t have prioritized calendaring much at all based on our own intuitions about email. Hence, this process of digging through feedback



massively moved calendaring up on the product priorities list.”

Competitive Research Questions (IF the user has solved the problem)

1) What ways have you tried to solve the problem before settling on your current preference?

- ""What else have you tried?" Good question. What are they using now? How much does it cost and what do they love or hate about it? How much would those fixes be worth and how traumatic would it be for them to switch to a new solution? I was checking out an idea with a potential customer and they excitedly said, “Oh man, that happens all the time. I would definitely pay for something which solved that problem.” That’s a future-promise statement without any commitment to back it up, so I needed to learn whether it was true or not. I asked, “When’s the last time this came up?” Turns out, it was pretty recent. That’s a great sign. To dig further, I asked, “Can you talk me through how you tried to fix it?” He looked at me blankly, so I nudged him further. “Did you google around for any other ways to solve it?” He seemed a little bit like he’d been caught stealing from the cookie jar and said, “No... I didn’t really think to. It’s something I’m used to dealing with, you know?” In the abstract, it’s something he would “definitely” pay to solve. Once we got specific, he didn’t even care enough to search for a solution (which do exist, incidentally). It’s easy to get someone emotional about a problem if you lead them there. “Don’t you hate when your shoelaces come untied while you’re carrying groceries?” “Yeah, that’s the worst!” And then I go off and design my special nevercome-untied laces without realising that if you actually cared, you would already be using a double-knot.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

2) How much does it cost you to solve the problem? How long does it take you to solve the problem?

- ""How are you dealing with it now?" Good question. Beyond workflow information, this gives you a price anchor. If they’re paying £100/month for a duct-tape workaround, you know which ballpark you’re playing in. On the other hand, they may have spent £120,000 this year on agency fees to maintain a site you’re replacing. If that’s the case, you don’t want to be having the £100 conversation. Sometimes, both of the above will be happening simultaneously and you get to choose how you present yourself. Do you want to be a replacement for the web app at a yearly value of £1.2k or for the agency at 100x that?” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- “As always, ask about what they already do now, not what they believe they might do in the future. Common wisdom is that you price your product in terms of value to the customer rather than cost to you. That’s true. And you can’t quantify the value received without prodding their financial worldview. Another way to fix it, if you’re far enough along, is to literally ask for money. If you have the deposit or pre-order in hand, you know they’re telling the truth.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

3) Where are you losing money OR time today when you solve the problem?

Value Worth Questions (Price Point Research)

4) Are you actively searching for a replacement? IF yes, what would push you to choose a replacement over your current preference? IF no, why not?

5) How big is the budget you’ve allocated to {solve problem}? (B2B only)

- ""Where does the money come from?" Good question. This isn’t something you would necessarily ask a consumer (though you might), but in a B2B context it’s a must-ask. It

leads to a conversation about whose budget the purchase will come from and who else within their company holds the power to torpedo the deal. Often, you'll find yourself talking to someone other than the budget owner. Your future pitches will hit unseen snags unless you learn who else matters and what they care about. This knowledge of their purchasing process will eventually turn into a repeatable sales roadmap." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

#### Value Testing Questions (coupled w/ Usability Testing)

- "The most common type of qualitative value testing is focused on the response, or reaction. Do customers love this? Will they pay for it? Will users choose to use this? And most important, if not, why not?" - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...and then the next five interviews are, hey, you know what, this is super early, I'm just thinking out loud, I'm kind of thinking about doing a system that does this, and I've noticed from some of the folks that I've talked to so far that they're having these problems, am I smoking something here? You know that you're kind of on the right track if the person steals the whiteboard marker out of your hand and starts drawing your solution for you, and saying I've been thinking about this for years, and I can't get management to do this, and when are you gonna come back and show me your product..."

#### 0) Would you pay for this product? (user spends money)

- "One technique I like for gauging value is to see if the user would be willing to pay for it, even if you have no intention of charging them for it. We're looking for the user to pull out his or her credit card right then and there and ask to buy the product (but we don't really want the card information). If it's an expensive product for businesses—beyond what someone would put on a credit card—you can ask people if they will sign a “non-binding letter of intent to buy” which is a good indicator that people are serious." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...all of a sudden they're like, wait a second, we've tried solving for this and it's still not solved for. Or you know what? We hired someone last year to manage this. Great understanding. Is it being measured? Is it being managed and have they tried to solve for it? The leading indicators that you're onto something here... There's these signals that you're talking about of signs that there's something here. Like a big enough pain point where they're excited to basically they want to pay for it, they will pay to solve a problem. So maybe just again, say the things you notice that are signs like, okay, you have something here."

#### Success Examples

- "And so for Figma, what that looks like and why this is so efficient of a go-to-market motion for us is, we actually didn't have a sales team for the first three years. So all of our revenue, it was paid, but it was all self-serve. And so we'd work with these. We weren't worried about things. I mean, you cared about security, but all of the org features that people need and want when you're working with procurement, we were just focused on technical features for users mostly. And then the individual contributor or maybe the manager would just put them on their credit card. That was the way that things grew. And so there was no sales team for a long time. We did have one eventually, and I'll talk about what that looked like."

#### 0) Would you recommend this product or share this on social media? (user spends reputation)

credits)

- "But there are other ways a user can “pay” for a product. You can see if they would be willing to pay with their reputation. You can ask them how likely they'd be to recommend the product to their friends or co-workers or boss (typically on a scale of 0–10). You can ask them to share on social media. You can ask them to enter the e-mail of their boss or their friends for a recommendation (even though we don't save the e-mails, it's very meaningful if people are willing to provide them)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

0) Would you schedule time to work on this product with us? (user spends time)

- "Especially with businesses, you can also ask the person if they'd be willing to schedule some significant time with you to work on this (even if we don't need it). This is another way people pay for value." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

0) Would you provide your login credentials from CurrentProduct and migrate its data to NewProduct?

- "You can also ask people to provide the login credentials for whatever product they would be switching from (because you tell them there's a migration utility or something). Again, we don't really want their login and password—we just want to know if they value our product highly enough that they're truly willing to switch right then and there." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

IF not THEN why not?

- “So like Okta, at first, they wanted to do cloud systems management, they thought that they needed to do problem resolution, but when they showed it to customers, they were kind of meh about it. [And they said, well, why are you meh about this? And they said, well, it's not a top priority. And they said, what is your top priority? And they said, identity management.](#) So they had the right insight, which was, customers would struggle to manage cloud services, but they had the wrong implementation of the insight, so then they came back with identity management, and it worked.”

User Research

1) What type of people do you think would most benefit from a solution to this problem?

- “I sought to pinpoint Superhuman’s HXC. We took only users who would be very disappointed without our product and analyzed their responses to the second question in our survey: “What type of people do you think would most benefit from Superhuman?” This is a very powerful question, as happy users will almost always describe themselves, not other people, using the words that matter most to them. [This lets you know who the product is working for and the language that resonates with them \(providing valuable kernels of insight for your marketing copy as well\).](#)”

Who else should I talk to?

- ""Who else should I talk to?" Good question. Yes! End every conversation like this. Lining up the first few conversations can be challenging, but if you're onto something interesting and treating people well, your leads will quickly multiply via intros. If someone doesn't want to make intros, that's cool too. Just leave them be. You've learned that you're either screwing up the meeting (probably by being too formal, pitchy, or clingy) or they don't actually care about the problem you're solving. Take anything nice they say with an extra grain of salt." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

Last Question

Is there anything else I should have asked? [Ask this Last]

- "Is there anything else I should have asked?" Good question. Usually, by the end of the meeting, people understand what you're trying to do. Since you don't know the industry, they'll often be sitting there quietly while you completely miss the most important point. Asking this question gives them a chance to politely "fix" your line of questioning. And they will! This question is a bit of a crutch: you'll discard it as you get better at asking good questions and as you get to know the industry." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

## **Value Testing**

Value Testing / Demand Testing (no use of product; can be on a limited set of users, e.g: 10% of users see the button);

Validates: Value, Viability

- "Sometimes it's unclear if there's demand for what we want to build. In other words, if we could come up with an amazing solution to this problem, do customers even care about this problem? Enough to buy a new product and switch to it? This concept of demand testing applies to entire products, down to a specific feature on an existing product. We can't just assume there's demand, although often the demand is well established because most of the time our products are entering an existing market with demonstrated and measurable demand. The real challenge in that situation is whether we can come up with a demonstrably better solution in terms of value than the alternatives." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...we can show the test to every user (in the case of an early startup) or we can show it to just a very small percentage of users or within a specific geography (in the case of a larger company)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...this is very easy to do, and can quickly collect two very useful things: (1) some good evidence on demand and (2) a list of users who are very ready and willing to talk with you about this specific new capability." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- ["I had 3,000 people that literally told me on the phone that they would buy it if I made it."](#)

### Willingness to Pay Questions

- ["If you want to make money, you tend to be forced to work on problems that are too nasty for anyone to solve for free."](#)

Crowdfunding (Kickstarter, Pre-Order Campaigns)

Paid Waitlists

- "...the idea was to create a little tool for escape room businesses to help them get more customers, but I met a guy who is a marketer... and he's like, ["why don't you just try to sell it before you make it?"](#) I listened to him, I did exactly what he told me, I sent some cold emails and I'm supposed to have the call with this business in Australia, it's the first time I do a call with a lead... she's like "yeah, so what is your idea?" and in the end of the call after 42 minutes, she's like "all right, yeah, send me the invoice I'll pay."
- "A paid waitlist can test user commitment and interest in the product. Instead of just capturing an email address or a "click", the paid waitlist asks users to pay a small amount of money to get early access, sign up for a special offer, or secure their spot for the

product's launch. For example: Create a paid waitlist for your product or feature that grants users exclusive access once it's ready. Even if the payment is minimal, it signals a higher level of commitment than a free sign-up." - ChatGPT

Concept Testing (limited use of product, can be done before development);

Validates: Value

- "Concept testing: A researcher [shares an approximation of a product or service that captures the key essence \(the value proposition\) of a new concept or product in order to determine if it meets the needs of the target audience](#). It can be done one-on-one or with larger numbers of participants, and either in person or online."
- "The [innovation team recruited several hundred potential customers to validate how much they were willing to pay. First, they explained the product concept and the functionality they were planning to build. Then they tried to understand if the customers saw any value in the concept](#). Most important, they asked customers whether they would be willing to pay for such a product. They found customers truly valued the concept and were willing to pay anywhere from \$10 to \$20 for a monthly subscription fee..." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "[Dräger Safety had shown the concept of X-zone 5000 to customers before engineers even started to develop it](#). Customers loved how the X-zone 5000 addressed their biggest pain points, with its distinct visual appearance and improved alarms." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Simple Presentations that show Value (Value == Key Benefits, Problem Solved)

- "...[how can you ask customers about a new product that you haven't yet developed? How can customers react to something they can't see? Dräger Safety creates simple presentations that show key product benefits— exactly what customers get if they purchase the device. These presentations vary by customer role](#). For example, the purchasing function gets a presentation on the benefits it cares about. The safety engineers get a presentation on what matters to them, and so on." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

MaxDiff Analysis: compare benefits against each other to find out which are most important to users

- "MaxDiff analysis is an analytic methodology used to [gauge survey respondents' preference score for different items that results in a best-worst ranking](#) of those attributes."
- "With MaxDiff analysis, you can [identify customer preferences based on lists of attributes or features for just about any product, service, or issue](#). So, if your company makes exercise equipment, you could conduct a MaxDiff survey asking respondents to choose what they like best about your treadmills such as quietness, online coaching, health metric electronics, or portability. The same type of approach could be used by a hotel chain seeking to learn what's most important to customers during a stay, or a clothing retailer wanting to identify what customers appreciate most during an in-store shopping experience."
- "MaxDiff analysis works by [forcing people to choose the most and least important attributes from a list they are provided in a survey](#). By respondents being forced to choose based on a MaxDiff survey question, they can do some heavy lifting for you by

identifying what's likely most important to most customers.”

#### Painted Door Test

- "The demand-testing technique is called a fake door demand test. The idea is that we put the button or menu item into the user experience exactly where we believe it should be. But, when the user clicks that button, rather than taking the user to the new feature, it instead takes the user to a special page that explains that you are studying the possibility of adding this new feature, and you are seeking customers to talk to about this. The page also provides a way for the user to volunteer (by providing their e-mail or phone number, for example)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "What's critical for this to be effective is that the users do not have any visible indication that this is a test until after they click that button. The benefit is that we can quickly collect some very helpful data that will allow us to compare the click-through rate on this button with our expectations or with other features. And then we can follow up with customers to get a better understanding of what they would expect." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "So Chegg was wanting to see if people would do textbook rentals, so they created a fake site called Textbookflicks. But here's where Osman and Aayush were very savvy. Rather than just test whether people would rent a \$100 dollar textbook for \$35, they tested an arbitrary set of prices, all the way up to \$75. And so, they had the demand preference curve at different prices. And [Textbookflicks wasn't a real site, so you'd get to the shopping cart and it would give you a 404 error](#). But we could tell that people wanted to rent textbooks, and the surprise was that they would rent them for more than we thought. We thought we need to get at least 35, but some students were willing to pay 75. And so, that understanding was huge, if we'd only done an experiment to validate the hypothesis of, yes, will they rent it for 35, our pricing model would've been totally different from, oh, wow. And when you think about it, it makes sense, the student didn't want to keep the textbook. Econ 101, I'm going to give it back anyway, so 75 bucks is less than 100, I can buy beer with the extra money. So that would be an example of the surprise. But most of the startups that have had great outcomes, I find, there was a kind of surprise like that.”

#### Button, Link or CTA

#### Ad Campaign (Emails, PPC, etc)

#### “Pond” Probing;

does NOT answer “will people buy X”, but does answer “will people do X?”;

E.g: *take pictures of shoes in a store, put them online, see if people buy the shoes from you instead of the store;*

- “For example, when Zappos launched, it faced skepticism about the business model of selling shoes online. [Rather than investing in inventory and warehouses, the founder went to local stores, took pictures of shoes, and posted them on the site. When customers purchased shoes, he bought them at the local store and shipped them himself](#). Of course, this model was not sustainable, but that was never its intention. Rather, it was a great way to test demand and thus optimize for the speed of learning.”
- “LocalMind was this product that would let strangers answer questions about a place. For example, where's a good place to get coffee in Times Square? [You guys had tested whether strangers would answer questions by geofencing tweets and then asking strangers a question and seeing what percentage would answer. It was like 95% of people would answer](#), which was great.”



Limited User Release Test (requires a functional product); for the first ~100 users

- “...there's a memo that was leaked to BuzzFeed while I was at Facebook. The main thing we found was like, to be convinced to download an app, you need to see it. You need to see the marketing message three times or so. So you basically need to saturate an area with every kind of marketing you can. So we ran ads targeted at a particular school to when we were seeding and testing these apps. And we also followed people creating a dedicated Instagram account that went to that school, because we learned that high schoolers identify their school in their bio, so it says RHS on their bio. And so that was how we tried to get the entire school to adopt synchronously. We'd follow them and then accept the followbacks. Big misunderstanding though, and I get this DM a lot of people are like, "I'm trying to replicate your strategy. We've just done it at 15 schools and it's not working anymore." This is not the way we grew the app. This is how we tested apps. Really, it's a little bit nuanced there. That's an important nuance because you need to get enough intensity of adoption and density for a social network to start to get the flywheel spinning, but the app should grow by itself after that. And [people think we just went from school to school following every kid on it. You can't, that's totally unrealistic. But for the first 100 users, yes, that's how we got them. And that allowed us to know whether the product was working or not.](#) We could get enough people on it and then we could, with conviction, say that whether the app had legs and we wouldn't have this kind of uncertainty like, "Oh, did they add enough friends? Did we get enough people on it? Did they reach the aha moment because you need friends to get on?" So we wanted to eliminate that confounding variable, and so we figured out a way to just get a bunch of people to adopt at once. And that's one thing I encourage a lot of founders to do, is figure out a way to eliminate all those potentially confounding variables so you can know immediately whether something's working or not.”

Value Test at end of Usability Test

- [“I had 3,000 people that literally told me on the phone that they would buy it if I made it.”](#)

Signup & Share Test

- “This validates interest and user engagement without fully building the product. Users sign up for the product, but to unlock features, they must invite friends, share the product, or engage in some way that builds social proof. It not only tests demand but also the power of social virality in creating early traction. For example: Offer exclusive early access to users who get 3 of their friends to sign up or share the product. The more people they refer, the more features or benefits they unlock.” - ChatGPT

Pre-Sales / Letter of Intent (LOI)

- “Ask users (ideally in your target segment) to sign a Letter of Intent (LOI) or commit to an early deposit. Even a verbal commitment or a non-binding promise to pay can give you insight into demand. For example: “If we were to launch a product like this, would you be willing to pay \$X/month for it? Would you be willing to sign up now to get early access?”” - ChatGPT

[Sean Ellis Test](#): 3-point scale to “how would you feel if you could no longer use the product?”

Validate: Value; (*validates PMF of an existing product*);

IF  $\geq 40\%$  would be “very disappointed” if this product went away THEN you have reached Product Market Fit

Does anyone consider your product a must-have?

This is a good way to learn if you have PMF if you don't have retention data:

- “...[what is the Sean Ellis test](#)...? It's a simple question that helps you figure out "does anyone consider your product a must-have" ... which could be equated to having product market fit. And so the question is, how would you feel if you could no longer use this product? And I give them the choice, very disappointed, somewhat disappointed, or even not disappointed or not applicable, I've already stopped using the product. And what I'm trying to find are those people who say, "I would be very disappointed if I could no longer use this product," then that's a really powerful vein to dig into when you discover that you actually have some people who would give a crap if your product disappears.”
- “Yeah, the Sean Ellis score is a really simple methodology used by lots and lots of companies that a gentleman named Sean Ellis popularized well over a decade ago. Which basically asks your customers at each stage, and at each stage you have a small number of customers, then a larger group, and growing over time. But at each stage you ask them, how disappointed would you be if this product went away? And what Sean has said is that if at least 40% of your customers are not very disappointed, not just a little disappointed, but very disappointed, he has essentially a three point scale. Not disappointed, somewhat disappointed, very disappointed. [If at least 40% are not very disappointed, you haven't reached product market fit](#).”
- “Yeah, we basically operationalize it. We don't have it as a hard and fast rule that is in black and white, but essentially that's the question people know they're going to get in any product review that's a post-launch, post data product review is [what's the Sean Ellis score? How do you know that customers love it? Not just like it, but love it to the degree that they're going to tell their friends about it](#). That's pretty baked in culturally at this point. This is an incredible insight, and I think it explains a lot of the success you guys have had. Because that's a very high bar. Many people run the survey, and getting to past 20% is very hard. You have to be very disappointed if there's a new product they've never used goes away, that's a high bar.”
- “Instead, Ellis had found a leading indicator: just ask users “how would you feel if you could no longer use the product?” and measure the percent who answer “very disappointed.” After benchmarking nearly a hundred startups with his customer development survey, [Ellis found that the magic number was 40%](#). Companies that struggled to find growth almost always had less than 40% of users respond “very disappointed,” whereas companies with strong traction almost always exceeded that threshold.”
- “A helpful example comes from Hiten Shah, [who posed Ellis' question to 731 Slack users in a 2015 open research project. 51% of these users responded that they would be very disappointed without Slack](#), revealing that the product had indeed reached product/market fit when it had around half a million paying users. Today, this isn't too surprising, given Slack's legendary success story. Truly, this example shows just how hard it is to beat the 40% benchmark.”
- “I was going to use my filter as a satisfaction question, so how satisfied are you with this? I'm very satisfied. I'm somewhat satisfied. And our main customers were actually senior management, and so I thought senior management's never satisfied. I'm going to get always this super lukewarm thing. How can I change this question to give me a more real answer from these guys? Well, [if I flip it and say, "How would you feel if you could no longer use this product?" I'll probably get a more honest answer back from them](#). And of course, they're very disappointed if they can't get what they want.”
- “That question is such [a good reminder of how hard it is to build anything people really](#)

[would be disappointed not to have](#). That's why this works so well. People are like, "I don't need this. Who cares?" That's the core of this, is just that is hard."

- "Well, I mean, that's really the meat of the engine. So let's see if I can condense it here in a very easy to grok fashion. So... let's assume for the sake of argument that you can put a number on product market fit. And it turns out you can. Very simply, you're going to ask people, how would you feel if you can no longer use this product? You give them three responses. One of them is very disappointed. The other is somewhat disappointed. And the other is not disappointed. Very disappointed means I'd be like devastated. I love this product or I need this product. And [what Sean Ellis found... is that the companies that struggled to grow almost always had less than 40% very disappointed, whereas the companies that grew the fastest almost always had more than 40% very disappointed](#). And this question, this metric, is way more predictive of success than something, for example, like net promoter score."

Setup the Survey: survey can be done any way you want (emails, pop-ups, face-to-face, etc)

- "...you described it as a leading indicator of product market fit and actually retention, people actually using your product, the product actually being used by the market is the actual ultimate test. So the idea here is this is a good way to get a sense of, before you actually have data, are we headed in a good direction?"
- "[And the way you ask this question is an in-product interstitial sort of survey pop-up thing? You can do it however you want. The way Sean initially benchmarked the number was via email surveys](#). I think email surveys work just fine. The key thing is, and this applies to any survey methodology, if you're going to change the method of surveying, all of your old numbers are invalidated. So it's just a new baseline going forwards."

When to NOT use the Sean Ellis Test: one-off products (workshops, movies)

- "I think [one-off products](#) would probably, like, how would you feel if you could no longer watch the movie you just watch? I wouldn't care. Even when I run a workshop, I don't run this as part of my survey after I do a workshop because how would you feel if you could no longer attend the workshop you just attended? It doesn't make sense. So I'll ask an NPS question as my filtering question so that I'm looking at focusing in on feedback of people who love it, also then through a separate lens, looking at people maybe who would be my detractors."

Who to Poll for Sean Ellis Score? Users that used the product (successfully) at least twice in the last 2 weeks; You want at minimum 30 responses (n=30)

- "What I recommend is [a random sample of people who've really used your product](#). So they've gone in, they didn't just sign up, but they went in and hopefully hit that deviation moment. They've used it twice, two plus times, and they've ideally used it, say, within the last week or two weeks, so they haven't churned yet. So if it's a random sample of those people, that's kind of the ideal time to ask it...it's people who actually have experienced the product. But it's okay if you're hitting people who've used it months later..."
- "We identified users who recently experienced the core of our product, [following Ellis' recommendation to focus on those who used the product at least twice in the last two weeks](#)."
- "So if you can get to the point where you have 40% of the people who are using it saying they'd be very disappointed, and you have a reasonable sample size. Let's say you've got 10 people and four of them said they'd be very disappointed without it, you're still going to get something useful from those four. But I wouldn't say that's a sample size that you can really go to market on, so... at one point said I need at least 30 responses, and I just

thought I randomly made up a number and then I had people telling me, "[Yeah, 30 is the minimum that you want on stuff.](#)"

$\geq 40\%$  would be disappointed if they could no longer use this product is what you want to see

- “And the idea is that [if 40% or more of people say they'd be very disappointed if they can no longer use the product, you essentially have product market fit](#). I would say it's a leading indicator of product market fit.”
- “I was trying to find feedback from customers who actually really cared about the product. And then was... working for a couple of YC-backed companies, and so those companies were all pretty connected, and so I would share the question with a lot of other startups in Silicon Valley. And so over time, I started to see there was a pattern that once you got a high enough percentage of users saying they'd be very disappointed, most of those very disappointed without the product, [most of those products did pretty well](#). And then if you felt too low, those products tended to suffer.”
- “And the 40% threshold, so what you shared is you basically emerged from just looking at tons of startups doing the survey and finding a pattern. How firm is that 40%? How big of a deal? Is it 39 versus 41? I don't think it's that firm. To me, I think [the real power is having some kind of target for the team to be shooting for that basically says, "We're not going to aggressively start to grow until we hit this target."](#)”
- “So initially I would say if the survey comes back and it shows whatever your target number is (40%)... that you have the signal that says, ["Okay, we have enough value here. Let's start working on growing the business."](#) But while you're working on growing the business, I would be paying attention to those retention cohorts. And if you're churning out all the customers who were saying that they'd be very disappointed without the product, then okay, let's retrench and rethink, do we really have product-market fit here and what do we need to do to get it if we don't?”

Use this score to identify the right customers to retain;

[Increase your retention by focusing on and acquiring more of this cohort of users and their use cases](#)

- “...a growth strategy that I imagine you execute, is [look for the percentage of people that would be very disappointed if your product went away](#), see who they are, see what they're excited about and lean into that both positioning-wise, onboarding-wise, and probably also cut out stuff from your product that they don't care about. Yeah.”
- “So what I'm hearing is whether you have 40%, whether you have 60% or even 7%, the actual best use of this tool is to look at that percentage of highly disappointed and see what they're looking for, what they're excited about. [Start drilling in, start peeling back that onion and just deeply understand them and make sure that ultimately your product roadmap is doubling down on the things that are important to your must-have customers.](#) And so it's all about getting the right people to the right experience. And then even your engagement loop is about just reinforcing how to get people to experience that benefit more often.”
- “[Onboarding is bringing new people to the right experience](#). Your messaging is setting the right expectations, your acquisition campaigns are targeting people who actually have the need. And so it's all about getting the right people to the right experience. And then even your engagement loop is about just reinforcing how to get people to experience that benefit more often.”
- “So I actually had a company where I had committed to work with them. It was right after I left Dropbox and I committed to work with these guys for six months to help them

grow. I ran the question and it came back at only 7% of users saying they'd be very disappointed without the product. And so I'm like, "I have six months to help them grow and they're only at 7% right now. It might take six months to get the 40%. Am I doing them a disservice by being in a growth role and being on payroll during this period of time?" But fortunately with the signal and the information we got from the initial survey, we were able to get them at 40% in two weeks... So the company called Lookout, it's a mobile security company, and now most of the things in Lookout are built into iPhones and Androids. But at that time, the product had everything from backup my data to find my lost phone to protecting your phone with a firewall and antivirus. And so when we ran this initial survey, [I dug into the 7% who said they'd be very disappointed without the product and found that most of that 7% were focused on the antivirus functionality.](#) So they were like, they know they need to protect their computer from viruses, smartphones were becoming more like computers, so it just made a lot of sense for them that they'd need to protect their phone. And interesting, at the time, I think there was only one kind of phone virus that had ever even happened, but it was a pretty easy mental leap for people. And so now we knew, okay, it's antivirus that people really valued. And so step one was just reposition the product on antivirus. So that kind of creates a filter. So anyone who now is coming in to sign up for the product who doesn't care about antivirus is not going to convert, and those who are excited about antivirus are going to convert. We already know from the initial survey that people value that after they convert. So by setting the right expectations around it up front, you're going to bring people in with the right expectations."

- "I prefer a more passionate customer base and work from there, just because I think your biggest competition when you're really innovating is just being irrelevant. And so [if you're deeply relevant to anyone, I think that gives you a much better chance of long-term success.](#)"
- "[...ignore the people who say they'd be somewhat disappointed.](#) They're telling you it's a nice to have. They're as good as gone, so just ignore those guys... The reason that I say ignore those guys is that if you start paying attention to what you somewhat disappointed users are telling you, and then you start tweaking onboarding and product based on their feedback, maybe you're going to dilute it for your must-have users. And ultimately, it becomes kind of good for everyone but not great for anyone. And so that was my fear of trying to read too much into the users who say they'd be somewhat disappointed."

Growth Hacking: Doubling down on the users who would be disappointed if your product disappears;

Try to get as many people to experience the product in a way where they'd be very disappointed if they could no longer use that product (via Onboarding Process)

Creating a [Flywheel \(via Network Economies\)](#) around the "Must-have" value of your product

Don't Focus on [Scaling \(Scale Economies\)](#) yet; focus on acquisition and retention

- "I'm trying to find are those people who say, "I would be very disappointed if I could no longer use this product," then [that's a really powerful vein to dig into when you discover that you actually have some people who would give a crap if your product disappears.](#)"
- "Ultimately, it's about trying to get as many of the right people to that same state that we just talked about with the must-have users, so [trying to get as many people to experience the product in a way where they'd be very disappointed if they could no longer use the product...](#) so how do you shape that first user experience so they actually use it in the right way and it's not so difficult that they give up? And that ultimately, we understand



what makes it a must-have product. And then what we're trying to do is build a flywheel around that must-have value.”

- “Okay, so far so easy. How do we make this number go up? Well, you want more people to be very disappointed without your product. And the trick here is... Not to act too much on the feedback that the very disappointed people are giving you because they already love your product. Also not to act at all really on the feedback that the not disappointed people are giving you because they're so far from loving your product that they are essentially a lost cause. But to focus on the segment of the somewhat disappointed people, they kind of love your product, but something, and I would wager something small, is holding them back. So you then divide them into two camps, the camp for whom the main benefit of your product resonates and the camp for whom it doesn't. And what do I mean by that? Well, you go back to the people who really love your product and you basically ask them why. What is it about my products that you really love? In the early days of Superhuman, it would have been speed and keyboard shortcuts and the overall design aesthetic as well as the time that we were saving you. You then go back to the somewhat disappointed users. And in the superhuman example, I would simply ask, wait, do you like superhuman because of its speed or for something else? And if it's something else, well, and this is hard to do, but politely disregard those people and their feedback. Because even if you built everything that they asked for, they're still pulling you in a different direction. And the thing that they like the most from your product isn't actually what the people who en masse love it the most for is. So you have then articulated the sub-segment of the sub-segment that it makes sense to pay attention to. And there's another question in the engine to figure out what they don't like about the product. Now you have a list of things people love. You have a list of things people don't love. And you can work down that list to make the product market fit score go up. And basically at the start of every planning cycle, [I advise spending half your time doubling down on what people really love](#) and half your time systematically overcoming the objections of the somewhat disappointed users, but specifically those for whom the main benefit resonates.”

#### Survey Questions

How would you feel if you could no longer use this product?

Options: very disappointed, somewhat disappointed, not disappointed, not applicable (I've already stopped using the product)

- “...[what is the Sean Ellis test](#)...? It's a simple question that helps you figure out "does anyone consider your product a must-have"... which could be equated to having product market fit. And so the question is, how would you feel if you could no longer use this product? And I give them the choice, very disappointed, somewhat disappointed, or even not disappointed or not applicable, I've already stopped using the product.”
- “...it tells you something really important, which is, you haven't created something that people don't care about. So that's an important insight. But until you deeply understand that product market fit, you kind of don't have the tools to be able to grow the business. So that's really the next step, is to [dig in and figure out who considers it a must have, how are they using the product, what did they use before, what problem are they solving](#).”
- “So if you think about it, how would you feel if you can no longer use this feature starts to give you, again, [the signal, is that feature a must-have feature? And if it's not, maybe we shouldn't have it](#).”

What is the primary benefit that you get? (Do a word cloud analysis on these results)



- “I tend to have a lot of questions that I build off of that I’m... trying to drill into the users who say they’d be very disappointed without the product, and one of my favorite questions is, ["What is the primary benefit that you get?"](#) And then I use that initially as an open-ended question to kind of crowdsource different benefits people are getting.”
- “So I actually came up with this question when I was working with an early YC company called Xobni... And when I ran that question, basically the people who said they’d be very disappointed without the product we’re focused on, ["Xobni helps me find things faster in my email."](#) So it’s great to know, okay, that’s the benefit.”

What would you use instead if this product were no longer available? (optional question)

- “...what would you use instead if this product were no longer available? And that’s one of the interesting things is you start to see people who say they’d be somewhat disappointed, [usually, they’re focused on a commodity use case](#) and they know an easy alternative to switch to. So to be a must-have, it needs to be both valuable and unique. Coining the term “growth hacking”.”

Follow-up Questions; based on the previous survey;

Dig into the benefit you now know people get out of your product

To a new group of people that have done a core action that represents they receive the main benefit of your product

- “When you were talking for [how to dig into what benefit people are finding](#), your advice is it’s basically a follow-up survey to the extremely disappointed people asking them what is the primary benefit you get? It’s an open text initially. Then once you get a collection, you do it sounds like another survey as multiple choice. Here’s five benefits- To a different group of people, to be clear. Different group. Yeah. Got it. Awesome. And then it’s like, which of these four or five benefits is what you’re getting out of this product? And then the question is, why is this benefit important to you?”

What is the primary benefit that you get? A, B, C, D (all options are based on the information you received in [Question 2 What is the primary benefit that you get?](#));

Use for Growth Hacking

- “But then I run another survey where [I turn it into a multiple choice question, force them to pick one of four distinctive benefit statements.](#)”

Why is that benefit important to you?

Use the answers here to learn how to acquire new users (by knowing the right users to focus on acquiring); Use for Growth Hacking

- “And then the question that follows on that next survey is, ["Why is that benefit important to you?"](#) And then I start to get really good context.”
- “So I actually came up with this question when I was working with an early YC company called Xobni... And when I ran that question, basically the people who said they’d be very disappointed without the product we’re focused on, "Xobni helps me find things faster in my email." So it’s great to know, okay, that’s the benefit. But when I asked, "Why is that benefit important to you?" They said, ["Oh, I’m drowning in email."](#) I kept seeing that statement as a written statement. And so when I was trying to figure out how to acquire customers, when I tested "drowning in email?", that set such a good hook. That was the context that people were living in, that they were really responsive to the message of find things faster with Xobni and then a description of what Xobni is. So I think when you can really dig into the context of why that must have benefit is important to people, you start to get the ingredients to build that flywheel that leads to long-term sustainable growth.”

# Prototypes

## Prototypes for Validation

- “Knowing how to hack also means that when you have ideas, you'll be able to implement them. That's not absolutely necessary (Jeff Bezos couldn't) but it's an advantage. It's a big advantage, when you're considering an idea like putting a college facebook online, if [instead of merely thinking "That's an interesting idea," you can think instead "That's an interesting idea. I'll try building an initial version tonight." It's even better when you're both a programmer and the target user, because then the cycle of generating new versions and testing them on users can happen inside one head.](#)”
- "If we can prototype and test ideas with users, customers, engineers, and business stakeholders in hours and days—rather than in weeks and months—it changes the dynamics, and most important, the results." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Use a prototype. For many people, it's way too hard to see the forest through the trees. When all you have is a bunch of user stories, it can be difficult to see the big picture and how things hang together (or even if they hang together). A prototype lets them clearly see the forest and the trees." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The overarching purpose of any form of prototype is to learn something at a much lower cost in terms of time and effort than building out a product. All forms of prototype should require at least an order of magnitude less time and effort as the eventual product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...one of the key benefits of any form of prototype is to force you to think through a problem at a substantially deeper level than if we just talk about it or write something down. This is why the very act of creating a prototype so often exposes major issues otherwise left uncovered until much later." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...a prototype is also a powerful tool for team collaboration. Members of the product team and business partners can all experience the prototype to develop shared understanding." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Prototyping is at the core of experimentation; [it provides a quick way to validate your assumptions](#) with real users and tackling key product risks early on in the process. It can be as simple as using a piece of paper with a sketch of a new feature for initial product validation. The main thing is that you use a prototype to mitigate risk by getting feedback early and often in the product (development) lifecycle.”
- “[The stories and the wireframe is then shared with the design team](#) to develop the UI for the feature.”
- “...[the product manager’s primary role becomes enabling experimentation as a seamless capability](#). At the core of experimentation is rapid prototyping.”
- “[A good design will always find all three stages in the design process](#) — creating a wireframe, mockup, and prototype. Though all three of these stages look similar, they hold an important role in the development of a well-designed user-centric product. Wireframes provide a structure of the product to the developers and let them understand the product architecture and best coding solution. The product design should be well structured and should gradually translate to a mockup. The stage when you get to finalize

your design and see how structural elements turn into colors, buttons, content layout. Ultimately leading to prototyping. you get to feel what the user will experience on the app and interact with it. Such an approach reduces misunderstanding and unbudgeted expenses.”

- “User Experience (UX) Flow: Describes the [workflow of the overall design](#).”
- “Design is an integral part of the product and should be addressed in your PRD. [Include your most high-impact wireframes and mockups for your features](#) and specify how the user will interact with those features.”
- “Mockups are part of the solution, and this section [should be added only after your team has a consensus that the problem is the right one to solve](#).”
- “...the highest ROI often comes from testing lots of small, incremental improvements that each [target a small fraction of search queries](#). You have to kiss a lot of frogs to find one prince, so the best strategy is to kiss as many frogs as you can, as quickly as possible.”
- “We expect that many of our ideas won't work out, and the ones that do will require several iterations. To quote Marc Andreessen, “The most important thing is to know what you can't know,” and we can't know in advance which of our ideas will work with customers and which won't. So, we approach discovery with the mindset that many, if not most, of our ideas won't work out. The most common reason for this is value, but sometimes the design is too complicated, and sometimes it would take far too long to build, and sometimes there turn out to be legal or privacy issues. The point is we need to be open to solving the underlying problem in different ways if necessary.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “We loosely define an iteration in discovery as trying out at least one new idea or approach. It's true that ideas come in all shapes and sizes, and some are much riskier than others, but the purpose of discovery is to do this much faster and cheaper than we can do in delivery. To set your expectations, teams competent in modern discovery techniques can generally test on the order of 10–20 iterations per week.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “...many iterations never make it beyond just you, your designer, and your tech lead. The very act of creating a prototype often exposes problems that cause you to change your mind. As a rule of thumb, an iteration in discovery should be at least an order of magnitude less time and effort than an iteration in delivery.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “...product discovery is all about coming up with the fastest, cheapest way to test out our ideas. So, depending on your particular idea and situation, you'll want to pick the flavor of prototype that best meets your needs.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “...there are many forms of prototypes. The best choice for you depends on the particular risk being tackled and the type of product. But all forms of prototypes have certain characteristics and benefits in common.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “[Prototyping](#): Early product sample, model, or release used to confirm its technical feasibility, business viability, and usability. It validates learning by confirming or denying hypotheses.”
- “Screen mockups can support the requirement gathering process, when introduced at the correct time. [Mockups help stakeholders visualize the functionality of a system](#). This can be an advantage to business analysts and stakeholders since this allows them to identify

gaps/problems early on.”

#### Vision Prototype (for Product Vision)

- "Note also that the product vision is not in any sense a spec. It's mainly a persuasive piece that might be in the form of... a special type of prototype referred to as a visiontype. Its primary purpose is to communicate this vision and inspire the teams (and stakeholders, investors, partners—and, in many cases, prospective customers) to want to help make this vision a reality." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Prototype using Existing Tools / Services

- “The fastest way to build a product is to be the product. This means you can start by trying to [solve the customer's problem with a service first](#).”
- “Most products are made up of [some base functions](#). Communications (email, text, phone, video calls), promotional material (blog, website creation tools, docs), calculations, databases (spreadsheets), collecting money (PayPal) and collecting information (forms). You can do a lot with just these things. Here is a story to convince you.”
- “My first suggestion to [see if you can use existing tools to do the heavy lifting](#). Again, I can hear you saying, how is that going to work? My product needs to be proprietary technology or else it won't be mine, no investor will put in money and no company would acquire it. Yes, it does. And it will. But to begin with, you will move a lot faster if you can leverage the hard work that other companies have done to make really useful products.”
- “A guy named Luke came to the incubator I ran with a team of great people called Pollenizer. He had a vision to create an online marketplace of coaches. [They would sign up, set up their accounts with lots of information about what they teach, promote those out to the world, customers would sign up, then the product would allow them to do video calls with each other](#). Happy days. The coach gets customers and the students get taught. To build that vision out would take many months. It has lots of components. It sounded like a good idea, or at least an idea worth testing. We didn't have time or money to spend many months to find out if it would work and honestly there was, again, so many ways we could build it that it was hard to know where to start.”
- “Luke: “OK, [how are you going to get customers?](#)” Mick: “I'll tweet it, LinkedIn it, and Facebook it?” Here is what we did... I sent out Tweets etc which said something like; “I've got one pitch coaching slot available but must be done today. \$50 instead of \$200 for one hour. DM me if keen.” Five minutes later I got a message on Twitter. “Mick, I'm pitching my company tomorrow to an investor. I'd appreciate the input. How do we do this?””
- “Luke: “[Do we need a website?](#)” Mick: “We could build a super quick one with Wordpress, but I don't think we need one. Just the offer.””
- “I sent out Tweets etc which said something like; “I've got one pitch coaching slot available but must be done today. \$50 instead of \$200 for one hour. DM me if keen.” Five minutes later I got a message on Twitter. “Mick, I'm pitching my company tomorrow to an investor. I'd appreciate the input. How do we do this?” I responded: [Pay \\$50 to me via PayPal at <email address>](#) and add me on Skype. Three minutes later I had \$50 in my account.”
- “I responded: Pay \$50 to me via PayPal at <email address> and add me on Skype. Three minutes later I had \$50 in my account. [Four minutes after that I was on Skype doing a](#)

- [coaching session](#). Luke watched along and took notes.”
- “There's [a more extreme variant where you don't just use your software, but are your software. When you only have a small number of users, you can sometimes get away with doing by hand things that you plan to automate later](#). This lets you launch faster, and when you do finally automate yourself out of the loop, you'll know exactly what to build because you'll have muscle memory from doing it yourself.”
- “When manual components look to the user like software, this technique starts to have aspects of a practical joke. For example, [the way Stripe delivered "instant" merchant accounts to its first users was that the founders manually signed them up for traditional merchant accounts behind the scenes](#). Some startups could be entirely manual at first. If you can find someone with a problem that needs solving and you can solve it manually, go ahead and do that for as long as you can, and then gradually automate the bottlenecks. It would be a little frightening to be solving users' problems in a way that wasn't yet automatic, but less frightening than the far more common case of having something automatic that doesn't yet solve anyone's problems.”

#### Feasibility Prototype [Created by ENG]

- "These are written by engineers to address technical feasibility risks during product discovery—before we decide whether something is feasible. Sometimes, the engineers are trying out a new technology. Sometimes it's a new algorithm. Often it is about assessing performance. The idea is for the developer to write just enough code to be able to address the feasibility risk." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The main technique used for tackling these types of risks is for one or more of the engineers to build a feasibility prototype. An engineer will create the feasibility prototype because it is typically code (as opposed to most prototypes created by special-purpose tools intended to be used by product designers). A feasibility prototype is a long way from a commercially shippable product—the idea is to write just enough code to mitigate the feasibility risk. This typically represents just a small percentage of the work for the eventual shippable product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...most of the time the feasibility prototype is intended to be throwaway code—it's okay and normal to be quick and dirty with this. It is intended to be just enough to collect the data, for example, to show that performance would likely be acceptable or not. There is usually no user interface, error handling, or any of the typical work involved in productization." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...building a feasibility prototype requires usually just a day or two of time. If you're exploring a major new technology, such as a new approach leveraging machine-learning technology, then the feasibility prototype could very well take significantly longer. The amount of time the feasibility prototype is estimated to take comes from the engineers, but whether or not the team takes that time depends on the product manager's judgment call as to whether it's worth pursuing this idea. She might say many other approaches to this problem don't have the technology feasibility risk, so she would rather skip this idea. While it's the engineers who do this feasibility prototyping work, it is considered discovery work and not delivery work. It's done as part of deciding whether to even pursue this particular approach or idea." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)



## Design Prototype [Created by PD]

- "User prototypes are simulations. There is a wide spectrum of user prototypes—from those intentionally designed to look like wireframes sketched out on paper (referred to as low-fidelity user prototypes) all the way up to those that look and feel like the real thing (referred to as high-fidelity user prototypes), where it can be difficult to tell it's just a simulation." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "A user prototype—one of the most powerful tools in product discovery—is a simulation. Smoke and mirrors. It's all a façade. There is nothing behind the curtain. In other words, if you have a user prototype of an e-commerce site, you can enter your credit card information as many times as you want—you won't actually be buying anything." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "If you are trying to test the relevance of the search results, this would not be the right tool for the job. But if you are trying to come up with a good overall shopping experience or figure out how people want to search for mountain bikes, this is probably more than adequate, and it's very quick and easy to create." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Where a lot of novice product people go sideways is when they create a high-fidelity user prototype and they put it in front of 10 or 15 people who all say how much they love it. They think they've validated their product, but unfortunately, that's not how it works. People say all kinds of things and then go do something different. We have much better techniques for validating value, so it's important that you understand what a user prototype is not appropriate for." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Create low- or high-fidelity [clickable prototypes and test them with users](#) in order to validate features. This can be done in several iterations if needed."
- "There are many different possible levels of fidelity for a prototype. The fidelity primarily refers to how realistic the prototype looks. There is no such thing as one appropriate level of fidelity. Sometimes we don't need the prototype to look realistic at all, and other times it needs to be very realistic. The principle is that we create the right level of fidelity for its intended purpose, and we acknowledge that lower fidelity is faster and cheaper than higher fidelity, so we only do higher fidelity when we need to." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

## Lowest Fidelity - Sketch

- "Use a low fidelity sketch to [explore ideas and concepts with stakeholders](#)."
- "Sketches are meant to be intentionally ambiguous and allow you to defer questions about branding, copy, and visual design until later phases. In the [discovery phase, use sketches to show early concepts, brainstorm with your stakeholders and get buy-in on your idea](#). In the delivery phase, use sketches to explore different design approaches, visualize user flows, and it's often the first step before creating wireframes."
- "Here are a few simple [steps to use a sketch to get buy-in](#): Get into a room with your team and invite the key stakeholders. Use a Feature Map or Product strategy to highlight user needs of your product. Map out the customer journey on a wall with your team's input. Start with the 'happy path' before getting into other paths. Use Crazy 8 or 4 Step Sketch to get your team to sketch out their ideas. Discuss the different approach and decide on the ideas... When sketching, provide a short time limit so you can keep the conversation at a conceptual level."

## Paper Prototype



- “Paper prototyping is one of our core ideation and prototyping tools that we use. These ideation tools help us ensure that we are building thoughtful products that meet user needs. [If a project can't survive the paper prototyping stage, it almost assuredly would not be a good product once built](#). Paper prototyping saves money and time. And paper prototyping, as opposed to just making static mockups with paper or Sketch, allows real users to test your website long before you get to the Sketch and eventual programming stages.”
- “Paper prototyping is also [a way that non-designers and non-technical people can be involved in the design and development process](#). A lot of people have great ideas, but they can't build the final product. But not everyone needs to be able to build the final product.”
- “Here are some scenarios today where [I wouldn't even think of using paper prototypes... If you have someone who can wield a basic prototyping tool](#). Even basic prototypes can be made in seconds. And most practitioners who are not pure-play researchers or other specialist type can make a basic click/tap screen transition. A free trial of Axure, Invision or even the Keynote that comes with your Macbook will let you pin some screens together.”

#### Low Fidelity - Wireframe

- "A low-fidelity user prototype doesn't look real—it is essentially an interactive wireframe. Many teams use these as a way to think through the product among themselves, but there are other uses as well. Low-fidelity user prototypes, however, represent only one dimension of your product—the information and the workflow—there's nothing there about the impact of visual design or the differences caused by the actual data, to mention just a couple of important examples." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Use a mid-fidelity wireframe to [refine the functionality with your team](#).”
- “At this stage, you have already done multiple usability testings, and the wireframes you present are [backed by a good amount of user data](#).”
- “A [designer generally creates wireframes](#). However, a PM will have to jump in once in a while to help out from time to time.”
- “Wireframes present the products at its inception stage. It shows the logic of the website or mobile app and [consists of: Boxes or circles, lines, text](#)”
- “The goal of using a mid-fidelity wireframe is to agree on the underlying functionality and the information architecture (IA) before focusing on visual design. In the [discovery phase — a wireframe is used to validate product ideas with users and aligning of product scope with stakeholders](#). In the delivery phase — a wireframe is used to convey the agreed functionality and highlights any edge cases.”
- “Here are some simple [steps if you ever need to get your hands dirty](#): Go through the sketches you've made for your product and start with one screen at a time. Gather ideas from your competitor pages — Use wirify to turn their pages into wireframes. Use a wireframe software like Proto.io, Wireframe.cc, Balsamiq, Axure, Figma/Sketch, or even Google Slides to get you started. Go through each screen and re-created the different screens. The different screens can be connected to form a clickable wireframe... Set clear expectations that the wireframes are about communicating functionality and information architecture. Colors and branding is the next phase.”
- “A Wireframe is an essential previous step before starting the design of a web or an app. It consists of creating [a sketch of the structure of your page or app simply but specifying](#)

[how we are going to organize the information](#). Making this prior approach to the page without having started to design will allow us to be faster when it comes to the development of the design and will avoid that we end up distributing the information blindly... If we look at companies that prefer agile development methodology, we can note that web schemas are implemented at an early stage of development and design. And yes, even a simple paper draft is considered a wireframe, but we will discuss that later in this article.”

- “The [objective is that all those involved in the project are on the same page](#). This not only involves product designers or programmers but the entire team.”
- “In other words, they have the role of connecting information architecture and visual design to represent an interface graphically. The interface has [five primary purposes](#): Say how it is that a site or an app will be formed. Say how it will be used. Say how the information will be presented and organized. Say what content should have. Say how the user interacts.”
- “Even though [designers, developers, and product managers typically develop using wireframes generally in their day-to-day work](#), they are not the only ones who can use them. Many more people can benefit from Wireframes. These include business analysts, information architects, interaction designers, user experience designers, graphic designers, programmers, and product managers.”
- “[UX / Graphic Designers](#) consider using wireframes when they want to create modeling, prototyping, or a new user interface. So for them, this is a preliminary process to work... The designer decides what goes in each place, and how users navigate through the house without breaking their little finger on the kitchen table. In other words, user flow is basically a series of interactions between the user and the interface, resulting in a smooth and silky path. Flow charts, history, and schematics work together to achieve the goal.”
- “[Developers](#) use wireframes to get a more tangible model of site functionality. This gives the developer a clearer picture of the elements they need to code. It is essential to highlight the type of development we are talking about; in the case of back-end development, wireframes can be low fidelity, while front end development requires a high fidelity wireframe.”
- “[Product managers](#) require wireframes more than anything for the purpose of inspecting the project. In this way, they ensure that the requirements are met during the project design.”
- “[Editors](#) can also use wireframes too! For example, to be able to visualize their copies towards the clients or to help the designers during the design process. It is essential to mention that wireframes not only provide a strong foundation but also speed up work.”
- “During the sprint, we will turn [the user flow we made into an actual wireframe](#), then polish it up to make it a prototype.”

#### Mid Fidelity - Mockup

- “Use a high fidelity mockup to [refine product details before coding](#).”
- “The mockups can be viewed of the highest value during certain stages of the app or web design. Anyone can use a mockup when you want to: [Experiment with the look of the product. Decide the product’s color, font, visual styles. Present the design interface to potential users or stakeholders. Decide your brand identity](#).”
- “The goal of the Hi-fi Mockup is to communicate what the users will see and what will be built. A designer will generally lead this phase while working closely with the developer and the PM. It will typically include design specs, edge cases and error

scenarios. In the discovery phase — a Hi-fi Mockup is not recommended as it gives off the wrong impression that it's a 'final product'. Unless there is a core hypothesis that needs to be tested. (e.g. a fake door MVP) I'd be cautious. In the [delivery phase — the Hi-fi Mockup will include brand colors, logos, copy and images](#). When working with development, error handling, interaction models, and stylesheet specs is also created... Everyone is a designer in this phase, use the feedback framework to capture feedback: "I like...", "I wish...", "What if..." this will make feedbacks more useful."

- "A mockup is a visual way of representing a product. While a wireframe mostly represents a product's structure, a mockup shows how the product is going to look like. But still, [a mockup is not clickable](#) (just like the wireframe). As opposed to a wireframe, a mockup is either a mid or high-fidelity display of design."
- "A mockup [helps you make final decisions regarding a product's color schemes, visual style, typography](#). With a mockup, you can allow yourself to experiment with the visual side of the product to see what looks the best. Here again, you can ask your potential users for feedback and make the necessary changes right away. This will save you way more time than getting back and making adjustments to the UI after you have launched the product."
- "Describe the Features: Starting from determining the user story feature requirements. To be clearer and get an idea, [a mockup design is added so that from process to process it is clearly illustrated](#)."

#### High Fidelity - Prototype (Interactive)

- "A high-fidelity user prototype is still a simulation; however, now it looks and feels very real. In fact, with many good high-fidelity user prototypes, you need to look close to see that it's not real. The data you see is very realistic, but it's not real either — most meaning it's not live." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...some designers prefer to hand-code their high-fidelity user prototypes, which is fine so long as they are fast, and they are willing to treat the prototype as disposable." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "A prototype is often [a high fidelity representation of the final product which is meant to simulate user interaction](#). Unlike the previous two, a prototype is clickable and thus allows the user to experience content and interactions in the interface. In fact, a prototype is very much like the final product itself. But it's not the final product!"
- "Even though prototypes are not put into code yet, they look like actual applications. [Users can interact with the app and can easily test the user flow](#)."
- "The process of prototyping [provides opportunities for new idea explorations early on](#) in the development process. A prototype is the product foundation that is continually improved until the app meets the business goal."
- "Starting the app-building phase with prototyping [can save a lot of money in the long run](#). Solving the problems, in the beginning, is always less expensive than towards the end."
- "The difference between the final product and the prototype is mainly that the interface and the backend are not often tied together in the case of a prototype. This is done to reduce development costs until the UI is approved. [Once the prototype is tested, the team can go on with coding](#)."
- "One of the advantages of a prototype is that [it's highly interactive allowing the users to experience the interface and find out what they like or dislike about it](#). Mockplus, Adobe XD are prototyping tool that you can try."
- "During the sprint, we will turn the user flow we made into an actual wireframe, [then](#)

- [polish it up to make it a prototype.”](#)
- “Prototyping: comes in many forms, where its main purpose is to tackle product risks, and it can be used as a communication tool for what needs to be built. [The main idea of prototyping, as Marty describes, is to “learn at minimum cost and time”, to uncover issues](#), and “to think a level deeper than just talking about it”. Another goal of prototyping, as Marty mentions, is to reach “shared understanding through collaboration”. In general, he promotes doing higher-level prototypes at a higher fidelity only when needed, while the book lists and explains the different types of prototypes such as feasibility prototypes or user prototypes.”

#### Prototype as Spec

- “The primary purpose of a prototype is to tackle one or more product risks (value, usability, feasibility, or viability) in discovery; however, in many cases, the prototype goes on to provide a second benefit, which is to communicate to the engineers and the broader organization what needs to be built. This is often referred to as prototype as spec. In many cases, the prototype is sufficient for this, but in other cases—especially when the engineers are not co-located or when the product is especially complex—the prototype will likely need to be supplemented with additional details (usually, use cases, business rules, and acceptance criteria).” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Live-Data Prototype aka MVP (Minimum Viable Product == Minimum Viable Prototype)

- “...primary techniques for failing fast:... quickly create real code to test an idea with live data (we call that a [“live-data prototype”](#)) and then test this software by running a percentage of our traffic to this new version and compare the results (called an A/B test or split test)... the general principle is to test the hypothesis the fastest and cheapest way possible.”
- “Live-data prototypes are a little more complicated to explain, but they are a critically important tool for several situations. The main purpose of a live-data prototype is to collect actual data so we can prove something, or at least gather some evidence—normally to find out whether an idea (a feature, a design approach, a workflow) really works. This typically means two things. First, we need the prototype to access our live data sources, and second, we need to be able to send live traffic—in enough quantity to get some useful data—to the prototype. The key is that we don't want to have to build, test, and deploy a commercially viable product to do this. That would take far too long, cost far too much, and very likely yield huge waste. A live-data prototype costs a small fraction of what it would cost to build a commercially viable product, which is what makes this such a powerful tool.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Sometimes, in order to address a major risk identified in discovery, we need to be able to collect some actual usage data. But we need to collect this evidence while in discovery, well before taking the time and expense of building an actual scalable and shippable product. This is the purpose of a live-data prototype.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “A live-data prototype is a very limited implementation. It typically has none of the productization that's normally required, such as the full set of use cases, automated tests, full analytics instrumentation, internationalization and localization, performance and scalability, SEO work, and so forth. The live-data prototype is substantially smaller than the eventual product, and the bar is dramatically lower in terms of quality, performance,

and functionality. It needs to run well enough to collect data for some very specific use cases, and that's about it." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "There are two big limitations you do have to keep in mind, however: First, this is code, so engineers must create the live-data prototype, not your designers. Second, this is not a commercially shippable product, it's not ready for primetime, and you can't run a business on it. So, if the live-data tests go well, and you decide to move forward and productize, you will need to allow your engineers to take the time required to do the necessary delivery work." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Today, the technology for creating live-data prototypes is so good that we can often get what we need in just a couple days to a week. And once we have it we can iterate very quickly." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...the key is to be able to send some limited amount of traffic, and to collect analytics on how this live-data prototype is being used. What's important is that actual users will use the live-data prototype for real work, and this will generate real data (analytics) that we can compare to our current product—or to our expectations—to see if this new approach performs better." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The live-data prototype is typically substantially smaller than the eventual product. For example, the bar is typically lower in terms of quality, performance and functionality. [It needs to run enough to get validated learning](#), but typically there is more work to be done before you'd roll it out widely."
- "...while the P in MVP stands for product, an MVP should never be an actual product... The MVP should be a prototype, not a product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "They have spent literally months building an MVP when they could have had this same learning in days or, sometimes, even in hours." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The MVP is a product management framework that encourages you to [build the smallest version of your product that will achieve your goals](#). The idea behind this approach is that you can always add features later, so it's best to focus on the core functionality and create something fast rather than spending months working on an elaborate plan only to discover that people don't want what you're building."
- "In short, [an MVP is](#): A testable hypothesis about how users will respond to a series of actions or experiences within a system. Built using time-tested methods and tools from lean software development practices."
- "Credited to Lean Startup author Eric Reis, this framework [emphasizes the importance of learning when developing new products](#). The strategy, which is also called Lean Software Development, calls for the development of a minimal (or bare-bone) product for testing at first. The team builds a solution with minimal functionalities that are enough to solve a problem. This enables the gathering of customer feedback and validation of assumptions to know what can be done better."
- "...[if you constantly unpacked everything for deeper understanding you'd never get anything done](#), and if you don't unpack understanding when you need to you'll do the wrong thing... human beings are these really weird things because everything you tell them has a million possible outputs, and then they all interact in this hilarious way..."



- “Having the skills to navigate the technical complexities of search, so you understand its limitations and capabilities is a significant advantage when planning and working with engineers. However, [people tend to over-index on this knowledge](#), which blinds us to opportunities.”
- “As in most engineering problems, don’t reinvent the wheel yourself. [When possible, use existing services or open source tools](#). If an existing SaaS (such as Algolia or managed Elasticsearch) fits your constraints and you can afford to pay for it, use it. This solution will likely be the best choice for your product at first, even if down the road you need to customize, enhance, or replace it.”
- “An [MVP has the purpose of validating a certain hypothesis](#) so the team can learn about some aspect of the product they are creating. This means that the team needs to ideate a way of building a MVP that would help them do an experiment, with real users in a context that is as close to the desired use case as possible. Otherwise the insights the team can take from the experiment may not be useful for the team to apply in real life.”
- “The MVP is the smallest thing you can ship that can validate your product direction before you spend significant time moving in the wrong direction. In a start-up, not validating product direction can lead to valuable engineering time being wasted. This is why MVPs are sometimes delivered without engineering time, using product [mockup tools, wireframes or no code solutions that are then user-tested](#). This will entirely depend on the idea, but it is best practice to validate an idea as quickly as possible before you actually build it.”

#### Avoid “Over-Engineering”

- “The first issue is that [if the team is not very clear that they are building a live-data prototype rather than production](#), the team often over-engineers their live-data prototypes. This is bad because it hurts our ability to iterate quickly and can lead to significant waste. So we must be very clear with our product team and with the items on the backlog, whether this is normal production software quality work, or whether this is a live-data prototype.”

#### When to use a Live-Data Prototype? (Fail-Fast)

- “The principle objective in product discovery is to discover the smallest possible product that is valuable, usable and feasible, and to do this as fast as possible. This means [failing fast](#). Trying our ideas out on real users and customers, learning and adjusting, and pivoting if necessary. We know we’ll need several iterations to get to where the product actually works for us, so we want to work through those iterations as fast as we can.”
- “To be clear, creating a live-data prototype is essentially coding. So this means you’re going to need access to developers to create the prototype. At a typical early stage startup, this is usually not a big problem. After all, there is not usually a legacy system to keep running with a long backlog to work through. Unfortunately, [at more established companies, it can be hard to get sufficient time from the developers to build and deploy a live-data prototype](#).”
- “Live-data prototypes are [excellent for startups wanting to test an MVP](#) (minimum viable product). The team can use this MVP to test an idea’s desirability, viability, and feasibility—testing and iterating before they commit to the product development process. These live-data prototypes are comprehensive enough to get accurate results for a proof of concept but lean enough that it doesn’t take long to build and make changes.”
- “It must work enough to handle the live traffic. It must have [enough analytics in place that we can understand how it is being used to measure it’s success](#). It must run well

enough that we're not causing problems for our customers. As just a rough guide, I find a live-data prototype to be somewhere between 20% and 50% of the work of building production software."

- "A good example would be internationalization and localization work. You can usually [test your idea in a single geography with a single language and payment system](#), and if things go well, you can do the additional engineering needed for a wide-scale rollout."
- "Live data prototyping is beneficial for testing notifications or APIs that rely on user data or interactions. For example, if you're designing a two-step authentication using text or Google Authenticator, [testing this feature with a live-data prototype is crucial](#)."
- "Developers on the team initially thought way more work would be needed for this prototype than we initially imagined. They talked about creating notifications based on actual events in the product. We had to explain this wasn't necessary. What we needed was for users to see real content items which the notifications were supposed to be about, but the events didn't have to be real. However, if the fake event was meant to be initiated by other users (e.g. a user commented on some content), those users would have to be real. The idea was to [notify about fake events, but in real content by real users](#)."

#### Hybrid Prototype

- "There are also many hybrids, which combine aspects of the other types. For example, when working on search and recommendations in which we're focusing on relevance, we may need to have the prototype access live-data sources, but we don't need to be able to send live traffic. In this case, we're not trying to prove anything, but we can learn a great deal by observing and discussing the results with the users." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "While these three categories of prototypes handle most situations well, a wide variety of hybrid prototypes also combine different aspects of each of these in different ways." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Side-by-Side Test (to gather human judgements)

- "There are also many hybrids, which combine aspects of the other types. For example, when working on search and recommendations in which we're focusing on relevance, we may need to have the prototype access live-data sources, but we don't need to be able to send live traffic. In this case, we're not trying to prove anything, but we can learn a great deal by observing and discussing the results with the users." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Wizard of Oz Prototype

- "A Wizard of Oz prototype combines the front-end user experience of a high-fidelity user prototype but with an actual person behind the scenes performing manually what would ultimately be handled by automation. A Wizard of Oz prototype is absolutely not scalable, and we would never send any significant amount of traffic to this. But the benefit from our perspective is that we can create this very quickly and easily, and from the user's perspective, it looks and behaves like a real product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "One way to learn very quickly and test out several different approaches is to create a Wizard of Oz prototype that provides a simple, chat-based interface. However, behind the scenes it is literally you as product manager, or another member of your team, who is receiving the requests and composing responses. Soon we begin to experiment with system-generated responses, perhaps even using a live-data prototype of our algorithm." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

# Recruiting Users

## Recruit Users to Validate Assumptions

- "You'll need to round up some test subjects. If you're using a user research group, they'll likely recruit and schedule the users for you..." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "If you're asking users to come to your location, you will likely need to compensate them for their time. We often will arrange to meet the test subject at a mutually convenient location, such as a Starbucks. This practice is so common it's usually referred to as Starbucks testing." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

## Which Users to Recruit?

### Reference Customer Program (*this also a GTM Technique*)

- "...this technique is not designed to discover the necessary product—that comes next. Rather, it is designed to give you direct access to the target customers where you'll find the product ideas necessary to generate reference customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The benefit to the prospective customer is that they get real input, not lip service, to the solution—and, most important, they get a solution that truly works for them. The benefit to the product team is that you get ready access to a set of users and customers that you can go deep with and figure out a solution that will work for them." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...you would not do this program for small efforts like features or minor projects. This is for larger efforts. Good examples would be creating a new product or business, taking an existing product to a new market or new geography or a redesign of a product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The basic driver behind this technique is that, with a significant new product, the most common objection is that prospective customers want to see that other companies, like themselves, are already successfully using the product. They want to see the reference customers. In general, the more reference customers the better but too few, and the prospective customer is worried that the product is a special and only works for those one or two customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Sometimes we advise founders of B2B startups to take over-engagement to an extreme, and to [pick a single user and act as if they were consultants building something just for that one user](#). The initial user serves as the form for your mold; keep tweaking till you fit their needs perfectly, and you'll usually find you've made something other users want too. Even if there aren't many of them, there are probably adjacent territories that have more. As long as you can find just one user who really needs something and can act on that need, you've got a toehold in making something people want, and that's as much as any startup needs initially. Consulting is the canonical example of work that doesn't scale. But (like other ways of bestowing one's favors liberally) it's safe to do it so long as you're not being paid to. That's where companies cross the line. So long as you're a product company that's merely being extra attentive to a customer, they're very grateful even if you don't solve all their problems. But when they start paying you specifically for that attentiveness — when they start paying you by the hour — they expect you to do everything."

## 1) Decide who should be a Reference Customer

### Target Market or User Segment

- "We are looking to develop six reference customers in our specific target market or segment, so, the idea is to find six similar customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The concept behind this technique is to focus on developing this set of reference customers for a specific target market... Once we have those reference customers for that initial target market, we can move on to expanding the product to meet the needs of the next target market." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "We want to end with six reference customers, so we'll typically recruit between six and eight in case one or two turn out to be not a match or unavailable. We need them to be from the specific target market we are going after. They may be from your existing customer base, prospects, or a blend." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### Customers who feel the Pain of the Problem we are trying to Solve

- "We are looking for prospective customers that truly feel the pain and are near desperate for the solution we want to build. If they could find a solution that worked for them elsewhere, they would have already bought it." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...in many cases, you'll get people who say they are extremely interested in this product, but they first want to see your references. When you explain you're looking to work with them to become one of those references, they will probably say they are just too busy, but to come back once you have the references. That's fine. They're a useful lead. But we are looking for those customers that are so hungry and desperate for a solution that they will absolutely make time for this. Every market has this segment." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### Consumers with 0 Exposure

- "...for consumer products, we will need to supplement this program with much broader testing of our product ideas—typically with people that have never been exposed to the product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### Customers who have Time & Resources to Collaborate

- "We need them to have people and time willing to work closely with us. They need to be willing to spend time with the product team, testing out early prototypes and helping the team ensure the product works well for them. If possible, we would like them to be well-recognized marquee names, because that will be of the most value to the sales and marketing staff." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

## 2) Recruit 6-8 Reference Customers for Business Customers; 10-50 Reference Users for Consumers

- "For products and services aimed at businesses, I was taught years ago that the key number is six reference customers... it's important that the members of the customer discovery program be the right set, and no more than eight." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "It's critical to explain to each prospective member of the program that your job is to come up with a general product—something your company can successfully sell to a large number of customers... You are, however, deeply committed to coming up with a

product that works extremely well for them and just a handful of other companies... Your job is to dive deep with each of the six customers and identify a single solution that works well for all six customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "For consumer products, the same general concept applies. But, rather than focusing on six businesses to work closely with (where we have access to many different users at each customer), we instead focus on a somewhat larger number of consumers (on the order of 10–50) that we engage with to get them to the point that they are loving our product." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...for products for businesses, one of the reasons I like this customer discovery program so much is that I consider this a very practical and very effective definition of product/market fit. If we can get to the point where we have six reference customers in a specific target market, we will typically declare product/market fit for that market." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "So people ask me, "So you send me to speak with users. How many?" And I will tell them a hundred. You don't need a hundred, but the hundred basically say you need to get out of your comfort zone. It's not just your close friends and family that you need to discuss that. You need to discuss that with people that you don't know. And usually what happen is, and the validation is in most cases is really clear, right? If you tell someone, "This is the problem I'm going to address," and they will tell you, "Oh, I know someone that has this problem," it's not a real problem. If they will tell you, "No, no, no, no, no. This is not the problem. The problem is," and they will give you their description of the problem. This is something that you really want to follow. So if you speak with a hundred people, but if you actually speak with 20 people that you don't know, you will get validated whether or not this problem is real or not."
- "...if you find you are having real trouble recruiting even four or five prospective customers for this effort, then it's very possible you're chasing a problem that isn't that important, and you will almost certainly have a very hard time selling this product. This is one of the very first reality checks (aka demand validation) to make sure you're spending your time on something worthwhile. If customers aren't interested in this problem, you may want to rethink your plans." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...getting six reference customers in a given target market for a B2B company is perhaps the most significant, meaningful milestone business result for a product organization and something truly worth celebrating." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Coming up with the right set is normally something the product manager does in tight collaboration with the product marketing manager." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "You will want to work with your product marketing manager to ensure that the prospective customer has permission from their marketing organization to serve as a public reference. You will also want to keep your product marketing partner continuously involved in this program as she can help turn your reference customer into some great sales tools and collateral." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### 3) Test Prototypes with Reference Customers

- "You will be interacting with these people throughout the effort—you'll be showing them



prototypes and testing with their users, you'll be asking many detailed questions, and you'll be testing early versions in their environment. Make sure you release the delivered product to these people before the general release, and make sure they are live and happy before the release. When you launch, they'll be ready to stand up for you." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Build your Product (and relationship) w/ your Users

- “The second is actually [building the product with your users](#). And I know you had Sho on your podcast and he talked a lot about this too, just the customer obsession that we have the care of, especially that editor tool.”
- “Let's move to the next one, which I think is [building with your customers](#)... this idea of customer obsession and of building with your customers. And it also goes back to that whole decision that we talked about earlier, about when to come out of stealth. You can only build so much with your customers when you're in stealth, because you don't have that many that know about you. But especially, even in the early days when we only had a couple people, we really did listen.”
- “And back to also what you were saying earlier about those steps to product market fit, [get one person to use it](#). That's really what we were focused on, especially in the very, very early days. I remember the first one, I think I've told this story before, but was that we had Coda. They were our first user and they were based in Palo Alto. Dylan and I drove down and demoed the product to them, and they were the first ones. Their designer, Jeremy, was like, "Yes, we'll take this on full-time." And I remember, we were both like, "What? Really? You will?" That was the first person who said yes to us, and so we were so excited. This was a huge milestone. We went to Oren's Hummus in Palo Alto on the way back to the office to bring some back for the team to celebrate. We were just so stoked. And then we got back to the office, and I think Dylan gets a text from Jeremy being like, "Oh, yeah. I tried to share this with Philippe, my engineer, and he can't get the file to open, so I guess he can't use it." And we're like, "What is it? What happened? We finally got someone." And I remember Dylan was like, "Everybody drop everything. We have to fix this." And after some looking at the servers and things, they were like, "Nothing's wrong," and then they realized it was a problem with Philippe's MacBook. Evan didn't have a car, so Dylan had to drive Evan down to Palo Alto to fix the MacBook of Philippe just to get them to use the product. So anyway, get them to stick around. That's the first one.”
- “The third is finding a place where you can, in a way, that you can [build this relationship over time](#). Maybe that's specifically through a channel where they don't have to come to you, because they don't really care about you yet and they're probably not going to convert right away or start using you right away, so how do you get them to stick with you over time? So, find out the channel where you can do that and then continue to build that relationship with them.”
- “And then the fourth is just [being extremely transparent and honest to build that relationship with people](#).”
- “There's a fourth bullet I think, [around building relationships with users](#). Oh, just transparency and authenticity. So I think that that really comes into when you get to the scale part, I'm talking about early days, being transparent with your users, and a lot of that does come down to the stuff we talked about too, about downtime, about what that looks like. And we just did that naturally with people one-on-one in those early days. But I think where it gets harder, and we stuck with it because it's in our DNA and how we act,

is when you get to scale and you have to still do that stuff with a lot of people who care and who do these things with you. But I think it's just so important that you are honest and also you don't hide behind the brand. That you're human and authentic and transparent with people. And we can pull up the examples. I think the better examples are probably at scale than even in the early days because that's when it gets harder to do that.”

#### Make it Easy to Give Feedback

- “But the building with people, the way that we did that was largely through just each person. [We really cared and listened to their feedback](#), especially when there were only a few people. One way we did that was, I remember we implemented Intercom back in the early days, and there were so few users and so few of us that everybody was on Intercom all day too. And so we'd get a chat and I would jump in sometimes. Dylan would jump in, an engineer would jump in. And he'd open up a chat with people and they'd actually debug the product with us live. They'd be like, "I have this bug," and this engineer would be like, "Let me QA it right now." And so that was one example. We all did support back in that day, and the engineers would talk to users directly, get their feedback, and then go immediately fix things like bugs. And so those are just examples of in the early days, what that looks like, and that just scales a lot over time as you're growing and you're talking to more people.”
- “That advocate ended up helping us a ton when they came on board, because some of this stuff, I mean, none of this stuff scales. Your engineers can't do support forever. In the early days, that becomes really important. But when we brought that advocate in, their whole job was talking to users, getting them to try to use the product, but then [taking their feedback back when it wasn't something that wasn't working](#). That helped us scale a lot, so that became really essential, and then telling people, "Oh, we fixed this." It made them feel more ownership of the tool too, being like, "Oh, yeah. I asked them to do this. They did it." That's just another way where you just build a strong relationship with people, because they feel very invested in your journey with you. Which goes back to building credibility.”
- “If someone's trying to use your product, [help them actually be successful](#). And we didn't have very many of them, but it's like, yeah, back to what you were saying earlier, how do you get one person to actually use it? And so we very much cared that that one person stuck with it and didn't bounce.”
- “And also what you just mentioned is really interesting that [he wasn't using it to go sell people on the product. It was first get feedback on the product](#), which ends up selling them. It was always about feedback. And I think that that's so key to all of this is all about feedback.”

#### Which Users to AVOID?

##### Users who reached the bottom of the funnel

- “Occasionally what happens is that we speak with the wrong customers. So just imagine that we have what I call funnel of use, right? So on top of the funnel, we have people that are download the app, let's say, or have entered their website, and then the next phase is that they registered and the next phase that they're trying to use it for the first time and then the next phase is that they're getting the value and they're coming back, right? In this funnel, what we usually try to do is speak with the users at the bottom of the funnels, those that were successful. But [in order to improve, we need to speak with those that fail, those that were unsuccessful, those that did not register, or they did register and did not](#)

[use, or they did use and did not come back, because they know something that we really need to know. “Why?” This “why” is what makes a great product.”](#)

Users who are “Innovates”

- "...it's also important we screen out technologists. These people are mainly interested because of the technology, not because they desperately need the business value." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Mediums for Recruiting Users

Ads

- "You can advertise for test subjects on Craigslist, or you can set up an SEM campaign using Google AdWords to recruit users (which is especially good if you are looking for users that are in the moment of trying to use a product like yours)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Just like the explainer videos, landing pages and AdWords can help you do quick & cheap experiments that can help you validate interest on a product. Some examples of companies that use this technique: Zynga: For their game development process, [the company follows a mix of landing pages and adword MVP tests to gauge interest in a planned game](#) or particular aspect of the game.”

Email List

- "If you have a list of e-mail addresses of your users, you can do a selection from there. Your product marketing manager often can help you narrow down the list." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Your Website (Landing Pages, Blogging)

- "You can solicit volunteers on your company website—lots of major companies do this now. Remember that you'll still call and screen the volunteers to make sure the people you select are in your target market." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Joel Gascoigne did a classic landing page test with his startup Buffer, describing the value proposition and collecting emails. But contrary to popular understanding, it wasn't the metrics or conversion rate which convinced him to move forward. Instead, it was the conversations which resulted from him emailing every single person who signed up and saying hello. I'm skeptical of the quantitative value of landing page metrics. But they are certainly a great way to collect emails of qualified leads for you to reach out to and strike up a conversation with. Paul Graham suggests that generic launch can be a solid start for the same reason. Get your product out there, see who seems to like it most, and then reach out to those types of users for deeper learning. This is starting to bring the customers to you instead of going to them, but still involves sending a mostly cold email. Next, we'll look at how to run with this principle to make our lives even easier." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- “If you have a reasonably sized and relevant blog audience, lining up conversations is trivial. You just write a post about it and ask people to get in touch. Of course, not everyone has a relevant audience. That's one big reason to start blogging to your customers today. Even when I had no audience, I still found blogging to be helpful. When I sent cold emails from my blog email address, folks would often meet with me because they had checked my domain, seen my industry blog, and figured I was an interesting person to talk to. In other words, the traffic and audience were irrelevant. Blogging about an industry is also a good exercise to get your thoughts in a row. It makes you a better

customer conversationalist.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

In-Person Cold Conversations (Trade Shows, Conferences, Workshops, Shopping Centers, Sports Bars, Cafes, Organize your own Meetup)

- "You can always go to where your users congregate. Trade shows for business software, shopping centers for e-commerce, sports bars for fantasy sports—you get the idea. If your product is addressing a real need, you usually won't have trouble getting people to give you an hour. Bring some thank-you gifts." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "When I wanted to build tools for public speakers and conference organisers, I knew a few at the lower and middle tiers, but none of the big names who charge \$5-50k per talk. Which was a problem, since I thought might be a good customer segment for obvious reasons. So I hit the conference circuit and gave free talks everywhere I could. The speakers lounge became my personal customer conversation machine. Everywhere I went was an opportunity to meet new speakers and learn what event organisers care about. By immersing myself in the community I met a load of people and soon had all the connections and conversations I could handle (I ultimately decided that big speakers and big conferences were a bad customer segment and walked away—not every conversation has to end in finding out your idea is awesome)." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- "While I was considering building tools for professional speakers, I found myself at a friend-of-a-friend's engagement party. I heard someone across the room say "...my talk in Tokyo next week" and made a beeline over to her. She left the party thinking I was a nice guy who was super interested in her career and I left with a bunch of useful customer insight. She ended up becoming my first committed alpha user. If it sounds weird to unexpectedly interview people, then that's only because you're thinking of them as interviews instead of conversations. The only thing people love talking about more than themselves is their problems. By taking an interest in the problems and minutia of their day, you're already more interesting than 99% of the people they've ever met." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- "I was chatting to an aspiring entrepreneur in a cafe. Among other things, his product could help cafe owners educate potential customers on the origins and backstory of the coffee beans. He had been hitting the pavement for the past 2 weeks and getting turned away from cafe after cafe. He wanted to talk to me about his customer interview process. Ten minutes into the conversation, I cut in: "Who have you talked to so far?" "Nobody will take time to talk to me; they all just say to come back later." I flagged down the waitress who was walking by. "Excuse me, can I speak to the owner?" "Umm." "Don't worry, it's nothing bad. This coffee is amazing and I wanted to ask him about the story behind the beans." The owner wasn't around, but with a good excuse in hand, we were soon chatting with the manager. And the manager, in turn, gave us the owner's contact details and said he'd be in on Tuesday. The practical downside is that no matter how well the chat goes, it's impossible to transition into a product or sales conversation, since doing so reveals your initial deception and destroys trust. When I open with an excuse, I tend to consider the chat to be a throwaway for one-time learning instead of an ongoing relationship. You've got the ultimate excuse if you have a PhD student on your founding

team. “Hello, I’m doing my PhD research on the problems around X, it would be a huge help if I could ask you a couple questions for my dissertation.” If you’re really desperate, you can always be “writing a book” and hoping to interview them.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

- “For marginally more effort than attending an event, you can organise your own and benefit from being the centre of attention. Want to figure out the problems HR professionals have? Organise an event called “HR professionals happy hour”. People will assume you’re credible just because you happen to be the person who sent the invite emails or introduced the speaker. You’ll have an easy time chatting to them about their problems. Nobody ever follows this recommendation, but it’s the first thing I would do if I moved a new industry or geography. It’s the fastest and most unfair trick I’ve seen for rapid customer learning. As a bonus, it also bootstraps your industry credibility.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- “Teaching is under-valued as both a learning and selling tool. Let’s say you’re making better project management software. In that case, you probably have both expertise and a strongly held opinion about how things could be better. That’s the magic combination for being an effective teacher. Spend the time to teach. You can teach at conferences, workshops, through online videos, blogging, and by doing free consulting or office hours. You’ll refine your message, get in touch with a room full of potential customers who take you seriously, and will learn which parts of your offering resonate (before you’ve even built it). Then simply chat up the attendees who are most keen.” - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)
- "Drumming up good conversations from cold leads is hard. It’s doable and sometimes you have no choice, but it’s far from ideal. The goal of cold conversations is to stop having them. You hustle together the first one or two from wherever you can, and then, if you treat people’s time respectfully and are genuinely trying to solve their problem, those cold conversations start turning into warm intros. The snowball is rolling." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

#### Cold Calls

- "What does it mean if you reach out to 100 people and 98 of them hang up on you? Well, nothing, except that people don’t like getting cold calls. No surprise there. More importantly, it means you’ve now got 2 conversations in play. Unless your plan is to sell your app via cold calls, the rejection rate is irrelevant. I know one team who successfully used cold LinkedIn messages to reach C-level execs of several major UK retailers. They were ignored by practically every exec in the country, but you only need one “yes” to get you started. Beyond hard hustle, stay open to serendipity. There are lots of ways to get lucky when you’re in the mood for it." - Rob Fitzpatrick (The Mom Test: How to Talk to Customers & Learn if Your Business is a Good Idea When Everyone is Lying to You)

## **Focus (Strategy)**

Product Strategy:

Value Proposition (defined from Business Strategy - *Review Each 6 Months - Change Every 6-18 Months*)



- “...so the one thing though about strategy is that you can't set it in a one-hour or one day meeting, our product strategy has to emerge from experimentation, and research, and data, right, you have to figure out what's the right direction to go in, so the next step really is refining our process to support that strategy and figure out where we should go...”
- “Business strategy is about solving two problems: what's your market (where are you playing) and how do you win it. Product strategy is about figuring out what parts of “how you win it” are won by the product itself vs your go to market, acquisition strategy, low cost, or other advantages. The simpler the strategy, and the more difficult to copy, the better. I have frankly seen very few businesses that do this well, most like to over complicate things because they don't like to admit to themselves that either their market is too small, or their product is not good enough, or both. So they begin weaving layers and layers of unnecessary complexity to pretend to their boards that they are innovators. It gets so tiring.”
- “These are the things that make you great at the role and strategy to me, and hopefully we'll talk about strategy in a bit. It's one tiny slice. You do a strategy, but it's 5% of the work that you do. Yes, it's important because you want to get your strategy and you need to pick the right products, but at the end of the day, the person who has a good strategy will not be as successful as the PM who ships more stuff, gets more reps and has the ability to actually create impact. So, to me, you could be great at strategy, but if you're not good at this stuff and your stuff isn't getting out the door, you're never going to be that great at the job.”
- “And so what I did was something that I kind of did in the background because I had an engineer who I worked with who really wanted to understand why we were doing what we were doing, and he was not satisfied with sort of a surface level answer. And he was just pushing and pushing and pushing. And so what I did was I just wrote out a Google doc and I started with like, okay, and not fancy, these are just bullets. What is the mission? What is the point of the company? What are our goals? Maybe we have some sort of high level framing of what we're working on. And then I had this big section that was just the landscape. And in that section I put in what's going on with our business? What's happening with our products? What's our point of view on the market? Who are our competitors? A SWOT analysis, key risks that we might be facing. Just dump that all on paper. Then what are the current quarters business goals or however you do planning, what are the current things that your company's working on? Then I put in, all right, that's sort of the context that we're operating in. Then I wanted to understand where are we. So what is an honest accounting of the current state of your product, the business overall, and then the specific area that you're working in. What works, what doesn't work? What are your customers saying? Bottoms up feedback, users, customers, teams, what are your support tickets? Get that all out on paper. And then really importantly, where are your technical hurdles? What are the big pieces of tech debt? What are your engineering and technical teams always harping on that they want to invest in? Are there some big things coming down the pipe that you need to think about? Just get everything on paper. And then usually in the process of writing all that down, you'll start to see, okay, I kind of get where we are. I kind of get what the challenge is. And then you write a section that's like, what's the opportunity? From all of that, what's going to bubble up as the top one or two opportunities for your team? Where do you want to play? Where can you win? Where's

the unique? Based on your unique competitive advantage, where do you think you all should be and why? And then based on that opportunity, what are the challenges? So, what's going to be the hardest about taking advantage of that? What has to be, another way to frame it is what has to be true about the world for that to work? That's a one that's been helpful. And then what would you do? Take a swing at writing down your solution, what you would need to build, how might it work? Anything that you have, this is where I would say three bullets, maybe what you might want to do and then a plan. If no one else had an opinion, how would you go about it? How would you sequence it? What would you do? How might you get the team to work on it? What would your team have to look like? How much would it cost to do it? All that you can start to layer in all that kind of stuff. And then I just share the doc. Share it with everybody. There should not be any secret. And [you should be able to walk all the way from your company's mission down to the individual priority on your team and see the logic chain and why you got there](#). And if anyone doesn't agree with it, they can call out where their disagreement lands in that landscape. But at least then you've put everything on paper, you understand how you got to where you're going, and then you can have an argument about the different pieces and points of data and feedback that you're getting, but at least people understand how you got where you got. And then it doesn't become like, I don't agree with you. It becomes, I don't agree with this point... I've only ever done it in a loose Google doc and then it just grows and changes. I can maybe try to write up those bullets, but it's just like I just make headers and then I just start dumping content in it.”

- “[...if you're trying to create your own little template](#), you start with the mission of the business, and then I imagine you also share the mission of your team because oftentimes it's a little more specific, if you're working on it like a product team strategy. Then there's a landscape of what's happening. So, you include competitive, SWOT analysis of competition risks, product state, business state, things like that. And then you share the current goals of what you're trying to achieve as a team slash business. And there's an account, honest accounting of what's happening in the product and technical hurdles and things like that that'll keep you from moving, I guess, achieving some of these goals. And then you share, here's the opportunity I see, how we win and how we actually achieve this opportunity where we place bets and things like that, or we could place bets. Then challenges of doing this, what needs to be true for this to be possible? And then you finally get to, here's what I think we should do, essentially the solution, ideally three bullet points, and then the plan. And I imagine the plan is step one, get sign off from exec. Step two, resource the team. Step three, start on this design research sprint.”
- “I think the strategy is often misinterpreted in terms of Product Management. Even though as PM you can contribute not always welcomed in the following types of strategic discussions.
  - What will be the market direction that the company wants to go?
  - What should be the revenue guideline and quarter wise division of the same?
  - What should be cost can spend on the product/market/sales/hiring..etc?[When the high-level above points are locked then PM can strategize the execution](#) of the same by:
  - Understanding the market gap vs product vs competitor gap
  - What are the winning edge your product can have to achieve the company goals?
  - What are the innovation options you can have to position your product as the winner among the competitors.....etc

All these will result ideally in the following document

—-Product strategies (Wins, innovation, guidelines..etc)

—-Product roadmap (path to achieve the goals)

\*\* These are all some very BASIC aspects of strategies, every product manager brings his/her own magic formulas in creating workable strategies. Even I have my own framework for thinking, drafting out...etc. I have seen PM's who are really great in strategies but never good at executing it. Ultimately any type (good, great, worst) of strategy is useless as long you don't have an execution roadmap. A Good PM always balances it properly.”

- “Suggest giving the book "Good Strategy, Bad Strategy" a read. Here are just a few of my notes from the introduction of the book (should give you some idea of what the whole book delivers): [The core of strategy work is discovering the critical factors in a situation and designing a way of coordinating and focusing actions to deal with those factors](#). A leader's most important responsibility is identifying the biggest challenges to forward progress and devising a coherent approach to overcoming them. A good strategy recognizes the nature of the challenge and offers a way of surmounting it. Simply being ambitious is not a strategy. A strategy that fails to define a variety of plausible and feasible immediate actions is missing a critical component. Strategy is how a company will move forward. Doing strategy is figuring out how to advance the organization's interests. A good strategy has an essential logical structure that I call the kernel. The kernel of a strategy contains three elements: a diagnosis, a guiding policy, and coherent action. The guiding policy specifies the approach to dealing with the obstacles called out in the diagnosis. It is like a sign post, marking the direction forward but not defining the details of the trip. Coherent actions are feasible coordinated policies, resource commitments, and actions designed to carry out the guiding policy.”
- “Good product strategy [provides company executives with a fresh perspective on the domain and the product](#). Bad product strategy attempts to conform to executives’ pre-existing opinions about what should be done with the product.”
- “Good product strategy [is inspiring because it’s vivid, rigorous, and actionable](#). Bad product strategy tries to sound visionary and ambitious, usually by employing Rah-Rah language and Apple Pie positions. Bad product strategy often reads like a prayer.”
- “Good product strategy emerges from deep, nuanced thinking but [is articulated such that it’s easy to remember and repeat](#). Bad product strategy is fluffy or abstruse.”
- “[Business strategy is about solving two problems: what’s your market \(where are you playing\) and how do you win it](#). Product strategy is about figuring out what parts of “how you win it” are won by the product itself vs your go to market, acquisition strategy, low cost, or other advantages. The simpler the strategy, and the more difficult to copy, the better. I have frankly seen very few businesses that do this well, most like to over complicate things because they don’t like to admit to themselves that either their market is too small, or their product is not good enough, or both. So they begin weaving layers and layers of unnecessary complexity to pretend to their boards that they are innovators. It gets so tiring.”
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- "Product strategy needs to be aligned with business strategy. The vision is meant to inspire the organization, but the organization ultimately is there to come up with solutions that deliver on the business strategy. So, for example, if that business strategy involves a change in monetization strategy or business model, then the product strategy needs to be aligned with this." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “For example, let’s say a product company wants to increase revenue (business outcome) by targeting a new segment of a market (business strategy) to help people lose weight (business vision).”

What is a Strategy?

- "The product strategy is our sequence of products or releases we plan to deliver on the path to realizing the product vision." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “...strategy is a deployable decision-making framework enabling action to achieve desired outcomes, constrained by current capabilities, and coherent list aligned to the existing context, so what he's saying here is that strategy is a framework, right, strategy is a framework that allows you to figure out where am I now and where do I want to go and how do I connect those things and how do I give people the room to actually explore how we actually get there...”
- “A strategy is a high-level plan to achieve one or more goals under conditions of uncertainty, designed through recognizing the challenge (diagnosis), setting a direction to overcome it (guiding policy), and detailing steps to implement the policy (coherent actions).”
- “And I gradually came to the realization all strategy is problem solving. It's a form of dealing with challenges, and that was a basic idea going in the book.”
- “Strategy isn't picking a strategy out of a list of common strategies. It's looking at the problem, what makes that problem hard, and seeing a way to solve it.”
- “I want to share with you that strategy's not mysterious, that I've spent my life studying strategy, pursuing it, consulting on it, writing about it. It's not mysterious. It's about solving problems. It's about solving the most important problem you're facing that you actually do something about. You don't have to be Sun Tzu to come up with a strategy,

but you need to be focused on something doable and be consistent about it.”

- “Well, [a strategy is a design for overcoming a high-stakes challenge](#). It's a mixture of policy and action designed to deal with a challenge. The challenge could have an upside. It could be, "Oh geez, we were fooling around in the back 40 and we discovered oil, what we do?" Or it could be negative, could be that new innovation is driving us out of the market. But a challenge is the hardest strategy. The word comes from Strategos, which is Greek. The Greeks elected 10 Strategoi to serve as strategic leaders at Athens. And they were elected and they dealt with issues of the day, the Persians are invading, there's a plague in town, we need money for a new temple. And that's where the word comes to us from. It isn't just military, it wasn't in Athens. So strategy is always about dealing with an issue, a challenge, a problem. What are we going to do about global warming? What are we going to do about China wanting to reunify with Taiwan?”
- "There's no single approach to product strategy that is ideal for everyone, and you can never know how things might have gone if you sequenced your product work differently." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Most important, the product vision should be inspiring, and the product strategy should be focused." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “So product strategy, strategy sits between the mission and vision and the plan. It could be at the company level or at the team level, but it's usually sitting between the mission and vision and the plan. And the plan, you can call the plan the roadmap, which is basically an ordered list of things that you want to get done and the mission and vision is basically sort of the purpose of existence, what does it look like when you achieve your purpose of existence? So it sits between the two and [it forces choice to deploy scarce resources to generate maximum impact](#).”
- “And I want to borrow an analogy from the world of physics. There is this concept called resonance, and the concept of resonance is really interesting, and it's actually very close to the concept of strategy. So the concept of resonance works as follows: [when you apply a certain frequency to an object and you get pretty close to its natural frequency, you see a disproportionate increase in the amplitude of how that object vibrates. And so it's very interesting, if you apply any other frequency, there's very little effect on the object, but if you get close to its natural frequency, there's this exponential increase in the vibration of the product](#). So this concept of resonance is interesting. So the way to think about it in the context of strategy is, it is selecting that frequency to achieve resonance between the product and the market. And so when you get close to that frequency, you should see tremendous impact in terms of the product landing well in the market.”
- “And so that's how I would think about it. [It sits between mission, vision and the plan. It forces choice to deploy scarce resources to generate maximum impact, so using resonance as a sort of an example, and it ideally includes three components. The first is a handful of areas to focus on and I call these strategic pillars and then a whole bunch of areas that are explicitly not the focus. And the third component is why. So why are the focus areas, A, B and C? Why are these whole bunch of areas not the focus? And that's the three components](#). That's really it in terms of product strategy.”

Set of Choices that compels a Desired Outcome

- “Strategy is an integrated [set of choices that compels desired customer action](#). So, the way I think about it is, there's a whole bunch of things a company controls, how many factories to build, how much R&D to do, in what areas, and how much advertising to do, how many people to hire, what to pay them, blah, blah, blah... Those are all the things



under our control. What is the thing we have almost no control over? What customers do. We would like them to take some of these out of their pocket and give them to us, can we make them? No, we can't. So, essentially, the job of strategy is to make decisions on the things we do control that will compel, we can't force, but it'll compel them. They'll say, gosh, I should take my hard-earned cash, and whether it's a company or an individual, I should take my hard-earned cash and give it to you, rather than give it to nobody, if there's no product now, or give it to a competitive product. So, the important pieces of it is integrated, it's the whole set of choices that has that one outcome, that it compels desired customer action."

3 Basic Elements (the "Kernel") of a Strategy: Diagnosis, Guiding Policy, Coherent Actions (IF any of these 3 are missing then it's NOT a Strategy)

- "All three elements have to be there. There has to be an understanding of the situation. There has to be a guiding policy, how are we going to deal with it? And that could be a long-term sense of how we could change. You don't have to change your strategy every five minutes or every five years. If you're making Almond Joy candy bars or something, you don't really change your strategy constantly. If you're in the tech business, of course you have a shorter time horizon. And then the coherence and action is critical. And so [these are the three, what I call basic elements, the kernel that if anyone in three is missing, something's wrong. It's not really a strategy](#), it's something else."
- "The example of [when a doctor treats a patient can be used to guide good strategy. It consists of three stages](#): diagnosis of the problem, e.g. name the disease or pathology; the therapeutic approach taken then becomes the doctor's guiding policy; and finally, the doctor's prescriptions for diet, therapy and medication are the coherent actions to be taken."
- "...so, now that we have [a sense of what we're looking to build](#), how do we come up with that core gem, that idea, that kernel, that bedrock that we can develop a strategy around, how do we search for that?..."

PM Defines Strategy AND which Problems to Solve (Big Bets) BUT Do NOT Dictate HOW to Solve the Problems THEN Product Teams Solve the Problems

- "...product teams don't do product strategy. Product leaders do product strategy. They need to do the product strategy... that is the job, is to make these strategic decisions, the focus decisions, the bets you're going to place. But then in a good organization, you give those bets to the teams and you really do give them latitude to figure it out. And honestly, it's been a while since I worked with Facebook at the time, but they had very good teams, very good product teams, serious cross-functional, serious engineers, serious product managers and designers, and they could solve very hard problems and that is what made them good. So I don't frame that as top-down. I frame that as product leaders doing their job and product teams doing their job." ~ [Marty Cagan](#)

Guiding Policy / Advantage (Focus): Use your Advantage;

Channel Your Actions in a Particular Direction (Diagnosis Informs Your Guiding Policy)

- "...the [only things that create value in a company are power, market size and operational excellence](#)."
- "The guiding policy outlines an overall approach for overcoming the obstacles highlighted by the diagnosis. It is '[guiding](#)' because it [channels action in certain directions without defining exactly what should be done](#)."
- "So a rich diagnosis of the situation, but then a guiding policy. The guiding policy is what are we going to do? Now, it's a simple thing to say, a guiding policy, and the guiding

policy is sort of the strategy. It's the core of it. It's here's how we're dealing with the situation... And so the guiding policy is sort of at that level of [what do we really have to do here and what are we doing and what are we not doing to deal with the diagnosis that we created?](#)"

- "So my two pieces of advice, anybody that's actually trying to do this is, [A, state the problem, and, B, don't call it a strategy, call it an action agenda](#), that you're not creating a strategy, you're creating an action agenda. What are we going to do about this problem? That's the essence of what you're doing. When you're thinking strategically, you're recognizing the problem and you have an action agenda to deal with it. It's not five years out and 10 years out. It's not your general mission to build a better world, it's none of that."
- "A good guiding policy tackles the obstacles identified in the diagnosis of a problem [through the creation of advantage or the collection from sources of advantage](#). Importantly, not all advantages are competitive (in the case of nonprofits or public-policy strategy)."

1A: Exploit Your Advantage (Power) to have Safety from the Competition – What Makes You Unique?

"How are you going to Focus your efforts when trying to solve this problem?" (Target your "Power"; Can be Long-Term or Never-Changing)

- "Good product strategy [builds upon the company's existing advantages \(companion products, distribution channels, partner relationships, etc.\)](#). Bad product strategy either ignores these advantages or overestimates their potential impact on the product's success."
- "Good product strategy [increases chances of success by largely relying on long-lasting advantages of the company and the team](#). Bad product strategy relies on factors that might be a current source of advantage but are over time more susceptible to getting neutralized by the competition."
- "And so for somebody in that position, say a product manager in an existing successful business. So [it is important in terms of just understanding their business to know what their source of power is](#)... and that can inform them about what it is that they're working for. And also they may see things since they're down in the weeds, they may see things that are important to that that they need to bring to other people's attention. Because they're the ones that really have the knowledge of what the heck's going on."
- "Earlier I talked about these [economic structures that provide durability of return in terms of refuge from withering arbitrage of everybody who wants to eat your lunch. And so that's what power is](#). So you have to understand what is an economics?... But you have to say, you have to understand how competition takes place and say what is it that creates some kind of refuge? And what it is is there's something in what you do that gives you either a cost or price advantage over others."
- "...startups need to understand which moats, which of Hamilton Helmer's 7 Powers, are available in the market they're attacking. [Picking the right moat for your market is crucial](#). As Dan Hockenmaier, who runs strategy and analytics at Faire put it: "Most of the value is picking a lane that's going to lend itself to defensibility.""
- "Good product strategy [builds upon the company's existing advantages \(companion products, distribution channels, partner relationships, etc.\)](#). Bad product strategy either ignores these advantages or overestimates their potential impact on the product's success."

- “Good product strategy [increases chances of success by largely relying on long-lasting advantages of the company and the team](#). Bad product strategy relies on factors that might be a current source of advantage but are over time more susceptible to getting neutralized by the competition.”
- “To undertake a strategy that you think will work, [you've got to have a reason that it makes sense and that reason is derived from some source of power, some source of advantage](#). Ultimately, your power or your advantage is something based in history that has the feel of reputation, or institutional skill, or it's some kind of symmetry or knowledge that you have that others don't have. So it's a resource that you can use that your competitors or others don't have equal access to because you've either have mastered it or you own it or you inherited from the past. All those things are sources of the power that you use to make it not an even bet. So when you walk into a casino, well maybe if you play poker with skill, you can expect to make some money, but the general casino games, you're going to expect to lose. And in business, statistically, if you come to me and you say, I'm going to open a new restaurant. What should my strategy be?... So what makes you think that you can succeed? Oh, I really want to succeed. Not good enough. I trained under a chef who's been very successful. Oh, that's interesting. Tell me more. So there, where's the asymmetry here? Where's the source of power where you go from the odds... The standard odds in this game are against people where you think the odds are in your favor. That's the source of power we're looking for. We're looking for this information, this skill, this thing in the field, the way the resources are arranged, that's going to give you this edge. And some of that is sort of part of the situation and some of it's how you shape and focus your actions.”
- “And that sequence is part of strategic action. [You need a source of power](#). I say power, I don't say advantage or efficiency. I say power because there are different ways in which power is exhibited and you have to focus the power on a target that can actually be affected or achieved. And this is real simple logic, but it's a discipline to focus power on a target that you can affect... One of the big issues in strategy is simply the organization, complex organizations particularly. You have a hard time focusing power because of all the different interests.”
- “Well, in a competitive situation, the [fundamental aspect of power is something that's going to give you some sort of advantage](#). Usually it's in asymmetry of some kind. If two fighters are equally balanced or two horses are equally fetched or two armies are equally... And they meet in competition, it's 50/50. Who knows what will happen. For a strategy you need to exploit in asymmetry of some kind. You're a little faster. Or they're a little... Something has to be different between now and between things. So that's the beginning of power, is asymmetry. We can think of it as leverage, but sometimes being first is a source of power. Being first to recognize something can be a source of power. Having a reputation of a certain kind gives you some power that someone doesn't have that reputation doesn't have. On the other hand, having a well-established reputation of a certain type can be the opposite of power because people don't expect you to be able to do something new. They expect you to be able to do this, but not that. Having relationships can be a source of power.”
- “But a source of power is that. A source of power can be an invention, a source of power can be a particular customer base that you have identified. It doesn't last forever, power, but [all the different sources of advantage that are sometimes transitory and sometimes permanent are sources of power that a company has to use to compete and survive](#).”

- “So how do you figure it out? So I start, as I said earlier, with the asymmetries. In what way is my company different than other companies? In what way is my team different? What do we know that other people don't know? What do we possess that other people don't possess? So there has to be some asymmetry to create competitive power, [there has to be something different](#). Sometimes you have to redefine your space down small amount. Then you can actually see it, particularly a smaller company that doesn't have worldwide power, has power in a certain marketplace or a certain set of customers or sometimes it's not customers. Sometimes the power is in who you can bring in and hire.”
- “If you're building a physical product, you might focus on scale economies. If you're building a SaaS product, you might focus on switching costs. If you're building a social app, you'll probably focus on network effects. [It's important to be a student of history here](#). Optimism is an important trait in a founder, but realism skewing towards pessimism is the right state of mind for a diagnosis. The first moat you reach for might not survive deeper scrutiny. Take social apps. Understand why the last 1,000 failed before convincing yourself you'll be the one to crack network effects. Or marketplaces. Hockenmaier notes that, “Network effects are overrated for marketplaces. They are usually not enough to drive defensibility on their own. They take too many lessons from single-sided network effects and ignore the challenges with dual-sided networks.” Look instead to scale economies or switching costs. Aim for moats with non-linear returns, where being 2x or 10x bigger provides outsized benefits. Hockenmaier looks for “asymptoting curves that take a long time to asymptote.” The goal is finding moats where you stay steps ahead thanks to non-linear returns.”
- “I'm always looking for it because [if you find it it probably means it's so obscure there, it'll also be a great investment opportunity](#). We're looking all the time, but so far, no. So far I'm pretty satisfied that seven is an exhaustive set, but never say never. That's an empirical seven, not a theoretical seven.”

#### Understand YOUR Competitive Power

##### Competitor Value Curve Mapping

- “...another search space that I like to explore is called [mapping the value curve of your competitors](#)... I like this tool for a few reasons, so first of all it's visual... it also forces you to think very holistically and high-level about your industry and as I mentioned earlier that's going to come at the heart of really understanding where to go is this understanding of your industry... and the last thing I like about this is it's a very customer-focused, customer-centric methodology...”
- “...so here's how it works, when you're mapping the value curve of your competitor the core idea here is that your industry competes on a number of factors, so in the auto industry, for instance, they're competing on: price, fuel economy, aesthetic, safety, for instance, and so on, and the idea is that your customers come to your industry and are looking at those particular factors... and those are the factors that they're considering, so the idea is that you would draw out the curve of how your industry competes... so just simply building this map is actually a really good way to distill your knowledge of an industry and ensure that you're really thinking about what's going on and that might help you develop insights in itself, but another thing that's useful here is you can think about the negative space as well, so you've mapped out this curve, and something that might stand out to you here is the selection is really really high here, this is a really impressive point of competition, but high selection implies high royalty fees, so maybe there's an opportunity for you to offer lower selection if you were to do something else as well, so

the idea is you want to extend the number of factors that the industry is competing on by adding a new one and that allows you to compete in a new space, potentially you could even ask a higher price for lower selection, a worse offline experience, and middling discovery, if you offered something new like direct relationships with the artist, and the idea here is that obviously [you need to understand what your customers are looking for and what your non customers are looking for](#), but the value curve can help you map out the negative space and explore opportunities you might not have thought of before..."

- "...and this is one I made up [for the music streaming industry](#), so the idea here is that music streaming has pretty moderate price and they're offering customers a really really high selection, every song in the world essentially, they're also offering a offline experience and discovery experience for new music..."

Benefit (Advantage) & Barrier (Moat) Required

- "[Power requires a benefit and a barrier](#), you have to have something that you do that gives you a better outcome than your competitors, lower cost or higher price, and then something that makes it impossible for somebody else to mimic that."
- "So benefit and a barrier, we call it the to be or not to be test. And [if you have that, you can think of that immediately translating into a value because that will give you good margins out into the foreseeable future](#), which is what you're after."
- "So I'll give you a Netflix example. So a company I admire a lot, and I think if some of the things that they had to do to develop their business were so important for their business that don't guarantee a castle. So for example, UI development, it's been an enormous amount of resources on trying to get just the very best UI, I mean a zillion AB tests, all kinds of things. Their recommendation engine, everybody's knows the story about how that went, their interface with the content world and all this. So those things are important. They're things they have to spend a lot of time and resources on, but [they can largely be mimicked](#). So when Netflix in an earlier phase was fighting Blockbuster, when Blockbuster finally threw in the towel, said, "Well, we done. Well, better do a mail or a DVD business." If you look at the Blockbuster site, their UI site, you couldn't tell it different from Netflix. They just copied it. And so all that thoughtfulness about which things you put first and how you structure it and all that to make this suitable was mimicable. So that's an understanding of looking at the properties you have and trying to figure out if they're a castle or a shack."

Benefit (e.g: lower cost);

this may come from your [disruption](#) mechanism (*worse performance, but lower price*);

- "So let's say [you're lower cost](#) and that's the benefit."

Moat / Barrier (e.g: patent, switching costs, massive network)

- "And the barrier side is that there's [something that is durable about that... the competitors can't take away from you](#)."
- "...and then a resource type of power, which is you have something that is of value that if you transferred it to somebody else it would be of value to them, but you own the rights. So [the barrier is law for example, or lack of knowledge from others](#)."
- "So moat is the second. So it's not synonymous with power because you can have a moat around a very undesirable piece of property and wouldn't get you far. But [I think it is pretty synonymous with barrier](#). I think Warren Buffett, Charlie Munger, I admire enormously. I think I get credit for popularizing those concepts and I think the way they think about it is good."
- "But I think the concept of a moat is a good one. [The idea that you have something that](#)



- [gives you a refuge from competing forces.](#)”
- “Use difficulty as a guide not just in selecting the overall aim of your company, but also at decision points along the way. At Viaweb one of our rules of thumb was run upstairs. Suppose you are a little, nimble guy being chased by a big, fat, bully. You open a door and find yourself in a staircase. Do you go up or down? I say up. The bully can probably run downstairs as fast as you can. Going upstairs his bulk will be more of a disadvantage. Running upstairs is hard for you but even harder for him. What this meant in practice was that we deliberately sought hard problems. If there were two features we could add to our software, both equally valuable in proportion to their difficulty, we'd always take the harder one. Not just because it was more valuable, but because it was harder. We delighted in forcing bigger, slower competitors to follow us over difficult ground. Like guerillas, startups prefer the difficult terrain of the mountains, where the troops of the central government can't follow. I can remember times when we were just exhausted after wrestling all day with some horrible technical problem. And I'd be delighted, because something that was hard for us would be impossible for our competitors. This is not just a good way to run a startup. It's what a startup is. [Venture capitalists know about this and have a phrase for it: barriers to entry. If you go to a VC with a new idea and ask him to invest in it, one of the first things he'll ask is, how hard would this be for someone else to develop? That is, how much difficult ground have you put between yourself and potential pursuers?](#) And you had better have a convincing explanation of why your technology would be hard to duplicate. Otherwise as soon as some big company becomes aware of it, they'll make their own, and with their brand name, capital, and distribution clout, they'll take away your market overnight. You'd be like guerillas caught in the open field by regular army forces.”
- “Here, as so often, the best defense is a good offense. [If you can develop technology that's simply too hard for competitors to duplicate, you don't need to rely on other defenses.](#) Start by picking a hard problem, and then at every decision point, take the harder choice.”
- “I think that there are ways to build in inertia and traditional moats, but I think by and large, [we're in a space where it is incumbent on us to continue to try to build the best thing....](#)”

#### 1B: What PMF stage are you in? Power Progression (phases of power)

- “I want to start by talking about when power becomes important. When do you recommend founders start thinking about power in terms of pre-product market fit, post-product market fit? Is it worth spending time thinking about power early? Obviously it's good to think about a little bit, but how much and how seriously should founders be thinking about it before they found something that people actually want?... the answer to your question is when should you thinking about this? [The answer is always.](#)”
- “So in a book there's a thing called power progression, which says there are... It tells over the cycle of a business, [there are times when certain types of power are available and... times when they're not available.](#)”

#### IF Pre-Product Market Fit (No Product): Counter Positioning

- “And so even before you have product-market fit, it's worth thinking about strategy. Now it's not strategy in the sense of this fully articulated strategic planning, we're going to do this, these are going to be the competitors, this is how we're going to answer them. This is how we'll price. Not like that at all. At the earlier stage, you can imagine wildly more degrees of freedom and the questions are [of the business propositions that you're thinking](#)

of in trying to get to product-market fit, what are the underlying characteristics that might tilt them towards the availability of power or not?..."

- "So you can take those three off the table and that then leaves counter positioning, scale economies, switching costs and network economies. And the important thing to keep in mind there is that they're sequenced."
- "...but it's also true in this takeoff phase in a business that we talked about before, when you're trying to attain a competitive position, operational excellence is everything. And so if you think of strategy, not statically endpoints like Professor Porter was, but if you look at dynamically, how you get there, operational excellence is essential for a strategy."

Pre-PMF Power (to leave the present & think in the future)

- "The three are inflections, insights and then what I call founder future fit. Or another way I phrase it is, "Is this from the future." But those are the main three things that I've observed that tend to suggest breakthrough potential.... But what we need to understand is there need to be these underlying forces underneath the idea to give it the power to escape the gravitational pull of the present. That's what we want. We want a set of powers that we could observe that make it worth pursuing and make it worth navigating the product to the ultimate place."
- "Those are the main ones. And I would say that in many ways you could say that from a macro point of view, it's two things. It's technology changing enablement, and it's people socially changing their beliefs and their patterns of behavior. And either one of those changes can be an inflection because either one of those changes can represent a turning point in one's capacity to change the future."
- "What I try to do with the insights is, I realized there was a theory behind it. A theory is not a recipe, it's an explanation. And what inflections let the founder do is wage asymmetric warfare. And the insight is the vessel that they use, right? It's kind of like, the rock is the inflection, the slingshot is the insight that David shoots at Goliath. And so, that's what we're looking for, we're looking to create the conditions where we're going to get to play an unfair game by unfair rule to favor us."

Counter-Positioning (a new Business Model that is better than the old and would cause collateral damage to the incumbent; substitutions for existing products [e.g: fidelity managed funds vs vanguard low-cost index funds]; exploit the inertia and entropy of rivals who don't want to change);

**Benefit:** reduced cost; increased price;

**Moat / Barrier:** collateral damage;

[MOST COMMON FOR Pre-PMF/No Product OR Post-PMF/New Product] (usually the start of a sequence: counter-positioning, then scale economies, then network effects; etc...);

- "...you don't want to just have a product that's different, you want to have a business model that's different."
- "...you want to have an idea that just radically breaks the pattern that can't be compared to anything that's come before, and that's when the startup has a chance to play offense."
- "I mean, the main thing is that business is never a fair fight. So the incumbents start out with an advantage, and the default is they will maintain their advantage. And so the startup has to decide that it wants to fight unfair. And so how does a startup fight unfair? It has to harness a different set of powers than are obvious to most people."
- "So almost every startup that you want to deal with starts with counter positioning because remember what product market fit is primarily a substitution. You are coming up with a way to satisfy a more or less existing need in a novel way that creates more value."

Now sometimes you tap into entirely new needs, but it's not so often.”

- “At the heart of Counter-Positioning lies the development of a new business model that, over time, has the potential to supplant the old.” - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- “For Counter-Positioning, the Competitor Position element of Power is simply binary: you have adopted the heterodox business model. The Industry Economics aspect of Power refers to the central characteristics of this model: it must be superior, and it must cause the expectation of perceived collateral damage.” - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- "Counter-Positioning: A newcomer adopts a new, superior business model which the incumbent does not mimic due to anticipated damage to their existing business." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- "it is an avenue for defeating an incumbent who appears unassailable by conventional wisdom metrics of competitive strength." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- “A Counter-Positioning challenge is one of the toughest management challenges.” - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- "Power must be considered relative to each competitor, actual and implicit. With Counter-Positioning, this is particularly important, because this type of Power only applies relative to the incumbent and says nothing regarding Power relative to other firms utilizing the new business model." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- “...the challenger should avoid the temptation of trumpeting its superiority, instead suppressing that urge and adopting a tone of respect toward the incumbent. This behavior may result in the incumbent delaying objective cognition, giving the challenger a headstart on the new business model.” - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- “I mean Amazon was up against brick and mortar stores, Google was up against Yahoo and so on, and so [you're usually substituting](#) and that substitution, so your competition at that point is functional competition.”
- “And if you don't have counter positioning at that point you're pretty high risk from an incumbent who already has the capabilities necessary to do that. They just have to extend their product or do this or that, but [counter positioning is the refuge from that](#).”
- “Counter positioning is defined as [developing a new, superior business model which incumbents do not mimic as it could damage their current business](#). Often, a challenger’s approach is novel and often unproven, and the incumbent doesn’t want to hurt their hefty profit by investing in something that is unproven. Sometimes, the incumbents also have a view of how the world works and that could bias their judgment to invest in innovative technology or business models.”
- “Inertia and entropy: The inertia of Blockbuster's failure to give up on its retail stores meant that Netflix surpassed it and is now an industry leader. "Understanding the inertia of rivals may be just as vital as understanding your own strengths. ... An organization's greatest challenge may not be external threats or opportunities, but instead the effects of entropy and inertia." [Organizational inertia usually falls into one of three categories: 1\) the inertia of routine; 2\) cultural inertia, and 3\) inertia by proxy](#).”
- “[Inertia is an organization’s unwillingness or inability to adapt to changing circumstances](#). As a strategist, you can exploit this by anticipating that it will take many

years for large and well-established competitors to alter their basic functioning. For example, Netflix pushed past Blockbuster because the latter could or would not abandon its focus on retail stores.”

- “[Entropy causes organizations to become less organized and less focused over time](#). As a strategist, you need to watch out for this in your organization to actively maintain your purpose, form, and methods, even if there are no changes in strategy or competition. You can also use it as a weakness to exploit against your competitors by anticipating that entropy will creep into their business lines. For example, less focused product lines are a sign of entropy. GM’s car lines used to have distinct price points, models, and target buyers, but over time entropy caused each line to creep into each other and overlap, causing declining sales from consumer confusion.”
- “My favorite power – counter-positioning – might be able to help. [Counter-positioning isn’t a forever moat, but it can be really useful in extending your window until you can dig one.](#)”
- “Addressing the threat of a Counter-Positioned competitor frequently requires upending the incumbent’s business in multiple ways, and such turmoil is rarely symmetric in its impact on enterprise value and compensation, even with best practice Long-Term Incentive Plans in place.” - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- “Once market erosion becomes severe, a Counter-Positioned incumbent comes under tremendous pressure to do something; at the same time, they face great pressure to not upset the apple cart of the legacy business model. A frequent outcome of this duality? Let’s call it dabbling: the incumbent puts a toe in the water, somehow, but refuses to commit in a way that meaningfully answers the challenge.” - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- ““Positioning is the big bet a company is making over the long term,” says Supan. “It’s the strategy for building your business, product, and brand. It’s the clear action plan that will translate into positive revenue, happy customers and a great place to work.” Your position isn’t your messaging or your product roadmap—but [it is the foundation of every decision you’ll make along the way](#). Before you can embrace where you’re going, you need to understand who you’re taking with you. “Identifying the one thing you do really well that is original and defensible is the first step. Then you have to align your business, product, operations and marketing to ensure that you are building precisely what customers need—even if they didn’t realize they needed it until it came into their lives.””
- “...you want to look at every previous attempt, at the boundary of your idea, am I gonna charge for my software? Okay, great, [has it ever been built an open-source? Am I gonna charge for it by the copy? By a subscription? Or by the download? Oh, what, has that ever been tried before by somebody?](#) And so the idea maze helps you think in a very structured way what have been the prior attempts in my category of idea that have worked or haven't worked? And if they have been tried why is it going to work this time, but it hasn't worked before?”
- “When you look at positioning, you're looking at two dimensions. Let's say for toothpaste, you have the dimension of sex appeal, "Fresh breath lasts all night," that was Colgate, then you have the dimension of clinicality, which is like, "Four of five dentists agree," that was Crest. So in the early toothpaste wars, you had Colgate versus Crest. You were either brushing your teeth because you want to be sexy or brushing your teeth because you wanted to be healthy. [Then along comes Tom's of Maine. Remember, this is](#)

1970s, you got your tofu from a health food store. Dr. Strangelove has lines about fluoride being a government conspiracy. So you show up and go, "Oh, we're unfluoridated. We're natural. We'll tell you the ingredients on the label." You've given a segment of the market a different, better way to think about the value you offer... it's a perfect position, and Tom's of Maine used that and, obviously, two years later introduced a fluoridated formula and got into grocery stores or into pharmacies.”

- “When the electric car came out, the traditional framing for electric cars was range and sustainability. Then Tesla started racing them against Bugattis. For a certain segment of the market, meaning rich coastal VCs, faster, better performance was a new way to think of electric cars. Before that, if you look at the ads from the Prius and stuff, they didn't mention acceleration time. They explicitly didn't put it in there. So Tesla came up with a much better dimension for a certain target segment.”
- "...you have to leverage a point of disruption, one that puts the incumbent a bit back on its heels. In this case, wireless networks taken to their extreme threatened to cannibalize wireline networks, which were and still are the heart and soul of Cisco's franchise. Moreover, a new standard had just been released for Wi-Fi (802.11n, to be precise), which for the first time promised wireline performance delivered over the air. So there was a 10x value proposition potentially in play—arguably the single most pragmatic definition of a disruptive innovation." - Geoffrey Moore (Crossing the Chasm)
- "Benefit. The new business model is superior to the incumbent's model due to lower costs and/or the ability to charge higher prices. In Vanguard's case, their business model resulted in substantially lower costs (the elimination of expensive portfolio managers, as well as the reduction of channel costs and unnecessary trading costs) which then translated into superior product deliverables (higher average net returns)." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- "Barrier. The barrier for Counter-Positioning seems a bit mysterious: how could a powerhouse (such as Fidelity Investments in this case) allow itself to be persistently humbled by an upstart over such an extended period? Couldn't they foresee the potential success of Vanguard's model?... Counter-Positioning applies to the subset of cases in which the expected damage to the existing business elicits a “no” answer from the incumbent. The Barrier, simply put, is collateral damage. In the Vanguard case, Fidelity looked at their highly attractive active management franchise and concluded that the new passive funds' more modest returns would likely fail to offset the damage done by a migration from their flagship products." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- “...there are three varieties of Counter-Positioning, depending on the particulars of the collateral damage involved: Milk, History's Slave and Job Security.” - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- “...so incumbents have a harder time retaliating against a startup that has a orthogonal asymmetric attack... let's imagine that I want to sell a product and 90% of the people who are gonna use the product are happy people who also use SAP, SAP charges by the seat, it would be better for me if I can charge by the transaction or some other way because if I charge by the seat SAP can say "Oh, yeah, well we're gonna put that in our product someday, we'll just give it away, or we'll charge an extra two dollars a seat for this" and you know this startups charging ten bucks a seat, and then it freezes you in the sales cycle. Whereas if you're charging in a totally different way it's disorienting to the incumbent because their entire value delivery system is around pricing by the seat,



delivering chunks of code by the seat, supporting the chunk of code by seat, upgrading the chunk of code by the seat, and monetizing it by the seat, and so one example would be pricing, but thinking wrong is all about saying I'm gonna take the way the incumbent does something and do a flip it."

- "...the impact of entry into passive funds on their remaining base business of active funds would have been subtractive. Active funds carry radically higher expense charges and many even had upfront sales commissions (loads). For the assets they would have cannibalized, the revenue decline would have been dramatic. Further, many at Fidelity felt they were facing an existential threat, and the introduction of passive funds would have taken them off-message in the rear-guard advocacy of active funds. They assumed, reasonably, that any conceivable gains made with these new funds would have been more than offset by losses in their base business of active funds." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- "This type of "don't invest" determination represents one type of Counter-Positioning (CP). The term I use is "Milk" because the CEO is essentially choosing to milk a declining original business even though the new model is attractive. To be explicit, while the decision to invest may have offset damage to the incumbent's original business (collateral damage), there remain some advantages to the decision to kill that investment. This is the Barrier." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- "As the challenger cannibalizes the incumbent's customer base, two parts of the incumbent's negative attribution lessen: (a) the incumbent's original business shrinks, and (b) the uncertainty surrounding the viability of the challenger's approach diminishes. As this scenario plays out, the risk-adjusted size of expected collateral damage declines. At some point, a rational incumbent, our hypothetical CEO, will then find the collateral damage insufficiently off-setting—an investment is warranted. Such delayed entry happens frequently, and while some may characterize it as incumbent foot-dragging, it is often simply a rational response to the circumstances." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)
- "The challenger's approach is novel and, at first, unproven. As a consequence, it is shrouded in uncertainty, especially to those looking in from the outside. The low signal-to-noise of the situation only heightens that uncertainty. The incumbent has a successful business model. This heritage is influential and deeply embedded, as suggested by Nelson and Winter's<sup>30</sup> notion of "routines," and with it comes a certain view of how the world works. Together these two characteristics frequently lead incumbents to at first belittle the new approach, grossly underestimating its potential." - Hamilton Helmer (7 Powers: The Foundations of Business Strategy)

IF Post-Product Market Fit (New Product): Scale Economies, Switching Costs, Network Economies

- "And then later on, once you've already have product-market fit, then [you have to understand your source of power to understand what competitive position is](#) because then you have to establish that..."
- "And then you go into the other three types of power scale economies, switching costs and network economies, and [those depend on your scale relative to competitors](#). This is pretty cursory, but that's what I'd say. I'll focus on those four and I would recommend that you think pretty hard about whether you think you have counter positioning to start."

Scale Economies / Cost Advantages (Scaling) (reduced costs to produce products or services,

means you can charge lower prices or same price as competitors == more consumer profits from the same consumer price);

**Benefit:** reduced cost; increased price; decreased investment requirements

**Moat / Barrier:** pay lower costs; charge higher prices;

**Example for how to pitch to investors:** “[From ChatGPT]: We’ve built exclusive relationships with key suppliers—think the Airbnb playbook—and no other platform can offer the same inventory. Our margins improve as we scale, and competitors can’t easily catch up without similar deals.”

[COMMON FOR Post-PMF/New Product] (usually the middle of a sequence: counter-positioning, then scale economies, then network effects; etc...);

In some cases it’s not viable to scale until you’ve had more acquisition & retention - so focus on creating a flywheel (network effects) with your product to acquire more users - this can be done w/ [Growth Hacking](#);

- “So Netflix with scale economies, they have more subscribers. The cost of their content is a very large fixed cost, about 50% of their cost structure every year. They can take that fixed cost and spread it over more subscribers so their cost per subscriber is less versus somebody with fewer subscribers. So [if they face the same prices for subscriptions as their competitors, they will be more profitable. And that's a scale economy](#) and that's an example of a type of power and a common one I'd say.”
- “...people often think that they get scale economies through data. And I'd say that that's possible, but it's rare. And the reason it's rare is not because there aren't scale economies in data, but rather that the range of scale that the existing competitors have are often large enough to be able to put them in shouting distance of each so that the differences in their cost per unit is not that great. The curve flattens in other words, which is typical of any, because [the most common scale economy is you've got a big fixed cost and you prorate that](#). And as you get more and more scale, the percentage cost advantage of a fixed cost advantage like that goes down and that often. So that's a pretty frequent one that we see.”
- “A business generates economies of scale [if per-unit cost decreases with increase in the output](#). When the production increases, the business can achieve cost efficiency and makes it difficult for competitors to beat their margin and lower price. Thus, once a company achieves economies of scale, it’s very difficult to compete with it and match the pricing without taking a hit on gross margin.”
- “...Netflix benefits from economies of scale. Other examples are Microsoft Azure and Amazon AWS. Software companies incur high costs for development, but they have a very low marginal cost. So, they [get a huge scale advantage by selling it to more users and spreading their fixed costs over more number of users](#). In the logistics industry, the presence of a larger transportation network will reduce costs for companies that use these networks.”
- “I mean think of scale economies. [If you have a fixed cost of trying to develop a model of a billion dollars or something...](#)”
- “Companies that are able to [produce products or services at lower costs than competitors are often able to sell at the same price as competition and gather excess profit, or have the option to undercut competition](#).”
- “Companies that are able to produce and offer products or services at lower costs than competitors are often able to achieve higher profit margins. Within many industries, cost leaders often exert significant control over market prices, which may give them an advantage over competitors. [The cost advantage moat source is the second most frequent](#)

- [source of economic moat ratings, according to Morningstar.](#)”
- [“Firms with a structural cost advantage can either undercut competitors on price while earning similar margins, or can charge market-level prices while earning relatively high margins.”](#)
- “Cost advantages are often gained through economies of scale, lower distribution and manufacturing costs and/or access to a low-cost resource base. [The increasing level of competition in today’s global economy makes this competitive advantage one of the most difficult for companies to maintain](#). For example, over the past 30 years, the U.S. manufacturing and consumer goods industries have been flattened by punishing price competition from overseas.”
- “Walmart Inc. (WMT) is the largest retailer in the U.S. and has carved out an enviable position in a fragmented and competitive landscape, according to Morningstar. [“The firm leverages its unmatched scale by spreading its omnichannel and distribution investments over a wider sales and profit base, allowing the firm to adapt to the dynamic retail environment while maintaining robust profitability.”](#) As Morningstar explains, the company has built its moat around both its strong brand and leverage over suppliers and a vast supply chain network to drive down costs.”
- “United Parcel Service Inc. (UPS) is exceptionally capable of keeping would-be competitors at bay for a prolonged period. “An upstart would incur immense financial losses while trying to amass the volume and density necessary to absorb the remarkably high capital outlays and fixed costs associated with a global parcel delivery network,” according to Morningstar. [“In replicating a network of planes, trucks, sorting facilities, and skilled employees, a new entrant would face massive investment before it could win a critical volume of customers from the entrenched incumbents.”](#)”

Network Effects / Economies (user base, [flywheels](#), network effects);

**Benefit:** charge higher prices than competitors;

**Moat / Barrier :**

**Example for how to pitch to investors:** “[From ChatGPT]: Our product improves as more people use it—each new user generates data and content that enhances the experience for the next. Like Figma or Notion, our collaboration features drive viral adoption within teams, and we see 40% of signups coming through invites.”

[COMMON FOR Post-PMF/New Product] (usually the middle of a sequence: counter-positioning, then scale economies, then network effects; etc...);

With Network Economies you do NOT need paid ads;

A company should figure out a way to monetize it’s network effect in order to for it to be considered a moat;

- “I mean the power that new business models are exploiting is the power of the user base. What we called years ago, network effects, [where the more users you have, the more useful a product is](#). So I think the idea of network effects first arose with the telehealth system, which the idea was that you don't want to be connected to a telephone system that only connects to two other people. It's not all that useful. It's got to connect to the world to be useful.”
- “Network effect [results when a product becomes more valuable as more people use it](#). Network effects are discussed very commonly in tech and the concept is widely used to conduct a strategic analysis of a tech company.”
- “We laugh whenever we hear somebody say they have a flywheel, which gives you the idea of network economies. There are often flywheels, the ones that really are material,

are rare. The key thing here is materiality, not whether the flywheel exists, but whether the effect is strong enough to really tilt returns."

- "...or network effects, will AI models develop so that they learn in a way that for one user's interaction helps another user's interaction? That would be a powerful network economy."
- "It was always very difficult to get the flywheel spinning for anyone after like 22 years old. That was the cutoff of when people just give up on adopting new products. It took us a few years to really internalize that, a lot of failures to realize no one needs another app after that age."
- "Every consumer app I see is trying to build for adults, and your lesson there is basically if you're trying to do that, you're probably going to need to raise money and spend a lot of money on paid ads. Most likely, you'll never get network effects."
- "Every consumer app I see is trying to build for adults, and your lesson there is basically if you're trying to do that, you're probably going to need to raise money and spend a lot of money on paid ads. Most likely, you'll never get network effects."
- "There's actually an interesting study many years ago that some academics in Spain did, I think it was in Spain, and they looked at how many people you text per year of your life, and it goes up very quickly from 14 to 18. It peaks around 21, so it's growing. The number of people you text is growing up until about 21, and then it just falls, it collapses, and then it comes back up at end of life. There's a few reasons all this happens, but basically, once you exit college, you reduce the number of contacts, your daily contacts. Once you get married, it's even fewer. Then as you get older and your kids start having kids and you become a grandparent, you start texting again more or you join a retirement home. If you're building a product with network effects that's a communication tool, you want to be on that upward curve of adding connections to your social graph because then the urgency to connect is higher. If you really want to actually innovate at the edges of communication products, you really have to target that cohort that has the highest urgency to communicate, and that's teens."
- "Our three-year study shows that network effects are responsible for 70% of the value created by tech companies since the Internet became a thing in 1994. Even though they are only a minority of companies, companies with network effects end up creating the lion's share of the value."
- "As you probably know, the simplified definition of network effects is that they occur when a company's product or service becomes more valuable as usage increases."
- "Network effects are not viral effects. Network effects are about creating defensibility, and viral effects are about getting new users for free. They have totally different objectives and playbooks."
- "A network effect is present when the value of a product or service grows as its user base expands. Each additional customer increases the product's or service's value exponentially."
- "The "network effect" moat source has become increasingly relevant as our world has grown increasingly digital. It describes the phenomenon where the value of a product or service increases as the number of its users grows."
- "The internet is a good example. It originally had few users outside the military and research science spheres, but its expanding user base exploded its reach and impact. More recently, companies like Facebook and Google have been labeled network effect paragons. Morningstar posits that a network effect can help a company to increase its

- [advantages over competitors, and is often an important source of a company's moat."](#)
- "Meta Platforms Inc (META) has scale in the social media business that is staggering. Almost 4 billion people use at least one of its applications each month. According to Morningstar, ["Meta's ad-targeting and content recommendation algorithms improve as more users give it their data by using its applications. This dynamic creates a potent network effect with the value of its application ecosystem increasing as more people use it."](#)
- "The term "critical mass" is often used in connection with the network effect. In game theory, this means that not all game participants need to be convinced for a strategy to succeed, just a very specific portion of them. If this participation threshold is exceeded, the strategy is likely to succeed of its own accord. The network effect works in similar fashion. [If the user base for a product or service reaches a critical mass, the network is likely to expand under its own power. Ultimately, however, a company's ability to monetize a network is also important to consider before network effect can be assigned as a moat source."](#)
- "A company in a leadership position with Network Economies can [charge higher prices than its competitors](#), because of the higher value as a result of more users. For example, the value of LinkedIn's HR Solutions Suite comes from the numbers of LinkedIn users, so LinkedIn can charge more than a competing product with fewer participants."
- "The barrier for Network Economies is the [unattractive cost/benefit of gaining share](#), and this can be extremely high. In particular the value deficit of a follower can be so large that the price discount needed to offset this is unthinkable. For example, "What would BranchOut have had to offer users for them to use BranchOut rather than LinkedIn?" I think most observers would agree that every user would have required a non-trivial payment, so the total spend for BranchOut would have been colossal."
- "The strongest, simplest network effects are direct: [increased usage of a product leads to a direct increase in the value of that product to its users](#)."
- "72 years after Vail first described direct network effects, the father of the Ethernet standard, Robert Metcalfe, took the concept a step further by proposing that [the value of a network is proportional to the number of connected users squared \( \$N^2\$ \). This is now known as Metcalfe's Law](#)... Each node in a digital network is connected to every other node, as represented by the diagram above. Every additional node that joins a direct network adds a new connection for all the existing nodes, so the number of new connections (network density) increases as a square of the number of nodes ( $N^2$ ). Since the value of a network is proportional to its density, each additional node adds to the network value at a geometric rate."
- "In 2001, an MIT computer scientist named David Reed went even further, declaring that Metcalfe's law actually understated the value of a network. He pointed out that within a larger network, smaller, tighter networks can form: for example, the football team within a high school network; siblings within a family network; tennis players within a co-worker network. Such connections, and the potential to join other subgroups, cement people's commitment to the overall network in deeper ways than the overall size and connection density of the network would imply by themselves. Because of this, Reed believed that [the true value of a network increases exponentially \( \$2^N\$ \) in proportion to the number of users, much faster even than what Metcalfe's Law described. We now call this Reed's Law](#)."

Direct Network Effects:



Physical Network Effects: telephone networks, wires in the ground, roads, power, utilities

- “The direct network effect was the first ever to be noticed, back in 1908. The Chairman of AT&T at the time, Theodore Vail, [noticed how hard it was for other phone companies to compete with AT&T once they had more customers in a given locale](#). He pointed this out in his annual report to shareholders, writing that: “Two exchange systems in the same community, cannot be... a permanency. No one has use for two telephone connections if he can reach all with whom he desires connection through one.” Vail noticed that the value of AT&T was mostly based on their network, not their phone technology. At the time, it was a revolutionary insight. It showed that even if a new telephone was clearly superior to their old phone on a technical level, no one would want the new telephone if they couldn’t use it to call their friends and family. In other words, a better product wouldn’t come close to making up the lost value of the network.”
- “A telephone — without a connection at the other end of the line — is not even a toy or a scientific instrument. It is one of the most useless things in the world. [Its value depends on the connection with the other telephone](#)— and increases with the number of connections.”
- “Physical Direct network effects are direct network effects tied to physical nodes (e.g. telephones or cable boxes) and physical links (e.g. wires in the ground). This is the most defensible network effect type because it not only has a direct network effect, but it also lends itself to the addition of other defensibilities; namely, scale effects and embedding. Competing with a company that has Physical Network Effects requires a large upfront investment of capital and physical constraints.”
- “Roads, trains, electricity, sewage, natural gas, cable and broadband internet are examples of businesses with physical direct network effects. In fact, [most Physical Networks are utilities](#): winner-take-all markets that develop into monopolies and end up being nationalized.”

Protocol Network Effect: ethernet ports, faxing, Bitcoin, Ethereum

- “A Protocol Network Effect arises [when a communications or computational standard is declared and all nodes and node creators can plug into the network using that protocol](#). Bitcoin and Ethereum are recent examples of protocol networks. The protocol setter can be either an individual company, a group of companies, or a panel.”
- “[Once a protocol has been adopted it is extremely difficult to replace](#). Note how the fax protocol is still in use, or the TCP/IP protocol (even though other, better protocols now exist for those purposes).”
- “Ethernet is another, more traditional, example of a Protocol Network Effect. When Robert Metcalfe founded 3Com, he persuaded DEC, Intel, and Xerox to adopt Ethernet as a standard protocol for local computer networks, with a standard speed of 10 megabits per second, 48-bit addresses, and a global 16-bit Ethertype-type field. Competing proprietary protocols existed, but as Ethernet pulled away and began to capture more and more market share, [Ethernet-compatible products flooded the market. This increased the value of Ethernet at a compounding rate and decreased the value of competitors](#), regardless of their relative performance. Soon, ethernet ports became standard features of all modern computers.”

Personal Utility Network Effect: involves private communication

Facebook (for job hunting), Twitter (for networking), LinkedIn (for job hunting)

- “Personal Utility Networks have two distinguishing qualities. [The first is that users’ personal identities are tied to the network in question, often with usernames tied to their](#)

real name as with Facebook Messenger. The second is that they are essential to the personal or professional lives of users on a daily basis.”

- “People use Personal Utility Networks to communicate and interact with their own personal networks, so not being online or being part of the network has a steep downside. Opting out would become a significant impediment in daily life and could greatly harm people’s important personal or work relationships.”
- “Personal Utility Networks are typically used for things that need to get done. There is a substantial amount of practical utility to the user.”
- “Personal Utility Networks are typically more for private communication, rather than public communication.”

Personal Network Effect: involves public communication

Facebook (for social), Twitter (for social), LinkedIn (for social)

- “Personal network effects are in play when a person’s identity or reputation is tied to a product. Often people on a Personal Network are influenced to join by people they might know in real life. If people you know from the real world are all using the same product to house their identity and reputation, there’s a large value add (to you) if you join the network yourself.”
- “Personal Networks are less vital. You can stop using them and your life won’t alter that much. Networks like Facebook or Twitter or LinkedIn (when you’re not job hunting) aren’t usually essential for your day-to-day life.”
- “Personal Networks are still very strong. You aren’t running to join another friend network or professional network now that you have FB and LinkedIn. It’s also true you could stop using both and be fine on a daily basis.”
- “The Personal Network Effect arises from the interpersonal, tribal impulse to build connections with others. It’s this impulse that compels people to join and stick with a network (e.g. Facebook, LinkedIn, or a religion) because their friends/co-workers/neighbors are also part of that network. A user’s “social graph” in a personal network are usually closely mapped to their in-the-flesh relationships.”

Market Network Effect: HoneyBook, Houzz

- “A Market Network combines the identity and communication aspects of a Personal Network with the transactions focus and purpose that typify a marketplace. Usually, Market Networks start by enhancing a network of professionals that already exists offline. We consider Market Networks to be a form of direct network effects because the relationship between nodes is direct...”
- “Most people think companies like HoneyBook and Houzz are marketplaces, but they’re not. In reality, they’re Market Networks, which combine the main elements of both Personal Direct Networks and 2-Sided Marketplaces, as well as being many-sided as opposed to 2-sided — often with the addition of a dedicated SaaS workflow software.”

Hub-and-Spoke Network Effect:

- “A Hub-and-Spoke network effect occurs when equal nodes submit content or goods to a central Hub. Then the Hub “pushes” a chosen few pieces out to all – or nearly all – of the nodes.”
- “That elevation of the pushed content drives tremendous attention and value to those few lucky nodes, asymmetrically benefiting them relative to others in the network. In other words, it directs a power law within the system. To a node, that process of selection feels like a lottery, and the benefits of selection are sudden and extreme compared to other direct networks like FB, Twitter, Snap. Because of that potential positive impact, nodes

are incentivized to work hard to produce something of extreme quality hoping to be noticed, thereby adding a lot of value to the network in a short amount of time.”

- “...the network structure looks like a hub and spoke, thus the name. But unlike an old hub-and-spoke-network like a TV or radio broadcasting network, which grows in value only by Sarnoff’s Law, this network grows with the power of Metcalf’s Law because it 1) harnesses the many nodes to create the content/products rather than take that burden itself, and 2) allows the nodes to connect with each other like a typical social network, driving more interactions and value.”

## 2-Sided Network Effects:

### Marketplace Network Effect: eBay, Craigslist

- “The two sides of a marketplace are buyers and sellers. Successful 2-Sided Marketplaces like Craigslist are very difficult to disrupt. To break them apart you must have a better value proposition for both parties simultaneously, or else nobody moves. Customers are there for the vendors, and vendors are there for the customers. One won’t leave without the other.”
- “With a 2-Sided Marketplace, the network is what provides the majority of the value, not the app or website itself — which explains why marketplaces products like eBay and Craigslist can afford to look essentially unchanged after 16 years.”

### Platform Network Effect: iOS, Android, Xbox, PlayStation

- “What we call 2-Sided Platform network effects are similar to 2-Sided Marketplace network effects, in that they have two sides with very different interests that directly benefit each other. The difference is that the supply side actually engineers products that are only available on the platform. The supply side has to do work to integrate to the platform. The products created and sold by the suppliers are a function of the platform, not independent of it.”
- “Microsoft OS, iOS, and Android are prime examples of products that have achieved this type of network effect. Xbox, PlayStation, and Wii are also examples, although they’re slightly different.”

### Asymptotic Marketplace Network Effect: Uber, Lyft

- “Of course, no two 2-Sided Marketplaces are exactly the same. One way they can significantly differ is in the “value curve.” This refers to how fast the value to the demand side increases as supply increases, and how strong the network effects get when critical mass is reached... what we call Asymptotic Marketplace network effect. It has the inverse properties of OpenTable’s delayed value curve. The initial supply quickly adds value to the demand side, but soon the value of increased supply starts to diminish.”
- “The most famous examples of an Asymptotic Marketplace are ridesharing companies like Uber and Lyft, as we wrote about in this Uber case study. Up to a point, more drivers benefit riders because of reduced wait times. But beyond a certain point, the value to the rider steeply diminishes. Waiting 4 minutes for a ride as opposed to 8 minutes is a huge difference. But 2 minutes instead of 4 minutes? The value of increased supply diminishes drastically around the 4-minute mark.”

## Social Network Effects:

### Language Network Effect (Social): Miller Lite (“lite” beer), Google (“googling”), Bitcoin (“cryptocurrency”)

- “In any human network, language is the main intermediary. It’s the protocol that all the nodes in a network use to interface with each other. For instance, the English language is a serviceable language, but it’s a lot more valuable considering that there are 1.5 billion

[people who speak it](#). That's more than 15 times as many people who speak German. So even though speaking English doesn't make you 15 times better at communicating than speaking German, the value to speakers is much higher as a result of the network."

- "This concept extends to the jargon and vernacular of specific groups, from nations to corporations, teens to hipsters, economists to Google employees. [As jargon gets adopted by more and more people, it becomes more valuable to all the other users](#). Startups can use the network effects of language to take advantage of that winner-take-most effect in at least two ways: first, in creating business category language; and second, in naming a company or product."
- "With the first, if a Founder can help create a name for a business category and then be known as #1 in that category, it gives them solid language network effect. [Miller Beer did this in 1975 when they created the "lite beer" category. The same thing happened 1995 with the creation of the web "portals" category, which Yahoo! benefited from since it was leading the category at that time](#). We've seen this same language network effect recently with the creation of the "cryptocurrency" category. Bitcoin, being seen as #1, benefited the most: it still accounts for nearly 40% of all the market capitalization despite their being 100s of competing cryptocurrencies."
- "For instance, [when "Googling" something became synonymous with searching for something on the Internet, it was a huge advantage for Google](#). The language itself became an impediment to using a competitor. When someone asks you to Google something, it's both socially awkward and mentally jarring to pull out your phone and start using Bing."
- "Another example: back in the day, to "xerox" something mean to photocopy it."

Belief Network Effect (Social): gold, Bitcoin, religion

- "The [belief network effect](#) is something you can best see with gold, Bitcoin and religion."
- "Homo Sapiens is a pack animal. We want to be in the "in group" and be accepted by others. Sharing common beliefs is a critical part of that. If people believe in something, others are more likely to stick with it and believe in it, too. As a result, [there are big social consequences for not believing the things your friends believe, and perhaps worse consequences for ceasing to believe in what they believe](#). This is one factor that makes people stick with group thoughts, making them very resilient to contradictory information."
- "Most importantly, [beliefs become more valuable to believers the more people believe. Look at gold. Why is it valuable? You can't eat it or sleep on it. It's pretty, but lots of things are pretty. It has some industrial uses, but not that many. It's valuable because — after we were done believing salt was valuable — people decided to believe gold was valuable instead](#). And for 5,000+ years, it has always stayed valuable. The past gives us confidence that everyone will continue to hold this belief in the future. That belief strengthens over time. Ipso facto, gold is valuable because we believe it's valuable."
- "[The same is true of Bitcoin. The more people believe it's valuable, the more valuable it gets for everyone](#). And we're seeing that same "sand layering" with Bitcoin now. The more times its price crashes and then bounces back, the more people will believe it has value."

Bandwagon Network Effect (Social): Slack, Apple,

- "Bandwagoning happens [when social pressure to join a network causes people to feel they don't want to be left out](#)."
- "One good example is Slack. In tech circles, [it's commonly felt that you don't have a](#)

[modern company unless your teams are using Slack](#). In our opinion, Slack's notoriety and valuation have exceeded the utility of the product because it's become somewhat of a movement in the tech industry, and developed a strong Bandwagon network effect."

- "Bandwagon network effects typically [arise when a network first begins aggregating, when people are jumping on early](#). When people started to use Google back in 1998, there was a general feeling that "the cool kids" were using Google (they had been using Alta Vista before that). If you didn't use Google, you were left out. Other network effects have since taken over for Google to provide them their core defensibility, so they're no longer reliant on that initial Bandwagon network effects, but it certainly was there at the beginning."
- "One company that has made Bandwagon network effect a core expertise is [Apple. Every year, with a carefully scripted performance, they re-manufacture buzz and FOMO with their new product demos and launches](#). This has been extremely effective. These days, if you show up at a meeting in Silicon Valley with an IBM clone instead of an Apple computer, it's a sign you're not part of the tribe. You're seen as an outsider if you don't use a Mac. This can be frustrating for competitors who feel they have better products, but can't beat Apple for reasons that remain hidden to them. Apple's success goes beyond "branding." It relies on successfully triggering the psychological need to be part of the cool crowd, to join the movement."

Tribal Network Effect (Social): military units, fraternities, regions

- "[Tribal network effects most often develop in](#) alumni networks of schools, military units, fraternities and sororities, accelerators, languages, regions, and religions."
- "We suspect this was the very first network effect historically, as Homo sapiens evolved as a pack animal, trying to survive. The ones that built the best tribes survived to procreate, so we are all descendants of the best tribe builders. Those who weren't good at building or joining tribes died off. Thus, [our brains are wired to join tribes](#)."
- "Network members within the tribe are taught to be intentional about building the value of the tribe by: [a. adding value to other tribe members, b. defending the tribe's reputation, c. receiving value from the tribe members, and d. growing the tribe](#). This intentional value creation and defense of a network is distinct from other types of network effects, where nodes largely contribute value and drive network effects unintentionally."
- "A perception of higher-status attributes of members of the tribe, creating prestige and pride. Evidence or reasoning that [members of the tribe are more committed, more "right", more justified, smarter, stronger](#), etc."
- "[Members of the tribe endure shared hardship or adversity](#), such as training for the marines, studying for tests in college, founding a company, or going through a boot camp of some kind."
- "[Tribe network members overcome a barrier to get into the tribe](#). There must be a believable reason for your inclusion, and some demonstration of your worth or "fitness" for inclusion. There is often a period of worrying you won't "get in." This creates exclusivity and belonging in the minds of the tribe members, reinforcing the other five attributes."
- "[The larger the tribe, up to a point, the more valuable it becomes because you are more likely to encounter and form relationships with other nodes](#). College alumni networks, for example, often have clusters in many different cities and companies where alumni seek each other out."

Other Network Effects:



Expertise Network Effect:

Quickbooks (accounting software), WordPress (cms platform), Google Analytics (analytics software)

- “Products that can develop “expertise” network effects are typically tools used by professionals to do their job — the instruments with which they ply their craft. As professionals become more skilled in their jobs, they also level up their expertise in tools required to do their jobs. If the tools are sophisticated enough, the tools require particular expertise of their own.”
- “...for every new person in the labor market that develops expertise in a given product, the more valuable that product becomes to all players using or integrating that tool; i.e. all the other skilled users of the product (see the Appendix at the end of the article for a more detailed explanation of the mechanics of this network effect).”

Data Network Effect: Yelp reviews, Waze directions

- “When a product’s value increases with more data, and when additional usage of that product yields data, then you have a Data Network Effect. This is the 3rd broad category of network effect.”
- “Data network effects tend to be weaker than many people — particularly venture capitalists — often want to believe: having more data doesn’t necessarily translate to value, and gathering more useful data isn’t always easy even if data is central to the product.”
- “Data can increase product value in different ways. If data is really central to the way the product benefits users, then the data network effects of that product has the potential to be very powerful. If data is only marginal to the product, the data network effects won’t matter much. When Netflix recommends a show to you, the algorithm is basing that recommendation on user viewing data. But Netflix’s discovery function is marginal; its real value comes from the inventory of tv shows, movies and documentaries. So Netflix only has a marginal Data Network Effect.”
- “...the relationship between product usage and the amount of useful new data gathered can be asymmetrical. Yelp has a Data Network Effect because a greater number of reviews for a greater number of restaurants makes the product more valuable. But its network effect is weakened by the fact that only a small percentage of users produce the data; most people read from the Yelp database but don’t write to it.”
- “A good example of a service with a strong Data Network Effect is Waze. Not only does nearly everyone consuming data on Waze also contribute useful data, but because the data is consumed in real time, the dataset needs to be continuously updated. So the larger the network, the more accurate that data will be at any instant for any given road. More data continues to produce value almost indefinitely, so there’s less of an asymptotic data network effect with Waze than almost any other service we can think of.”

Tech Performance Network Effect: BitTorrent, VPN providers

- “When the technical performance of a product directly improves with increased numbers of users, it has Tech Performance network effect. This is the 4th broad category of network effect. For networks with Tech Performance network effect, the more devices or users on a network, the better the underlying technology works. This makes the product/service become faster, cheaper or easier.”
- “Consider peer-to-peer file sharing services like BitTorrent, or VPN providers like Hola, or object finding mesh networks like Tile. These services get faster for all users the more nodes are on the network. Every person downloading a file from BitTorrent is also

[seeding files to the network. The more people who have a Tile app installed, the greater the chances that you can locate something you lost since every phone on the network is constantly scanning for tiles.](#) Skype also claims that the more people using Skype, the better the video streaming quality (it's not clear if this true, but it's the right idea for them to have)."

Switching Costs (it would be painful to leave the product and switch to another - using iPhone (everything is in iCloud) and switching to Android (not compatible with iCloud));

**Benefit:** you can charge higher prices for the same product, you have higher retention rates;

**Moat / Barrier:** lock-in customers;

**Example for how to pitch to investors:** "[From ChatGPT]: Once customers set up their workflows in our tool, it becomes deeply integrated into how they operate. Leaving would mean redoing internal training, templates, and integrations. That's why our churn is <2% annually in mid-market.", "[From ChatGPT]: Users invest time learning our product and often get certified through our partner training. That expertise becomes a career asset—so they stick with us and bring us to new employers."; "[From ChatGPT]: We've opened up APIs and third-party extensions. Developers are building on us, which increases stickiness and surface area—similar to what Shopify or Discord did early on."

- "Once a product or service is deeply embedded in your process or technology, [it's difficult to replace it without incurring high cost and change management](#). This type of moat is generally seen in enterprise tech. This is also known as vendor lock-in. Due to vendor lock-in, a company can even charge a higher price and has no incentive in improving the product/service."
- "...if [AI] [learns about you and becomes a better psychiatrist or something](#), then that's a switching cost."
- "I ran the (Sean Ellis) survey on a business that I thought was a fairly commoditized business. Part of it I wanted to see, could I use the same go-to-market approach on a later stage company and use it to accelerate growth. And so this was a business called webs.com... they'd been pretty flat for the year before I went in there... I ran the survey thinking, "Yeah, you've had products like Wix and Weebly that have come on to the market since this more legacy website building product has been around. I personally think they're a little easier to use, they're a little better." And so I didn't have high hopes when I ran the survey, but it came back with one of the highest scores I'd ever seen. And it was like 90% of the people saying they'd be very disappointed if they could no longer use the product. Holy shit. I've never seen that. And I was like, "How could that be possible? This product is kind of a commoditized category. I wouldn't even say it's one of the best." And then when I want to dug into it again, it comes back to that Nir Eyal Hooked model, is that the investment people have made in building that website, they put so much into that they know exactly how to make the changes and the kind of the CMS kind of side of things, they have spent a lot of time just making it beautiful. And so ultimately it was something that that was why they were saying they'd be very disappointed... Even Eventbrite when I was there when we ran it was probably the second highest I'd ever seen. But with event organizers, if they've already set their event up on that platform and they've sent it out to their list and all those people are coming in and they're managing their event, again, they've invested a lot in the platform. So sort of switching costs I think can factor in there. So it's a function of both [switching costs](#) and utility of the product."
- "The test for me, of whether you're building a product that has the ingredients to create a

retentive product on a micro level, just at the user level, is that the product should get better the more you use it, and you'll have more to lose by leaving it. I'll give you a couple examples there, a couple of my favorite products. Obviously, Pinterest. One of the features that I worked on when I was at Pinterest and we shipped was this idea of a picked for you feed. The idea was every time you pinned something to a board, we would take that information that the user gave us and use it to create recommendations in their home feed. It may have been the first algorithmic feed that was in a social product because, suddenly your home feed wasn't just things and people that you followed. The truth is, people weren't really following other people on Pinterest so we needed a way to make the experience get better the more you used it, so we started to do these recommendations in your home feed. It was this experience that, the more you pinned, the more personalized your home feed got for you. Then, [the more you pinned, you also had more to lose by leaving Pinterest because, all of a sudden, you had all your favorite books, articles you wanted to remember, the recipes that you were planning on cooking one day, the holiday planning that you were doing. So you wouldn't abandon Pinterest because Pinterest was this repository for these different expressions of your identity, or these different bookmarks that you wanted to back to. That was this idea. It's very important that the core action is the thing that you use as the product to make the experience better over time.](#)

- “...it's harder to buy software now than to sell it, because there's so much to consider and your job is on the line if you make a mistake. It's easier just to be like, forget it, I'm just going to go with what we have today. I don't want to put my ass on the line for buying this new thing that someone's trying... Buying is just as hard, if not harder, than selling right now. Because [who wants to make a mistake and also who wants to go through switching costs? Oh, it's so painful.](#)”
- “Switching costs give a company pricing power by locking customers into its unique ecosystem. [Beyond the expense of moving, they can also be measured by the effort, time and psychological toll of switching to a competitor.](#)”
- “Switching costs are present [when a customer's cost of switching to a new supplier exceeds the value they would enjoy from making the switch.](#) Switching costs endow the incumbent supplier or provider with pricing power that can, in turn, lead to economic profits.”
- “Switching Costs: [When it would be too expensive or troublesome to switch away from a company's products,](#) that company often enjoys pricing power.”
- “Not just monetary in nature, [switching costs can also be measured by the effort, time and psychological toll it takes to switch to a competitor.](#) Switching costs provide a company with the leverage to increase prices and deliver substantial profits over time. They are a key competitive advantage and are evident in a range of industries, from banks, to computer software/hardware, to telecoms, among others.”
- “Stryker Corp. (SYK) is a top-tier competitor in a number of medical markets. [These include orthopedic implants, surgical equipment, endoscopy, and neurovascular devices. Since switching costs can be significant for surgeons when it comes to orthopedic implants, this is, according to Morningstar, one of Stryker's “moatiest divisions” in support of the company's wide economic moat.](#) Morningstar adds, “Relative to other specialists, an orthopedic surgeon's skill and experience can play an outside role in the clinical outcome for the patient. These factors leave surgeons reluctant to train and master multiple instrumentation systems.””

- “Salesforce.com Inc. (CRM) is a leader in software solutions for both client relationship management and customer service industries. According to Morningstar, its salesforce automation application is “mission critical to business users in that they drive the selling and servicing processes, contain all known information on the customer base, and are tied to a variety of other back-end systems.” Morningstar notes [the high organizational risk of moving away from the platform, as well as the time, expense, and lost productivity associated with the implementation of a new application.](#)”
- “King Camp Gillette, the inventor of the first mass produced safety razor, was one of the first entrepreneurs to optimize the switching cost approach to lock in customers. In 1902, [Gillette developed and began selling inexpensive razors with disposable blades that he had patented. This ensured Gillette a constant high demand for blades, as customers who considered other blades quickly realized that they would incur the cost of a new razor as well.](#)”
- “A company that has embedded Switching Costs for its current customers [can charge higher prices than competitors for equivalent products or services.](#)<sup>40</sup> This benefit only accrues to the Power holder in selling follow-on products to their current customers; they hold no Benefit with potential customers and there is no Benefit if there are no follow-on products.”
- “Switching costs are present when a customer’s cost of switching to a new supplier exceeds the value they would enjoy from making the switch. [Switching costs endow the incumbent supplier or provider with pricing power that can, in turn, lead to economic profits.](#)”
- “Switching Costs: When it would be too expensive or troublesome to switch away from a company’s products, [that company often enjoys pricing power.](#)”
- “Not just monetary in nature, switching costs can also be measured by the effort, time and psychological toll it takes to switch to a competitor. [Switching costs provide a company with the leverage to increase prices](#) and deliver substantial profits over time. They are a key competitive advantage and are evident in a range of industries, from banks, to computer software/hardware, to telecoms, among others.”
- “To offer an equivalent product, competitors must compensate customers for Switching Costs. The firm that has previously roped in the customer, then, can set or adjust prices in a way that puts their potential rival at a cost disadvantage, rendering such a challenge distinctly unattractive. Thus, as with Scale Economies and Network Economies, the Barrier arises from the [unattractive cost/benefit of share gains for the challenger.](#)”

#### Stickiness

- “...I think it's often... more about stickiness... I think what does exist is stickiness, which [I would kind of define as once you have a product experience that you really like, are you excited to keep using that experience or is there an effect where it is just as easy from now on to just switch on to a new one and learn a new one and so on.](#) And I think from that perspective, I think there's a few things that are really great about coding agents in particular. One I would say is there is a lot of just inherent stickiness and learning and buildup over time, which is that as you use Devin and as your whole team uses Devin, it's the same thing with an engineer. If you're joining on day one versus you've been at the company for five years, you wrote half the code yourself, you've touched every file you've built every single piece, you know all the engineers. And so similarly, it's like Devin will really learn and build its representation of your code base and of your stack and of your process over time and will be able to do a lot more with that.”

IF Very-Post-Product Market Fit (Stable Product): Branding, Process Power

- “And then later on in a more stable phase when you're in a stability phase of business, [you have to know what your source of power is if you have one, because you have to know how to defend it](#). And then also it is also the foundational knowledge that you need for if there's another step. Because another thing that's quite surprising about iconic businesses is they often have a second act or a third act or fourth act. I mean think of AWS or Intel going into CPUs or Apple going into iPhones, all not the origin of business. And that's actually common, not unusual, and that's starting the process all over again.”
- “And so [there's some that only are really available in when you reach a stability phase of a business pretty far out there](#). And so if you're starting a company, take those off the table. So those two are branding and process power. So often I find that there's a confusion about this because brand recognition for a startup may be incredibly important, but you can get brand recognition by buying an ad in the Super Bowl. That's not power, that you paid for it. So take branding and process power and process power is really operational excellence on steroids and usually is imitable, so it's usually not. So take those off the table...”

Process Power (operational excellence, removing bottlenecks; chain-link systems);

**Benefit:** ;

**Moat / Barrier:** ;

[ONLY AVAILABLE FOR Post-PMF/Stable Product; however operational excellence is required at ALL stages of your Product Journey, but this is unlikely to form a barrier/moat until you have reached a Stable Product]

- “[Identify bottlenecks](#). Incremental changes sometimes don't work and bring the system to a stop.”
- “Chain-link systems, beware: [performance is limited by its weakest chain link](#). When there is a weak link, a chain is not made stronger by strengthening the other links. General Motors suffered from chain-link problems between 1980-2008. If knobs still fall off automobile dashboards and door panels continue to rattle, improving transmission will do little good. Improving fit and finish will do little good as long as the designers make sub-par designs. These are examples of chain-link systems: in many business situations, the whole is only as good as its weakest link. It is important for leaders to identify and address the worst problems afflicting a company.”
- “Chain-link systems, rejoice: Conversely, “the excellence achieved by [a well-managed chain-link system is difficult to replicate](#),” as can be seen with IKEA. The source of IKEA's dominance is in the integrated coordination of its policies, including giant retail stores in suburban neighborhoods (with free parking), catalogs that effectively replace a sales force, flat-pack furniture designs that reduce shipping and storage costs, and so on. To compete with IKEA, a company must implement each stage of the process, because each link complements the next.”
- “[A system has chain-link logic when its performance is limited by its weakest link](#). In a business context, this typically means each department is dependent on the other such that if one department underperforms, the performance of the entire system will decline. In a strategic setting, this can cause organizations to become stuck, meaning the chain is not made stronger by strengthening one link – you must strengthen the whole chain (and thus becoming un-stuck is its own strategic challenge to overcome). On the flip side, if you design a chain link system, then you can achieve a level of excellence that's hard for competitors to replicate. For example, IKEA designs its own furniture, builds its own



stores, and manages the entire supply chain, which allows it to have lower costs and a superior customer experience. Their system is chain-linked together such that it's hard for competitors to replicate it without replicating the entire system. IKEA is susceptible to getting stuck, however, if one link of its chain suffers."

- "No matter which industry you're entering, [if you get to this point in the diagnosis and the best potential moat you can come up with is brand or process power, you might be in trouble](#). Both take a very long time to develop, if they do at all, and when they do, it's often through some emergent magic."
- "The most important thing that I often instruct teams to do is to [develop a reproducible testing process](#), and that will actually influence the probability of your success more than anything. It's so unpredictable whether a consumer product idea will work. If you actually focus more on your process for taking many shots at bat, that's what actually reduces the risk more than anything."

Branding (Monkey See, Monkey Do);

**Benefit:** can charge more for the same product;

**Moat / Barrier:** brand power;

[ONLY AVAILABLE FOR Post-PMF/Stable Product];

- "Brand is one of the most difficult moats to achieve and it takes a long time to build it. Brands benefit from information advantage and social proof. [Humans are influenced by what they see others do and approve](#). Brand is the strongest moat and it's difficult to beat."
- "No matter which industry you're entering, [if you get to this point in the diagnosis and the best potential moat you can come up with is brand or process power, you might be in trouble](#). Both take a very long time to develop, if they do at all, and when they do, it's often through some emergent magic."
- "Though not always easy to quantify, [intangible assets may include brand recognition](#), patents and regulatory licenses. They may prevent competitors from duplicating products or allow a company to charge premium pricing."
- "Additionally, [brand equity can increase a customer's willingness to pay for a product or service](#). These are examples of what Morningstar refers to as "intangible assets.""
- "Starbucks Corp. (SBUX) is one of the few operators in Morningstar's coverage of the restaurant industry to boast a wide economic moat. According to Morningstar, Starbucks has "brand strength evidenced by pricing power, attractive unit-level economics, successful international replication, and strong results in the retail channel underpinning a durable brand intangible asset." Morningstar adds, "[The firm's ability to generate excitement and traffic, evidenced by impressive comparable sales growth in the core U.S. market, while spending less on marketing than category peers, reinforces the importance of the brand and its impact on results](#).""

Brand == A Promise (Make a promise and keep it)

- "...the first question is what's a brand? Because it's not a logo. [A brand is a promise. It's what do I expect from you. It's would I miss you if you were gone](#). And Hyatt Hotels has a logo, Nike has a brand. The way we know this is if Nike opened a hotel, we'd know what it would be like. But if Hyatt decided to make sneakers, we have no clue. They might be comfortable, but that's all we would know. And so if you want to build a brand, you got to stand for something and you got to say what you don't do."
- "...what all companies need to do is say, what's in this for the user? What promise do I want to make? A difficult promise, a remarkable promise. And then how do I keep it? So

making absurd promises might work at the VC level, but it doesn't work when you're talking to consumers because you can only break that promise one time... I love this phrase, [make a promise and keep it](#)."

Brand == Loyalty (would you pay more to continue using this? E.g: Apple)

- "...airlines don't have brands and airlines don't have loyalty. And the way we know this is that the only reason people stick with an airline is for the points, which is bribery. [Loyalty is would you pay extra to stick with this?](#) And if you wouldn't pay extra, then the brand has no value."

Cornered Resource;

**Benefit:** no one else has access to what you do;

**Moat / Barrier:** Models / Algorithms (OpenAI), Patents, Regulatory Licenses, Infrastructure (Tesla Batteries);

- "Though not always easy to quantify, intangible assets may include brand recognition, [patents and regulatory licenses](#). They may prevent competitors from duplicating products or allow a company to charge premium pricing."
- "[Patents are a legal barrier to entry that protect companies from unauthorized commercial usage of their products by competitors. Similarly, government licenses may raise the entry hurdles for new competitors](#)... These are examples of what Morningstar refers to as "intangible assets.""
- "Although not always easy to quantify, intangible assets are one of the primary sources of strong competitive advantages for businesses and a key economic moat source. Intangible assets can include [corporate intellectual property, such as patents, trademarks, copyrights, government licenses and business methodologies that help companies generate economic profits](#)."

2: Focus {Power} on an Initiative

- "A good guiding policy flows from the diagnosis: it's where you figure out [how to overcome the obstacles you've identified "by creating or drawing upon sources of advantage."](#)"
- "At the core, strategy is about focus, and [most complex organizations don't focus their resources](#). Instead, they pursue multiple goals at once, not concentrating enough resources to achieve a breakthrough in any of them."
- "Applied to strategy, ['focus' has two meanings](#): first, it denotes the coordination of policies that produces extra power through interactions and overlapping effects. Second, as introduced by Michael Porter in Competitive Strategy, it denotes the application of that power to the right target."
- "Focus refers to [attacking a segment of the market with a product or service that delivers more value to that segment than other players do for the entire market](#). Doing this requires coordinating policies and objectives across an organization to produce extra power through their interacting and overlapping effects (see design, above), and then applying that power to the right market segment (see leverage, above)."
- "If its advantage is that it can target a growing niche too small for an incumbent to care about and ride it to greatness, like Stripe did with startup developers, [focusing on that niche at the expense of other opportunities can be part of the guiding policy](#)."
- "When I was nine years old, I was at summer camp and my parents sent me a magnifying glass and I was out there using the sun to try to cook a piece of wood. I think I had a piece of cloth that I was trying to burn, wasn't having much luck. The magnifying glass focuses the sun's rays on the spot. Counselor came over and he said, "Try this," and he

pulled out a black thread from his T-shirt, put it down. And I focused the sun's rays hard, popped out. So stupid little story. But to burn that black thread, there has to be a source of power, the sun. There has to be a focus, that's the magnifying that to the power. And it has to be a target that can be affected. It has to be a black thread, not white thread. And that sequence is part of strategic action. You need a source of power... and you have to focus the power on a target that can actually be affected or achieved. And this is real simple logic, but it's a discipline to focus power on a target that you can affect.”

- “Eli Lilly and Co. (LLY) is a pharmaceutical company that focuses on neuroscience, endocrinology, oncology and immunology. Patents are critical in preventing competitors from duplicating its drugs. Morningstar notes that “patents, economies of scale, and a powerful distribution network support Eli Lilly’s wide moat. Lilly’s patent-protected drugs carry strong pricing power, which enables the firm to generate returns on invested capital in excess of its cost of capital.””

#### Focus on User Groups / Cohorts (Scaling)

- “The purpose of a guiding policy is to channel actions in a particular direction. It is the context and intent through which decisions are made and helps focus attention to head in a particular direction. Rumelt refers to an example of a lady who runs a small grocery store. She is facing competitive challenges from a local big box grocery store that is open 24/7, and she can’t compete with it on price. She has a range of options available: should she focus on fresh organic produce, or should she begin to stock specialty Asian food for the large number of Asian students who frequent her store? Or perhaps she should remain open longer or try to compete on service. She ended up deciding to focus on the busy professionals that visit her store. She would develop a competitive advantage by focusing on pleasing this customer group — this became her guiding policy.”
- “Varda, which I wrote about in June, is a beautiful example of a diagnosis informing a guiding policy with an eye towards defensibility. Delian Asparouhov started Varda after realizing declining launch costs could make space manufacturing economics work. His diagnosis: Varda needed to excel at manufacturing, returning payloads, and selling. Focusing on both commercial and government customers could help it gain advantages and develop scale economies. Varda's guiding policy flowed directly from this diagnosis: Brought on experts in those 3 areas: Will Bruey for reentry, Adrian Radocea for manufacturing, Eric Lasker for sales. Prioritized speed with experienced hires — “the trains run on time”. Focused on both DoD and pharma clients to kickstart a flywheel. DoD rideshares lower costs for pharma. More pharma demand enables cheaper DoD rides. Lower prices drive more volume and integration, further reducing costs. The beauty of Varda’s strategy is how focused and aligned everything is: get to scale faster than anyone else to drive down costs. Varda doesn’t have moats yet, but with everything it does in the course of operating its business, it’s digging them.”

#### Focus on Existing Value (Doubling Down)

- “Focused strategy: Crown Cork & Seal was a metal-can maker that despite its smaller size and higher costs compared to competitors, made far more money than any of them. This was because all of Crown's policies were coherent, focused on the goal of retaining the company's bargaining power. While its competitors supplied all customers (thus intensifying competition between said suppliers), Crown's policies were focused on short runs and remained adaptable to the sporadic customer. Because to shift production is expensive, most suppliers don't do it. But this is how Crown managed to succeed: it retained its leverage where others did not.”

Strategy Approval (via Leadership Review or Product Review or Email Process, etc)

- "...so [you probably have a lot of different options for getting that formal stamp of approval in your organization, maybe it's a leadership review, maybe it's a product review, maybe there's some email process or something like that](#), but whatever you do just make sure you get something formal and something public from someone very senior saying that this is approved and that this is what we're going to move forward with..."
- "...with that said [it's still really important to get that formal stamp of approval](#), because what you want this product strategy to do is give people the confidence to say 'yes' or 'no' to requests, and if someone is going to have the confidence to say 'no' to a feature request they need to understand that this is a protected and approved product strategy, that this is something that leadership will stand behind and say 'yes, this is what we're doing for the next 2 years', you should use this to say 'yes' or 'no'..."

Evangelize Product Strategy

- "Communicate the strategy across the organization. This is part of evangelizing the vision. It's important that all key business partners in the company know the customers we're focused on now and which are planned for later. Stay especially closely synced with sales, marketing, finance, and service." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

## **Metrics (Aha! Moment)**

(Aha!) North Star Metric / Target Metric (Pillar Goals: Core Action Metric / Activated User Metric - *the moment that represents the "aha!" moment*)

What is a likely action that someone's going to take to get a good enough taste of this product?

Aha! Moment = Value has been reached

(sometimes referred to as the "NUX" = New User Experience == the Aha Moment)

- "What you realize when you look at social products is that they're almost is [this action which I call the core action of that product that forms the foundation of the product. When a user completes this action, it's clear that they both understand the utility of the product, they understand what that product is all about, and it's an action that, if they perform the action, they're very likely to come back](#). So for Facebook, the obvious action is friending, in the beginning days. For Pinterest, it's pinning. I don't know if you're an Evernote user. For Evernote, it's writing a note. When you perform that action, that means you're an engaged user."
- "But again, I don't think there's necessarily one exact right answer of what is that aha moment. There might be two or three different things. I think it's that intentionality about [picking something that's experience-based and saying, "What is a likely experience that someone's going to get a good enough taste of this product?"](#) And then I do see some companies that are like, "Well, the activation moment should be, they've used it a hundred times." That's going to correlate to long-term retention, but it's just not very actionable. It's so far down the user experience. So ideally if there's a way that I could get them there in the first session, in the first day, that's great. And so it's sort of something that's value that can be experienced super early."
- "The other element of this is [coming up with an activation metric and aligning on here's what we consider so activated](#). I know this is very dependent on the product, but any advice or heuristic for how to help people decide this is our activated user. I tend to start qualitatively. So just like when do I think they've had a good enough experience with the product to really know it? And so in the case of LogMeIn, it was pretty easy. If they didn't

do a remote control session, they didn't use the product. There was no value along the way there. And then at least try to see if there's a correlation to long-term retention of doing that. Causation is you need to do some experimentation to prove causation. At the very least, I want to see that correlation, but if I start with two or three ideas of what it might be and then go and study the data, that can help you focus."

- "I have this dogmatic view that every tap on a mobile app is a miracle for you as a product developer because users will turn and bounce to their next app very quickly. If you actually sit behind someone and watch them use their phone, they actually switch between apps at a pretty high frequency. Every tap that you get, every single one is so scarce that you should be optimizing everything."
- "What does it take for someone to actually understand the value, that first moment, that first aha moment in the product? And a lot of teams, it's shocking how many teams don't really understand what that moment is for them. And then also how do you get them to build habit around the product."
- "...there's some definition of an active user that a consumer business basically needs to define, and essential figure out what is that action they're taking that makes them an active user versus just opening up the app, or whatever it is. For Snapchat, it might be sending a snap. For What's App, it might be sending a message."
- "...it's very important to pick the right action. You want to make sure it's an action that scales to enough users. You want to think about, "If I think about my product roadmap and optimize for it, what do we end up doing?" Just to give you a more concrete example, actually in the early days of Pinterest, we weren't sure what it was. We had all these things we were measuring. We were measuring follows, we were measuring clicking through, liking something, pinning obviously, time on site. We would do these experiments and you would get all this different data where some things would go up, some things would go down. What were we optimizing for? There's something that's really, really important about having that clarity of this is the action that is most important for our product. All things, our NUX has to lead to this. If a user isn't doing this, then there's something missing from their experience of the product. It's super important to get real clarity and know exactly the one that you're going to be picking to go forward."
- "...what that ends up meaning when the when a new user signs up is that there's too much in the beginning to take in and understand, and you don't then have a very focused product that gets the user to the thing that you most want them to do. And that's actually part of the importance of understanding level one, what your core action is, is that you want to make sure that when a user comes to your product, signs up for the first time, doesn't have necessarily a lot of contacts on what the product is itself, that they see the thing that they're supposed to do and you get them to do it. And a lot of times, in the beginning, there are just so many other things that a product might have that you're defusing that attention that they would otherwise have had on the on the thing that's most important."

#### 1. Find a North Star Metric (Use Both Methodologies to find an intersection)

- "And so, we did this kind of top down, bottoms up analysis to make it very clear that when we launch an experiment or launch a new feature, if the probability, if the percentage of people that pin something doesn't go up, or the number of pins for that cohort doesn't go up, that experiment is not a a successful experiment."

#### Bottoms-Up Analysis (Regression Analysis)

- "...we looked at every action that you could do on Pinterest, so we had liking, following,



clicking through, time on site, pinning, repinning. And we looked at, first of all, what percentage of users complete those actions? And if you do that action in a week, what's your propensity to come back the following week? And we basically ranked that. And what we saw was that if you pinned something, repinned something, which is finding something on Pinterest, I'm using those synonymously, or click through, you had an incredibly high probability that you would come back. So if someone's pinning something, they're coming back to Pinterest the next week with a super high, more than 90% probability at the time."

#### Tops-Down Analysis

- "...then there's like the top-down way of thinking about it, which is, well, what is Pinterest for? And if a user does come to Pinterest and they never add something to a board, do they really understand what Pinterest is? And yes, clicking through makes you want to save it. The click through is valuable, you want save it, so clicking through is obviously really important. But at the end of the day, if they don't like that pin enough that they want to save it themselves to their board, then we haven't done our job."

#### 2. Completing this Action on the Product *should* make the Product Better for the User

##### It should Increase the Switching Cost

- "The test for me, of whether you're building a product that has the ingredients to create a retentive product on a micro level, just at the user level, is that the product should get better the more you use it, and you'll have more to lose by leaving it. I'll give you a couple examples there, a couple of my favorite products. Obviously, Pinterest. One of the features that I worked on when I was at Pinterest and we shipped was this idea of a picked for you feed. The idea was every time you pinned something to a board, we would take that information that the user gave us and use it to create recommendations in their home feed. It may have been the first algorithmic feed that was in a social product because, suddenly your home feed wasn't just things and people that you followed. The truth is, people weren't really following other people on Pinterest so we needed a way to make the experience get better the more you used it, so we started to do these recommendations in your home feed. It was this experience that, the more you pinned, the more personalized your home feed got for you. Then, the more you pinned, you also had more to lose by leaving Pinterest because, all of a sudden, you had all your favorite books, articles you wanted to remember, the recipes that you were planning on cooking one day, the holiday planning that you were doing. So you wouldn't abandon Pinterest because Pinterest was this repository for these different expressions of your identity, or these different bookmarks that you wanted to back to. That was this idea. It's very important that the core action is the thing that you use as the product to make the experience better over time."
- "I had assumed wrongly that YouTube's core action was watching a video. And then Shishir Mehrotra, who was the kind of CPO of YouTube, he reached out to me and he said, "That's what it was in the early days, but we started to realize that it wasn't actually our core action. And we did a lot of analysis on YouTube and what we realized was that subscribing was the core action on YouTube." And it makes so much sense when he said it, right? You're a creator, you're uploading content onto YouTube, there are a lot of other places at that time that you could have uploaded that content to, but you care about YouTube because that's where you're growing your audience, right? And so, the more people that subscribe to your content on YouTube, the more you have the accruing benefits and mounting loss of using YouTube. And so, that was super important on the

creator side, which, one of the funny things that will bridge to our next conversation is that all social products are really marketplaces, right? YouTube is a marketplace. You have the creators uploading content and the viewers who are watching it, supply and demand. And so then, the subscribe button is also very interesting because then from the demand side, the viewer, why would I come back to YouTube consistently versus, again, all the other places I could spend time on if it weren't for me having found creators for whom their content really resonates with me so much so that I subscribe to their content? And so, I loved that example because it showed a little bit the evolution that can happen with these companies, but then also, just the beauty of like you know you've got something really right with the core action when it's helping both sides of your network."

It should Increase the Network Effects

- "The test for me, of whether you're building a product that has the ingredients to create a retentive product on a micro level, just at the user level, is that the product should get better the more you use it, and you'll have more to lose by leaving it. I'll give you a couple examples there, a couple of my favorite products. Obviously, Pinterest. One of the features that I worked on when I was at Pinterest and we shipped was this idea of a picked for you feed. The idea was every time you pinned something to a board, we would take that information that the user gave us and use it to create recommendations in their home feed. It may have been the first algorithmic feed that was in a social product because, suddenly your home feed wasn't just things and people that you followed. The truth is, people weren't really following other people on Pinterest so we needed a way to make the experience get better the more you used it, so we started to do these recommendations in your home feed. It was this experience that, the more you pinned, the more personalized your home feed got for you. Then, the more you pinned, you also had more to lose by leaving Pinterest because, all of a sudden, you had all your favorite books, articles you wanted to remember, the recipes that you were planning on cooking one day, the holiday planning that you were doing. So you wouldn't abandon Pinterest because Pinterest was this repository for these different expressions of your identity, or these different bookmarks that you wanted to back to. That was this idea. It's very important that the core action is the thing that you use as the product to make the experience better over time."
- "Let's say, now, you have a product, it's growing, more people are completing the core action. When they complete that core action, the product gets more retentive for them. It gets better the more they use it, they have more to lose by leaving it. Then, your tall task, and this is the hardest thing to overcome, is how do you make the product self-perpetuating? This is where I love to think of every time a user uses your product, let's say they're clicking on the mouse or they're tapping on their phone, I love to think of it as this kinetic energy that they're putting into your product. You're taking that energy, and your job with a great product, is to take that energy and, as much as possible, convert it back to the experience that they're having with your product. Now, the biggest thing that you can do is a network effect. The more I pin something on Pinterest, the better the experience for every user on Pinterest. Every time I add a pin to a board, I'm creating a new edge in Pinterest Graph, that Pinterest then uses to create recommendations and enrich their understanding of all those objects on Pinterest. The network effect is the strongest thing that you can do. And obviously, if you have that, which all social products have to in some way, you have to spend time, as much as possible, just maximizing where that shows up, fine-tuning it, removing friction so that it's a flywheel that spins

faster and faster.”

# **Product Vision**

Product Vision - North Star (*Rarely Changes*)

Vision happens after you have ideas to solve problems / add value; your vision connects to a world where this value is added / these problems are solved;

What **world** do you want to live in?

- “Product vision isn’t setting revenue targets or creating a list of features you wished your product had. [Vision is imagining a future world with your product in it and telling a story about how people will experience your product\(s\) in that future.](#)”
- "The product vision describes the future we are trying to create, typically somewhere between two and five years out. For hardware or device-centric companies, it's usually five to 10 years out..." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Vision is the “why” behind the work, [it’s your team’s north star](#), and it should really rarely change.”
- “Product Vision is to [clarify why the product must be developed and what problem the product solves](#). Product Vision gives meaning to the product and core motivation to project members. Product Vision Board, invented by Roman Picher, is widely used when creating Product Vision because it is simple and exclusively covers all necessary components.”
- “Product vision is a significant part of product management. If we were to compare product management to a road, [the vision is both a road sign and a destination](#): Vision defines the final product and shows the direction towards achieving it. It’s not a strategy of product development yet, but this is where the strategy development starts with idea management when a team discusses a new product. The vision can be articulated during a brainstorm or may be based on a backlog of ideas.”
- “Geoffrey Moore also [recommends keeping the vision short](#). As he puts it, “If one cannot test the product vision with an elevator pitch, then it is not ready yet.” For example, Amazon’s vision is “to be Earth’s most customer-centric company, where customers can find and discover anything they might want to buy online, and endeavors to offer its customers the lowest possible prices.””
- “Sometimes the product vision is clear in the PM’s mind but is not communicated clearly across the team. A successful PM should be able to easily explain the product vision. [What is the product vision? What problem is your product trying to solve? Who is it built for? What is it supposed to do?](#)”
- “To Marty, product vision has [a time horizon of 5–10 years](#) and “is a pervasive piece to describe the future that inspires the teams to make this vision reality”. For this, he provides principles. To me, the most important is “start with the why”, “fall in love with the problem, not the solution”, “Be stubborn on the vision but flexible on details”, and “Evangelize continuously and relentlessly”.”
- “The product vision is [a brief summation of the goals of the project](#). It defines what the product is, the target customer, key benefits, differentiation from competitors, and what needs to happen for the product to be successful.”
- "The final critical concept is product vision. This refers to the longer-term objective of this product, normally 2–10 years out. It is how we as a product organization intend to

deliver on the company's mission. So, we use prototypes to conduct rapid experiments in product discovery, and then in delivery, we build and release products in hopes of achieving product/market fit, which is a key step on the way to delivering on the company's product vision." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "Note that while the product vision and the team-specific business objectives are provided to the team by leadership as part of the context, nothing is said about how to actually solve the problems they are assigned. That's where the team has the autonomy and flexibility." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Most important, the product vision should be inspiring, and the product strategy should be focused." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Vision Examples

- "[My vision is](#) that libraries are never going to be boring, we're getting rid of boring libraries and they're going to be exciting places for kids to come to you, that kind of vision is really compelling and exciting because it's clear, it's concise and it's compelling it has a kind of oomf to it."
- "I think one that's lofty and I dance between whether it's attainable or not, is Elon Musk saying, "[We're going to get to Mars.](#)" He believes it. He believes it so much that sometimes I'm like, "I guess, we're going to Mars." But then there was the other one of, oh, we want a car that's electric and we want that car to be beautiful so that we will get to a car that's accessible to everyone. And that's kind of followed through."
- "[Our vision](#) is to offer a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers hundreds of thousands of businesses in 190 countries around the world."
- "[We believe Search should](#): deliver the most relevant and reliable information available, maximize access to information, present information in the most useful way, protect your privacy, sell ads, nothing more, help creators succeed online."
- "[Amazon's vision](#) is "to be Earth's most customer-centric company, where customers can find and discover anything they might want to buy online, and endeavors to offer its customers the lowest possible prices.""
- "“My mission will be to help the team realize our [shared vision for](#) a future of hourly work where hourly workers can find the right employers, jobs and shifts with far greater ease and with much more transparency than what is available today”"
- "Be the [centralized marketplace for enriched content](#) across Booking.com"
- "[One platform. Millions of ways to engage.](#)"
- "The magic moment of small trusted networks and care-free programs does not need to be relegated to memory. With enough work, we can bend technology to recreate the magic... The result is [a system with properties that work with today's internet to give us the pleasant, simple programming environment of the '90s LAN](#)... We can build this."
- "Uber's big goal is to be a substitute for the automobile in your garage. Gurley points out that your car sits idle "95 percent of the time." [If Uber can get the price per ride low enough, and ensure high enough availability, it just may make sense to sell your car and use the proceeds to pay your Uber bill, or avoid buying a car altogether.](#) From a financial point of view, Uber simply substitutes for ownership. To reach that level of affordability, Uber's leadership dreams of someday reaching "the Perpetual Ride," where a driver has a rider at all times in his or her car. That would mean 100 percent utilization." - Monetizing

Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Strategy BEFORE Vision (strategy == the steps you will take in order to arrive at your destination)

- “Please do not begin any product strategy work by first writing down your mission & vision to then derive a strategy. This is unfortunately very common and it is one of the reasons why a majority of product strategy docs out there are not even real strategies & are not very good.”
- “And what I also do is I write the output of the workshop. So I'll always write the output. These are the insights we came out with. Here's the once upon a time framework. Here's the strategy. Here are the big rocks and a vision is coming. And then we'll do the vision and say, "But this is the vision of where we're going if we do all these things." And that will be a living document, comments, open for comments, no edit, not view only, comments because you want anyone to leave comments in there and just feel they have a say. You don't have to respond to all of them. You don't have to resolve all of them, but just if you put rocks in a washing machine, they polish each other. I like this friction. I always like, I go into the forest, I cut a piece of wood, and our job together is to polish it down to the beautiful danish furniture. So it's okay to have that friction to do that for a bit.”
- "For a product team to be empowered and act with any meaningful degree of autonomy, the team must have a deep understanding of the broader context. This starts with a clear and compelling product vision, and the path to achieving that vision is the product strategy." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Using the predefined Company Vision

- “...so what we do is we start with the vision, so what's the vision of the company, right, what's the vision of where you want to go, and then we break it down and say “okay, how do you need to get there, what's the most important thing you need to do to get there”...”

Inheriting a predefined Product Vision

- “Unless you're the founder of the company, you likely inherited the vision for the product you're working on now. To inspire your team, you'll need to adapt the vision you inherited and make it real for the specific product or product area you manage. You'll need to tell stories, write narratives, or build vision types that contextualize the vision for your product area. It's your job to inspire them. Just make sure your product or product area's vision supports your organization's larger vision.”

Every Product does NOT need a Vision (depending on the size of the Organization)

- "...the idea is not that every product team has its own product vision. That would miss the point. The idea is that our organization has a product vision, and all the product teams in that organization are helping to contribute to making that vision a reality. Of course, in very large organizations, while the mission statement might apply to the full company, it's likely that each business unit would have its own product vision and strategy." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

What is a Vision (North Star)?

- “...a vision should be concrete enough where people can picture what it will be in their head... people need to be able to look at a vision and say ‘I can understand that we're going to get there one day, I don't know how we're going to get there today, but we'll find out along the way’, that's a good vision...”
- “So when you fall in love with the problem, then what happened is that the problem is



[going to serve as the North Star of your journey](#), and when you have a North Star, you're going to make less deviation from the course and you are way more likely to become successful. But also the story that you are about to tell is way more compelling. Just imagine that we will be here in 2007, just before I started Waze, and I will tell you I'm going to build an AI crowd-source based navigation system and you're going to say, "Oh, yeah, very interesting," but you don't care. If I will tell you I'm going to help you to avoid traffic jams, then you do care, and when your customer cares, they want you to be successful, and when they want you to be successful, they are going to help you to become successful. And so in that sense, fall in love with the problem is really a key to increase the likelihood of being successful."

- "So really I think there are a couple of key elements. The first one is that it needs to be lofty. So it needs to be something that feels... It almost scares you in an exciting way, right? Like, oh, my God, this is something I can get up every morning. And if we did that, goddamn. But at the same time, it needs to be realistic and attainable, so it cannot feel so pie in the sky that it feels so out of reach, right? And of course, there are leaders and people who have really, really big visions and they see beyond the rest of us, but that's not most people. Most people, it needs to feel within reach. And then I think the key thing is it needs to kind of be in a vacuum from the limitations of today because the whole point of going to the future and saying, [inaudible] time traveled five years out is to say, "Okay, I've come back to tell you what we need to fix in order to get there. Or I've come back to tell you what we need to put in place now so that we will get there, right?" And so you have this kind of three components and if those come together and they are grounded of course in a problem that people are excited about, you've got your vision. And how that vision manifests really depends on what you want to do. There're simple ones you can do, they're big ones you can do. But those are the core pieces in my mind... So four things. [So it has to be lofty, it has to be realistic, it has to be devoid of any tech or limitations of today, and it has to be grounded in a very clear and potent problem. User problem.](#)"
- "Be stubborn on vision but flexible on the details. This Jeff Bezos line is very important. So many teams give up on their product vision far too soon. This is usually called a vision pivot, but mostly it's a sign of a weak product organization. It is never easy, so prepare yourself for that. But, also be careful you don't get attached to details. It is very possible that you may have to adjust course to reach your desired destination. That's called a discovery pivot, and there's nothing wrong with that." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

1) Grounded in a Clear User Problem (JTBD); do NOT envision a world that solves a problem nobody has!

- "Why is it so important to work on a problem you have? Among other things, it ensures the problem really exists. It sounds obvious to say you should only work on problems that exist. And yet by far [the most common mistake startups make is to solve problems no one has. I made it myself. In 1995 I started a company to put art galleries online. But galleries didn't want to be online. It's not how the art business works. So why did I spend 6 months working on this stupid idea? Because I didn't pay attention to users. I invented a model of the world that didn't correspond to reality, and worked from that. I didn't notice my model was wrong until I tried to convince users to pay for what we'd built.](#) Even then I took embarrassingly long to catch on. I was attached to my model of the world, and I'd spent a lot of time on the software. They had to want it!"

## Empathize with target customers

- “So going back to the empathize, one of my peers at work uses this word, he says, “You need to do understand work.” And what is understand work? [It's crazy to me the number of PMs who never go through their products and go through the onboarding flow](#) unless of course you're the onboarding PM, but actually go through the onboarding flow. Because we're all in this state of using the product. But actually, that first step where I don't have the product, what does that look like? I have multiple variations of accounts on YouTube. I have multiple accounts on Instagram. I have multiple accounts on Tiktok where I'm just using the product just like how does it manifest? What do I like? What's going well? I had this thing with Uber. I had Uber, I had other partner apps, I would look at them and payment services, empathize comes very easily if you dog food and then cat food. Dog food, meaning using your own product, absolutely a must. Cat food using your competitors or other people in the landscape's products. So that's one piece. The other piece is obviously research, but research is an interesting one because I think you use research. I think research is rich when it's giving you foundational problems that are a couple of cycles out, obviously depending on the level of research you're doing. But your researcher, if you think about the product cycle, research is ahead, and then UX, and then you go into building, it's like in that phase. And so I find too many people lean into and, “Let's go test it, let's go do some research.” It's like, dude, you're a human. Look at the products. Would you use that? You built some intuition from just exposing yourself to really good products. Every time you pick up your phone, what is it about the apps that you love? Do you think about that? Oh, I open up my phone. I love Spotify. I also love YouTube Music, but I really love Spotify for my music. I've used it for years and I'm like, okay, what is it about this new thing that just rolled that I love? And I try to articulate that.”

## Brings User Value (aka “users can reach the aha! moment”)

- “...it's important to acknowledge that [every Product Vision is predicated on a set of beliefs about what customers will find valuable](#), and that we hope can one day sustain a business or business unit. It's important to get these beliefs out on the table and set about validating them.”

## JTBD Perfectly (aka “users reach their goal seamlessly”)

- “...the job to be done is agnostic to technology, it's what the customer is trying to do, how you solve it is in the solution side of the equation. What this does [is establishes a stable focal point for long-term value creation](#) because these jobs remain stable over time, decades, or longer in many cases, so when you're focusing on this job it's your long-term vision and your goal is to eventually get the job done perfectly with a single product, single platform...”
- “Product vision requires you [imagine product outcomes way into the future](#).”

## Frictionless, Effortless: [system](#), [interaction](#), [cognitive](#), [emotional](#)

## 2) Paints an Image of a Destination: Live in the Future

- “I think the first piece is that you absolutely need to have one, to start by saying that. Regardless of what level you are in the company. So people say, “Oh, I'm just a junior PM.” Whatever level, there is some micro macro vision that you need to have. Because essentially if you got on a plane and the pilot was like, “I don't really know where we're going, but I'm a really good pilot. The company needs to fly 400 flights this year. So I'm trying to make that happen, but trust me, we'll get there. There might be turbulence, I'm not sure.” You probably would be thinking twice about staying on that flight, right? What

happens is you get on there, it's like, "Our destination is Miami." Maybe I'm dreaming of beaches, "And it's going to be 24 degrees when we get there." And he always paints or she [paints this image of the destination](#). And that's the vision not to be confused with the mission, which is we want to fly people where they're going safely. That's not... It's like a picture. So that's the start. I want to just delineate between vision and everything else that people think vision is."

- "The [vision was a world where you get to this continuous trip so that you do not need parking](#). Because cities, 25% of the average city is parking spaces. You're in San Francisco, you'll see buildings, just floors just for parking, right? You'll have basements just for parking. In a world where we have housing problems, we have ridiculous prices for rents. Just imagine if you could free up all of those spaces for all kinds of things, right? Homes, restaurants, you name it. Parties, warehouse parties especially, they have the best. That was the vision. You could kind of see it, right? You're like, "Oh, I could see a world." I mean, I live in Amsterdam, I have a bicycle, I can see it every other day. They're getting rid of cars and actually converting the parking lots on the street into communal gardens, right? So it's not crazy. It's attainable. But now doing that for the whole world, what does that look like? And that's how things like Uber Pool came in where in a world where the average car has 1.5 people in it, we can maximize that and then we can get this connected trip where the car is just moving and then maybe the car is autonomous, so you don't actually have to drive that car, and so it just doesn't need to stop. I guess, it needs to charge at some point. But so that's it. I think that's a really good vision."
- "Let's say we want to go hike. We want to go up to Mount Everest. [The vision would be once we're up there, me describing the picture of what we're going to see, we're going to get there, we're going to look around, we'll be the Himalayas, be beautiful, we'll be above the clouds, probably out of breath. That's the vision](#). It's like I fast-forward into the future, I hold time and I'm in that place and I'm describing the picture, right? And so a city without parking, you can see that, right? And we've all watched sci-fi movies. You can see Mars, Red Planet. So that's the vision."
- "My general thing is just like, yeah, that's the mountain thing is [I try to just close my eyes and imagine the future as far out as I can. It's like five years from now, 10 years from now, whatever. And it develops a really salient picture of what that looks like](#). It's like, we could do this right now, it's okay. 10 years from now, what could San Francisco look like? Or some city? What happens to the parking spaces? Are there still parking garages? Are those parks now? What are the modes of transport? Are there bus-like things that are autonomous that are connecting people to bikes and scooters? And how are people living? Do they live in the far suburbs even more because autonomy and they have a nicer house and they come in, or is all the space repurposed and actually it's cheaper to live in the city because we compact things, blah, blah, blah. It's not even about having the right one, it's more just developing some sort of picture of the future that gets you fired up. And then yeah, you got to go articulate that and communicate it and get people to come on the journey with you. But from that picture, it's like, well, first principle, what's going to be true 10, 20 years from now?"
- "Marry the VPN to identity, and make it work anywhere, and you can have a virtual 90s-style LAN made up of all your 21st century devices. Let the internet be the dumb pipe, let your endpoints determine who they will talk to based on the person at the other end. [The result is a system with properties that work with today's internet to give us the pleasant,](#)

simple programming environment of the '90s LAN: Use the global internet identity system of your choice for authentication, and do cryptographic authorization at the IP level. Keys are generated and rotated for you automatically. People map directly to unspoofable IP addresses. Run custom servers on your network and access is limited to only those people on the network. Your data is protected by the simple yet powerful social dynamics of small groups. We can build this.”

Anchored in a Future Time Horizon: 1-year, 3-year, 5-year, 10-year, 100-year

- “Anchor your vision around some point in the future. This could be 2 years in the future, or 10 years, or even longer. If there’s lots of uncertainty about the future, you may choose a shorter time horizon. If you’re working on a new product, a shorter time horizon may be in order. Until your product finds its market and product market fit, there will be lots of unpredictability.”
- “...it begins with three pages of science fiction, it begins with a vignette of what the world would look like in 2050 if we got everything right and of course it's a world of housing abundance, and it's a world of clean energy abundance, where people are waking up in rooms that are cocooned with clean energy abundant, solar and wind, enhanced geothermal, nuclear, but you know this is the 2050 vision, this is a science and tech show, and I want to talk about the tech that we think would be available if we got everything right... so there's a huge vision in this book of: if we got energy super abundance right, what are the technologies that we could build with that energy superabundance? Another feature in that sci-fi vignette is that this family gets a little ping on their AI earpiece and hear that their friends are taking the long weekend to fly on a supersonic jet from New York to London and the jet is using clean fuel, I mean these are the kind of technologies that are just on the come up. Companies boom that are building supersonic technology, but a lot of this needs a ton of energy, it needs more hardtech breakthroughs...”

Think BIG: “we’re going to Mars”

- “As you watch these videos, think about the adjectives you’d use to describe them: Fantastic, futuristic, inspiring, crazy, far-fetched, impossible... They’re all in bounds. Your vision doesn’t need to be as big or as far reaching as Apple’s or Microsoft’s, but, it had better help those who work for your organization imagine that future world with your products in it.”
- "Don't be afraid to think big with vision. Too often I see product visions that are not nearly ambitious enough, the kind of thing we can pull off in six months to a year or so, and not substantial enough to inspire anyone." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Vision is *unlikely* to come true, but should *feel* realistic

- “Notice how the vision type videos paint a future that didn’t come to pass. That’s OK. Yours won’t either. And, it doesn’t need to. You’re making some pretty bold predictions here. Not even Nostradamus could predict the future with this level of precision.”

Leap of Faith: Free from the Limitations of Today

- “In 1987 Apple created a short video describing their vision for the future. Today it looks like an old science fiction movie. You know how old science fiction movies look a bit hokie? They have a way of looking futuristic and outdated at the same time. And this video does... now. In Apple’s Vision-type, that’s what these are called, you can see the seeds of the iPad, FaceTime style video phone calls, and a way of working with it that feels like Siri does today. Imagine what the world actually looked like in 1986. There were no flat panel computers, no ubiquitous internet, no facetime calling, and no AI

assistants. But the seeds of all those things were there. It took some boldness to assert that those things would be commonplace and in Apple's products 10-20 years into the future."

- "Microsoft's 2019 [concept video](#) produced in 2011 [explores lots of touch controls and new ways to interact with computers we see finding their way into its Surface products today](#). It's now over a decade past that. How did their vision hold up? Did they predict the future as well as Apple did? Do they just need more time? How did it help their product designers steer their product development work?"
- "What is SpaceX's vision for the future? I bet you know. I know I do. And it's not because I saw a visiontype, reviewed a storyboard, slide deck, or read a white paper. It's because I've seen bits of social media posts and news stories where Elon Musk talks about it. Because, he won't shut up about it. And that's a good thing... There is a pretty cool vision type for spacex that I found. [Pretty darn science fiction](#)."
- "[Imagine the world 5 years from now, or even 10](#). Imagine the type of technology that exists then. Imagine how people will be living then, what they do every day, what their interests are. Now imagine how your product fits into that future world."
- "Realize that any product vision is a leap of faith. If you could truly validate a vision, then your vision probably isn't ambitious enough. It will take several years to know. So, make sure what you're working on is meaningful, and recruit people to the product teams who also feel passionate about this problem and then be willing to work for several years to realize the vision." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Make Assumptions about the World

- "Involve subject matter experts and others that understand your organization's vision, its customers, and their needs. You may find it takes some research to incorporate future trends. [Start by creating a first draft based on your assumptions](#). Doing so may expose the areas where more research would help."
- "You need to kind of be irrationally optimistic that what you're going to do is going to be differentially important. Because otherwise, why would you go out and do what you're doing? And if it's obvious, then a bigger company would've already done it, right? But then [you also need to be really, really realistic because most ideas that are, I guess, non-conventional are usually bad ideas, right? So it's this weird tightrope you need to kind of balance on top of where you're pushing for a future that you believe is true, but all the while you're getting new information](#)."

#### Technology

- "What [technology innovations](#) do you see coming? How do you think they'll manifest themselves in future products?"
- "[...it is about dreaming about the things that we haven't invented yet](#), and how to build not just an abundance agenda of housing and clean energy, but an invention agenda for for all sorts of technologies that are in our fingertips right now. In startup world we sort of have this aversion to deceleration, it seems like if technology is to actually bring us to this sort of 2050 vision we do have to accelerate, but not without accountability. We think about speed being a virtue in business, about speed being a virtue for government, we think about it as being a lost virtue, a virtue that we use used to have that we no longer have..."

#### Social

- "[How will people interact with each other](#) in the future? More online? More face-to-face? More global? Different devices?"



## Political

- “Will [government regulations](#) affect the way you do business? Are there changes coming that are relevant? If you do business internationally, how might relationships between countries affect the world?”

## Environmental

- “Are there [changes in the environment](#) such as climate change that may impact your product?”

## Economic

- “Are there [economic trends](#) such as inflation, low or high unemployment, shortages of skilled workers, the rise of crypto-currencies, or other things that are relevant to your product?”

## Make Assumptions about your Company

- “What are the [qualities that make your organization distinct](#) now? What are its unfair advantages over its competitors? How will those look in the future? What new things is your company investing in now? How might those look in the future? How will other future trends affect your organization?”

## Target Customers

- “Identify your customers and users. [Who will you be focused on in the future](#)? Identify the goals and activities they’ll use your product for. Create a lightweight proto-persona to build shared understanding about your users.”

## How to Approach a Vision

- “[There are three pieces if you think about it](#). So one is what I call empathize. The second is create. So we spend a lot of time talking about create, the middle piece. Another's evangelize. And so I empathize with the customer, the problem. I put myself in their shoes. I really get a visual understanding of what those problems are. I'll talk about it in a second the tactical way I have done that across Uber, Netflix, and Google in a way that scales. Then the create piece where it's okay, now we've solved this problem. What does the world look like? That's the vision we've just been talking about. And then finally, evangelize.”

## 1: Brainstorm (with your Team)

- “But yeah, and then [from there it's getting more people and then you can kind of iterate on it. It's like I had some vision of the future and someone points out something that is a little bit off with it or has a better idea. Then you move into co-creation](#). But I love that. It's like Pixar calls the brain trust. If you read how they come up with a Toy Story and Inside Out and all these things, is they have this group of people that just sits around riffing on ideas. And again, there's no judgment, there's no attachment to being right. They're in a co-creative sort of space where they're just like co-exploring and riffing with each other. And I love to be in that space with other PMs and engineers and data scientists.”

## Fall in Love with the Problem

- “Fall in love with the problem, not with the solution.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “The product vision needs to inspire. Remember that we need product teams of missionaries, not mercenaries. More than anything else, it is the product vision that will inspire missionary-like passion in the organization. Create something you can get excited about. You can make any product vision meaningful if you focus on how you genuinely help your users and customers.” - Marty Cagan (INSPIRED: How to Create Tech

Products Customers Love)

Disrupt (Create New Value)

- "Don't be afraid to disrupt yourselves because, if you don't, someone else will. So many companies focus their efforts on protecting what they have rather than constantly creating new value for their customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Embrace Trends (skate to where the puck is heading)

- "Determine and embrace relevant and meaningful trends. Too many companies ignore important trends for far too long. It is not very hard to identify the important trends. What's hard is to help the organization understand how those trends can be leveraged by your products to solve customer problems in new and better ways." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Skate to where the puck is heading, not to where it was. An important element to product vision is identifying the things that are changing—as well as the things that likely won't be changing—in the time frame of the product vision. Some product visions are wildly optimistic and unrealistic about how fast things will change, and others are far too conservative. This is usually the most difficult aspect of a good product vision." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The thing I try to remind myself is, [the AI models that you're using today are the worst AI models you will ever use for the rest of your life](#). And when you actually get that in your head, it's kind of wild... I was going to actually say the same thing, and that's the thing that always sticks with me when I watch this thing. You're talking about Sora, and I imagine many people hearing that are like, "No, no. It's not actually ready. It's not good enough. It's not going to be as good as a movie I see in the theater." But the point is what you just made that this is the worst it's going to be. It will only get better... Yeah, model maximalism. Just keep building for the capabilities that are almost there, and the model's going to catch up and be amazing... Skate to where the puck is going to be."
- "Yeah, build something people want, stay as close as possible to your customers, and [then I think the other thing is just always think about where things are going, not where they are today](#)."

2: Create (THIS IS WRITING THE VISION: if we solve this problem, what does the world look like?)

- "It's mainly a persuasive piece that might be in the form of a storyboard, a narrative such as a white paper, or a special type of prototype referred to as a visiontype. Its primary purpose is to communicate this vision and inspire the teams (and stakeholders, investors, partners—and, in many cases, prospective customers) to want to help make this vision a reality." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Once upon a time...

- "Once upon a time, the thing that happened, then one day... And you can actually put the date in 2026. And because of that and because of that... And I usually like to end it with, [and finally, this was the last thing you left the world with](#)."
- "So one of the very simplistic tools that I've used, and I use it as well right now at Google, when my team ships the product, I'll put the vision in there to remind what the vision was that they set out to do, right? And it's [once upon a time, write the problem and then write something and then write something, and then one day something happened. And as a result, the state of the world where we're trying to be](#). It's very simplistic, but in its simplicity of the magic because you are like, "I'm a PM, I'm trying to solve problems."

Once upon a time, where were we? Right? It's like what is the thing that we're trying to solve? So I'll give you a simplistic one. I know the team didn't do this for shorts, but the shorts team at YouTube. Once upon a time, YouTube was fun and people had cat videos and zoo and all of that. And then one day it became this really polished thing and a lot of people were producing really polished, very one hour content. And then because of that, a lot of people felt maybe I couldn't create because I can't tell a one-hour story. And because of that, people decided, okay, I'm just going to watch and consume and not create. And then one day, we launch shorts, 60 seconds, and because of that, anyone can now express themselves again and bring back the joy and magic of YouTube. So it's very simplistic. I'm just using that into the teams who built this. I know this is not your vision, I'm just giving it a story."

### 3: Test

- "You can do some amount of testing of the vision, but it's not the same as the testing of specific solutions we do in product discovery. In truth, buying into a vision is always a bit of a leap of faith. You likely don't know how, or even if, you'll be able to deliver on the vision. But remember you have several years to discover the solutions." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### 4: Evangelize (Share your Product Vision)

- "When done well, the product vision is one of our most effective recruiting tools, and it serves to motivate the people on your teams to come to work every day. Strong technology people are drawn to an inspiring vision—they want to work on something meaningful." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "You'll need to [communicate the guiding vision behind your product to everyone from the developers making it all work, to the marketers and salespeople selling the big picture benefits](#). And even though you're sharing the same essential vision to all groups, each group will need different details to do their work."
- "Its primary purpose is to communicate this vision and inspire the teams (and stakeholders, investors, partners—and, in many cases, prospective customers) to want to help make this vision a reality." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Evangelize continuously and relentlessly. There is no such thing as over-communicating when it comes to explaining and selling the vision. Especially in larger organizations, there is simply no escaping the need for near-constant evangelization. You'll find that people in all corners of the company will at random times get nervous or scared about something they see or hear. Quickly reassure them before their fear infects others." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### Create a Team of Missionaries, NOT Mercenaries

- "Mercenaries build whatever they're told to build. Missionaries are true believers in the vision and are committed to solving problems for their customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

### Create a Video

- [DropBox](#)
- [Asana](#)
- [Microsoft](#)
- [HP Safe City](#)
- [John Deere](#)
- [SpaceX](#)

Create a Google Meet Background: “How might we achieve {Vision} at {Company}?”

## **Product Mission**

Product Mission (*the purpose for why you’re achieving that Vision*)

We help people find jobs

We help people find books

We help people find information and knowledge

- “A company/[product mission defines the objectives, direction, and approach — we as a team need to take in order to achieve the end goal — that is the vision](#). A mission statement outlines our approach toward the end goal and how we are going to achieve the long-term vision. Missions are often short term and the roadmap will change as we get closer to the end vision.”
- “I think the first piece is that you absolutely need to have one, to start by saying that. Regardless of what level you are in the company. So people say, “Oh, I’m just a junior PM.” Whatever level, there is some micro macro vision that you need to have. Because essentially if you got on a plane and the pilot was like, “I don’t really know where we’re going, but I’m a really good pilot. The company needs to fly 400 flights this year. So I’m trying to make that happen, but trust me, we’ll get there. There might be turbulence, I’m not sure.” You probably would be thinking twice about staying on that flight, right? What happens is you get on there, it’s like, “Our destination is Miami.” Maybe I’m dreaming of beaches, “And it’s going to be 24 degrees when we get there.” And he always paints or she paints this image of the destination. And that’s the vision not to be confused with the mission, [which is we want to fly people where they’re going safely](#).”

Mission Examples: We help people get jobs.

- “...our long term plan is to build a wide range of models, including affordably priced family cars. This is because the overarching purpose of Tesla Motors (and the reason I am funding the company) is [to help expedite the move from a mine-and-burn hydrocarbon economy towards a solar electric economy](#), which I believe to be the primary, but not exclusive, sustainable solution.”
- “We strive to offer our customers [the lowest possible prices, the best available selection, and the utmost convenience](#).”
- “Drive [content-based decision-making by leveraging ML capabilities](#).”
- “On Tesla’s website their mission reads: [Tesla’s mission is to accelerate the world’s transition to sustainable energy](#).”

What is a Mission?

What is the purpose for why this product exists? Why do I work on this product? What drives me to work on this product? What is my passion? *It’s hard to build a product strategy if you’re not passionate about your mission.*

- “I guess for me, a couple of things have been helpful. [One is you mentioned earlier finding a mission that you’re really passionate about](#). I think it would be hard for me to come up with a strategy for improving the healthcare system. It’s like, sure, it’s important. I hope someone does it and figures out how to deal with HIPAA and whatever, all this stuff, but it’s just not for me. It’s not my purpose, mission and vision in life. And so step one is, am I working at a place and in a product area in which I have a tremendous amount of passion? Because for me, that is the fuel and the motivation that helps me break through to getting the strategy. That’s the first step.”

- “So that's where I feel enormously lucky because again, this [revolutionizing transportation and car ownership and what happens with autonomy and form factors and future of cities is something that I'm super excited about](#). I think about my daughters growing up and having a different world to live in that's safer and more environmentally friendly, all this stuff, and I get really jazzed when I think about, wow, the work I do could actually impact their future lives and other people. It's like, whoa, I can feel the chills right now. It's just super motivating. So that's the first place, just getting myself fired up.”
- “And one of our values at the time was making magic. So I met the word magic all the time, but so [mission: push a button, get a ride, transportation as reliable as running water](#). I used to be in Nigeria, that tagline did not scale because water was not that reliable in Nigeria. So they went for a slightly more inclusive version, which is reliable transport, sanitation everywhere and for everyone, right? So that's the mission. That doesn't really tell me what the image looks like when I get there, but that's like when I wake up every day, I'm like, "Why do I work in this company?" It's that: to make transportation reliable everywhere for everyone.”
- “[The mission is the purpose of why we're doing that](#). We're going to do this to demonstrate that we're able to do it and making sure that we both get there together. It's a very simplistic one, but I'm just giving... That's the purpose. We're doing it because we want to prove to ourselves that we can summit Mount Everest, which I will not be doing anytime soon, and we're doing it to prove to ourselves something that we can do it and we're capable, and we will do that by making sure that we look out for each other. Because you can get to Mount Everest and not have all the people with you, right? That's a team bonding challenge that I've done once upon a time. It's actually very, very, very intricate and interesting. So that's your vision. And then the mission is the purpose and some set of guiding principles as to what will allow you to achieve that vision.”
- “On Tesla’s website their mission reads: “Tesla’s mission is to accelerate the world’s transition to sustainable energy.” That definitely [tells us what Tesla’s purpose is, their reason to exist](#) – but reading it doesn’t help me, or any Tesla employee imagine what that future world might look like, or what kind of technology Tesla will be putting into that future world. The Tesla vision is in the stories Tesla’s founder and leaders tell. And, it’s not shared on their website. If you’re a product leader, you’ll need to get good at telling stories about a future with your product in it.”

## **Team Guiding Principles**

Team Guiding Principles (*that allow you to achieve that Vision*)

- "In many cases, the principles are simply a tool for the product teams." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Where the product vision describes the future you want to create, and the product strategy describes your path to achieving that vision, the product principles speak to the nature of the products you want to create." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Aligns with Product Vision

- "Product principles are not a list of features, and they are not tied to any one product release. The principles are aligned with the product vision for an entire product line. A good set of principles may inspire some product features, but it's more about what the



company and product teams believe is important." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Examples

- "As an example, early on at eBay we found we needed a product principle that spoke to the relationship between buyers and sellers. Most of the revenue came from sellers, so we had a strong incentive to find ways to please sellers, but we soon realized that the real reason sellers loved us was because we provided them with buyers. This realization led to a critical principle that stated, "In cases where the needs of the buyers and the sellers conflict, we will prioritize the needs of the buyer, because that's actually the most important thing we can do for sellers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- 1. Always play the infinite game (no pun intended : ) ).
  2. Great teams make great games. Great individuals do not necessarily make a great team.
  3. Hire slowly and always raise the bar.
  4. Stay as small as possible.
  5. Culture is the sum of everyone's actions, not a slide deck or something written on a wall.
  6. Replace control with trust.
  7. Don't let fear of failure guide what you do. Be bold and try new things!
  8. Resist the temptation to create processes and rules...even when you have made a mistake!
  9. Traditional goal setting does not work in our culture of independent cells.
  10. Write down your values and define your culture (and revise as you learn and evolve as a company).

Bonus learning: [The most important thing is that you enjoy the ride!](#)"
- ["Build Something People Want"](#)  
Marketing from Both Ends  
Sell the innovation, not the product"

## **Actions (Initiatives / Outcomes); the "What"**

Choose Initiatives / Levers / Outcomes (*Skate to where the puck is going*); Choose Large Problem(s) OR Existing Value-Adds (*that your customers love*) to Focus on:

— Which Goal (Ambition) can you make progress on today AND which Problems are making it harder to achieve that Goal OR which Value-Adds are making it easier to achieve that Goal?

- "...that these are ambitions, fine, let's accept them all, and which one can you actually make some progress on today? And what's making that hard? What are the challenges? So you're choosing a challenge. You're choosing, of the possible challenges you could face up to, you can't do them all. So there's a focus thing. You're choosing which challenge to focus on, and that challenge has to be, A, important, and, B, it has to be achievable. It has to be something that you can address. It has to be an addressable challenge. [And so the search for an action agenda... is this balance between problems that are important because they're close to your ambition and problems that you can](#)

actually address and do something about. And that overlap then becomes the choice you make. "Okay, we're going to go after this and here's the action steps we're going to take to do that." And if it's a big company, the action steps may extend over two or three years. Smaller companies took six months to a year. These are things we're going to do, not goals we're going to achieve. These are things we're going to do, action steps."

- "Strategy is about action, about doing something... The actions within the kernel of strategy should be coherent. That is, the resource deployments, policies, and maneuvers that are undertaken should be consistent and coordinated. The coordination of action provides the most basic source of leverage or advantage available in strategy."

#### 1: Work backwards from the Vision

- "I don't know of any other company that operates in this way, where the founder has this 100-year vision of where the product needs to go and working backwards from that. Can you just speak to that, of that way of operating, why you find that helpful, how that actually works? I talk about look in the future and then think backwards a lot. What would we want to have done 20 years ago on this, or 10 or 5 years ago? What's the decision our future selves would want us to make, is useful. I find future casting to be generally extremely valuable."

#### 2: REWORD THE PROBLEMS TO INITIATIVE NAMES (e.g: "I experience too much friction during checkout" can be named "Minimize checkout friction" - your actions will fall under these initiatives)

- "[GitHub Public Roadmap] Product Area Focus: Platform for collaboration at scale. Secure at every step. Accelerate with AI."
- "[ProdPad Public Roadmap] Product Area Focus: Make it personal. Foster collaboration. Minimize friction. Uncover the value. Tell the story."

#### YouTube Search Results Action Framework (Initiative Examples)

- Reward
- Raise
- Reduce
- Remove

#### 3: Define Coherent Actions [Initiatives / Levers / Creative Non-Obvious Solutions] (TIS or Technology Independent Solutions) - we are going to do X;

*the action should factor in the product strategy (guiding policy), your focus areas depending on your PMF level (demand, satisfaction, efficiency), reaching the aha! moment, the problem, the target user understanding, the market research (pushes, pulls), the diagnosis, and your insight (live in the future + inflection)*

—

*Actions will fall into 1 of 3 types:*

*1) Add Value for Target Customers (unsolved problems; acquire target customers)*

*in general a search engine is not solving the problem, but instead a tool that speeds up the time to value)*

*2) Reduce Time to Value (reduce friction to new value; retain target customers)*

*3) Scale Value - Add Value for Business (reduce costs, increase ROI, add value for business - in some cases because you've retained enough users);*

—

Actions != How; Actions == What (Solved Problems) (e.g: the problem is a user misspells something and we don't return any search results, therefore the action is "handle misspellings")

- "Good product strategy is cognizant of the importance of execution. Good product

strategy prompts org-wide decisions and action by [mapping the proposed product choices to a high-level action plan](#) and associated risks. Bad product strategy doesn't map the proposed choices to cohesive actions."

- "A strategy is "I have identified that our users are routinely abandoning cart upon checkout. This is due to the complexity of options available at checkout which is not something our competitors employ. To remediate this I propose... [to do Y number of simplification fixes](#), in order to obtain Z result. I will use the following KPI's to measure success..." That's the kind of stuff I want to see from my teams as a product leader."
- "And, sometimes, the product strategy is based on achieving a set of key milestones in some sort of logical and important order. For example, "First deliver critical rating and reviews functionality to developers building e-commerce applications; next, leverage the data generated from this use to create a database of consumer product sentiment; and then leverage these data for advanced product recommendations."" - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...[clarity of levers. Do you actually have an idea of how you would solve it? If you don't, it's going to be really difficult to move the needle on it because you should kind of know that, okay, I can imagine these solutions could actually move the needle](#). I can actually launch this sort of nudge system that can help people find things. I can recommend people. I can recommend friends so that people can form friends quicker on the platform. You should have a sense of how you would solve that particular space. Is there clarity on levers? That's the third dimension."

#### [Example Actions]

- "All in all, if you use Vim today, the chances are that most of what you want to do on a daily basis in the editor will work in Zed exactly as it does in Vim. [So now what? There are three areas of focus I'd like to push on in 2025 for Vim in Zed: Building out the non-editor user experience. Raising the bar on matching Vim edge-case-for-edge-case. Creating a new, better, multi-cursor Vim integration.](#)"
- "[GitHub Public Roadmap] [Product Area Focus: Platform for collaboration at scale. Secure at every step. Accelerate with AI.](#)"
- "[ProdPad Public Roadmap] [Product Area Focus: Make it personal. Foster collaboration. Minimize friction. Uncover the value. Tell the story.](#)"
- "[[Microsoft Copilot Public Roadmap](#)] Microsoft Viva: Viva Learning - Copilot in Viva Learning. Microsoft Viva: Viva Engage - Engage content surfacing in Copilot results. OneNote: Copilot on OneNote brings in notes from Video and Images (Android). OneNote: Summary and Q&A in OneNote Mobile with Copilot (Android). Outlook: Prioritize my inbox by Copilot. Microsoft Copilot (Microsoft 365): Copilot in Excel with Python for Mac. Microsoft Graph: Graph API - Copilot for Microsoft 365 usage. OneNote: Copilot on OneNote brings in notes from Video and Images (iPhone). Microsoft Copilot: Pinned chats. Microsoft Viva: Copilot Analytics - Custom agent Power BI report in Viva Insights analyst workbench. Microsoft Copilot (Microsoft 365): Copilot extensibility - Developers can use TypeSpec as an authoring experience. Microsoft Copilot (Microsoft 365): Copilot extensibility - Developers can build custom engine agents with the Microsoft 365 Agents SDK. Microsoft Copilot (Microsoft 365): Copilot Extensibility - Automatic project scaffolding in Teams Toolkit for building Graph connectors. Microsoft Copilot (Microsoft 365): Copilot extensibility - Ability to use the Graph connector selector when using Teams Toolkit. Microsoft Copilot (Microsoft 365): Copilot extensibility - Embedded Knowledge capability support for declarative agents..

Microsoft Copilot (Microsoft 365): Microsoft Copilot general availability for GCC.  
OneDrive: Convert Copilot response into a Word file.”

- “Considering Stephanie's guiding policy of serving the needs of the busy professional with little time to cook, she could see [the coherent actions that she needed to take: ... she could take space currently used for selling munchies to students and offer prepared high-quality take-home foods instead](#)... Having a guiding policy helped create actions that were coordinated and concentrated, focusing her efforts.”
- “Considering Stephanie's guiding policy of serving the needs of the busy professional with little time to cook, she could see [the coherent actions that she needed to take: the second checkout stand](#) would help handle the burst of traffic at 5 p.m. The busy professionals would appreciate adequate staffing after work and, perhaps, at lunchtime. Having a guiding policy helped create actions that were coordinated and concentrated, focusing her efforts.”
- “...a strategy, for instance, might be we want to capture new markets, and we’re going to do that by: [establishing a lite version of our product for low connectivity areas](#)...”
- “To gain ground with our speed-loving-yet-somewhat-disappointed users, the other half of our roadmap was focused here: [Developing a mobile app. Adding integrations. Improving attachment handling. Introducing calendaring features. Creating a unified inbox option. Making search better. Rolling out read receipts](#). To stack-rank amongst these initiatives, we used a very simple cost-impact analysis: we labeled each potential project as low/medium/high cost, and similarly low/medium/high impact. For the second half of the roadmap, addressing what held people back, the impact was clear from the number of requests any given improvement had. For the first half of the roadmap, doubling down on what people love, we had to intuit the impact. This is where "product instinct" comes in, and that's a function of experience and deeply empathizing with users.”
- “Action points: ... 3) reducing process delays involving the lack of control over driver production, by [developing a unified driver architecture \(UDA\)](#). All Nvidia chips would use the same downloadable driver software, making everything run more smoothly at all stages (for both Nvidia and its customers).”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to: ... [Update our marketing to reflect our new value proposition](#), and to create leads for the sales team instead of driving everything to in-app on-demand bookings. Each one of these actions alone, or in the hands of competitors, wouldn’t have done much good. Together, they built a machine that had a momentum of its own. There were a thousand more things that the team did to put the new strategy into action, but that gives you a flavor. Half the battle was being clear about what we were trying to do, and why, and pointing out that we were the only ones who could do it. The vast majority of the coherent actions that the team took didn’t come from Ben and I; they came from the team.”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to: ... [Design spaces that could be flipped between hourly and monthly bookings within a day to minimize dead time, and rework our launch and logistics processes to transform spaces in that day](#).”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to: ...[Change the way that access codes worked](#) so that monthly clients didn’t need to inform their teams of a new code every day...”

- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to: [Update our website and app to enable both hourly and monthly bookings on the frontend, with live prices and availability updated hourly](#). Redo our backend system - Backstage - to account for both hourly and monthly bookings...”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to: Update our website and app to enable both hourly and monthly bookings on the frontend, with live prices and availability updated hourly. [Redo our backend system - Backstage - to account for both hourly and monthly bookings...](#)”
- “Product Goal: Imagine your product is for an application owner, responsible for reporting on their app to the board. They just want to know how their app is performing and don’t have time to be overloaded with technical details. They’ve been frustrated by their app’s reliability and want real-time information, so they don’t get blindsided by outages. From these customer conversations, we’ve uncovered the product goal: [alert users if their app stops working.](#)”
- “To double down on what our very disappointed users loved, half of our roadmap was devoted to the following themes:... More design flourishes. In our feedback, we saw that users loved the design and its many small details, so we invested in [hundreds of small touches to show that we care. For example, typing “-->” now automatically turns into a right arrow: →](#). ... To stack-rank amongst these initiatives, we used a very simple cost-impact analysis: we labeled each potential project as low/medium/high cost, and similarly low/medium/high impact. For the second half of the roadmap, addressing what held people back, the impact was clear from the number of requests any given improvement had. For the first half of the roadmap, doubling down on what people love, we had to intuit the impact. This is where "product instinct" comes in, and that's a function of experience and deeply empathizing with users.”
- “For example, consider the people who search for “shoes” on an ecommerce site. If most of the successful searchers select a size at some point in their search journeys, then the search engine should [make size selection easy and obvious](#), e.g., by placing a size-selection widget in the search interface’s prime real estate.”
- “To double down on what our very disappointed users loved, half of our roadmap was devoted to the following themes: More speed. Superhuman was already extremely fast, but we worked to make it even faster. For example, the UI would respond within 100 ms, and search was faster than in Gmail. We pushed even further to [response times of less than 50 ms... to make search feel instantaneous](#)... To stack-rank amongst these initiatives, we used a very simple cost-impact analysis: we labeled each potential project as low/medium/high cost, and similarly low/medium/high impact. For the second half of the roadmap, addressing what held people back, the impact was clear from the number of requests any given improvement had. For the first half of the roadmap, doubling down on what people love, we had to intuit the impact. This is where "product instinct" comes in, and that's a function of experience and deeply empathizing with users.”
- “...our long term plan is to build a wide range of models, including affordably priced family cars... Critical to making that happen is an electric car without compromises, which is why the Tesla Roadster is designed to beat a gasoline sports car like a Porsche or Ferrari in a head to head showdown. Then, over and above that fact, it has twice the energy efficiency of a Prius... Almost any new technology initially has high unit cost



before it can be optimized and this is no less true for electric cars. The strategy of Tesla is to enter at the high end of the market, where customers are prepared to pay a premium, and then drive down market as fast as possible to higher unit volume and lower prices with each successive model... the second model will be a sporty four door family car at roughly half the \$89k price point of the Tesla Roadster and the third model will be even more affordable. In keeping with a fast growing technology company, all free cash flow is plowed back into R&D to drive down the costs and bring the follow on products to market as fast as possible. When someone buys the Tesla Roadster sports car, they are actually helping pay for development of the low cost family car. If you travel less than 350 miles per week, you will therefore be “energy positive” with respect to your personal transportation. This is a step beyond conserving or even nullifying your use of energy for transport – you will actually be putting more energy back into the system than you consume in transportation! So, in short, the master plan is: [1\) Build sports car](#) [2\) Use that money to build an affordable car](#) [3\) Use that money to build an even more affordable car](#) [4\) While doing above, also provide zero emission electric power generation options](#)”

- “Action points: 1) The [establishment of three separate development teams...](#)”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to: ... [Retrain our BD team to sell monthly spaces and trust the data science team’s pricing when selling](#), and re-orient their quotas around month+ sales targets... Retrain our operations team to clean and maintain both hourly and monthly bookings... Train our customer care team to work differently with hourly and monthly clients.”
- “Action points: ... 2) reducing the chance of delays in production/design by [investing heavily in specific design simulation processes...](#)”
- “To give you an example from the first company I worked on was a game company, where I actually flipped it and basically instead of making a traditional funnel where they could play our games after they signed up, I made our games the advertisements. So basically we [syndicated our games to 40,000 websites](#). They started gameplay experience on the other website, then they would get a message that they now have a qualifying score and if they register, they'll be in the drawing for the weekly cash prize and then we could pull them into multiplayer games on the site.”
- “They're probably a little skeptical about a promise that you put out there, but they're intrigued enough to want to use it. But [until you get them to that must-have experience, until you kind of get them to that aha moment, they're at their high risk of being lost.](#)”
- “...a strategy, for instance, might be we want to capture new markets, and we’re going to do that by:... we’re going to [invest in an automated internationalization engine](#) because we can’t do that manually, and we’re going to ensure that all new features are developed in a global first way and that will limit the total number of features that we can do but that’s important for capturing new markets...”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to: [Update our pricing models to dynamically price spaces both hourly and monthly...](#)”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to:... [Source new furniture from overseas](#) and design some of our own to facilitate that switching...”
- “Actually pulling that off was insanely difficult and required intense execution from the team. As just a few examples, we needed to:... Source new furniture from overseas and

[design some of our own](#) to facilitate that switching...”

[Action Ideation]

Explain Trade-offs (what we’re NOT focused on and why - what’s behind the 3-5 problems); anything that is a Problem but NOT within the top 3-5 Problems we’re focused on

- “Good product strategy [highlights trade-offs and lays out the rationale for said trade-offs](#). Bad product strategy eschews trade-offs and tries to be “all things to all people”.”

1) the “What” Ideation;

the INTERSECTION between User-Centric AND Technology-Led IDEAS

- “Even though we understood why users loved our product, and what held others back, it wasn’t initially clear how we were going to navigate the tension between the two when it came to committing to a product roadmap. I eventually came to this realization: If you only double down on what users love, your product/market fit score won’t increase. If you only address what holds users back, your competition will likely overtake you. This insight guided our product planning process, [effectively writing our roadmap for us](#).”
- “[With a clear understanding of our main benefit and the missing features, all we had to do was funnel these insights back into how we were building Superhuman](#). Implementing this segmented feedback would help the somewhat disappointed users get off the fence and move into the territory of enthusiastic advocates.”
- “...the other part is that when I was in Japan they'd talk about this aspect of the technology agnostic requirements from the consumer, and I kept going I have no idea what that means, and they would say like [I want to know what the customer really wants without talking about the product or the solution](#)...”
- “And then the most important part of a strategy, the part that it's so easy to leave out because people like to think of strategy as this high level conceptual thing, is the coherent action. [You have to do something](#). And what you do has to be coherent in several ways. The first way is it has to deal with the problem or the diagnosis and the guiding policy, it has to implement. It has to be coherent in that you shouldn't do things that fight each other. You shouldn't say, "Oh, we are going to burn less oil and at the same time we're going to import more oil." ... And so having coherent actions, actions that don't nullify one another is an important part of strategy.”
- “Prompt: "Suppose you absolutely had to accomplish [guiding policy] within the next [aggressive timeline] or everything would collapse. [What would you do then?](#)”
- “Every startup has limited resources. It can only spend so much money, hire so many people, and take so many actions before the money runs out. [A good diagnosis and guiding policy channels and coordinates those limited actions so that they can compound on each other](#).”
- “When product managers, designers, and software engineers work together from the very beginning, [they make better decisions about what to build](#). They make decisions that work for the business, that are usable and desirable by the customer, and that are feasible to build in the designated time.”
- “A product trio is a subset of a cross-functional product team who is responsible for leading the product discovery process (i.e. [the work in deciding what to build](#)) that the full cross-functional team is responsible for building.”
- “What do we mean by discovery? Discovery is the work that we do to decide [what to build](#).”
- “...we might disagree [on what](#) we think the customer wants or needs. The good thing about these types of disagreements is that we can quickly resolve them by testing our

differences.”

- “While I’ve met many engineers who don’t want to do discovery, I’ve rarely met an engineer who didn’t have an opinion about [what the team should be building](#).”
- “Bear in mind, there is a difference between “What are all the things I can build to drive progress toward my goal?” and “[What is the best thing I can build](#) to drive progress toward my goal?” At this point, we are focusing on a single idea.”

HMW (How Might We...?) (Bring this question to PD, EM and other stakeholders to Brainstorm Solutions)

- “The problem statement should follow the [‘How might we...’ \(HMW\) format](#) and be based on actual user research findings, data driven themes or insights. The HMW format allows the team to both understand that there is a problem to solve and also helps to start the discussion that will frame their potential solution. Examples: ‘How might we help the garden flowers to grow faster?’; ‘How might we increase the lifespan of the garden flowers?’”
- “A kick-off meeting is a good time to get the design cogs churning. Try to understand the existing or expected product's process/journey. Set ground rules early, this is critical to an accessible product, don’t accept “we will come back to it” because teams never do... [Define the devices, software and hardware the customers use, include users who have an impediment whether that be physical or mental](#). Then take these guidelines and ensure every developer and tester task has it as a checklist to pass.”
- “This phrase, [“How might we”, is actually really powerful as a way to come up with ideas to solve problems](#). It's just like, how might we increase discoverability in our app? How might we improve relevance? There's something magical about that phrasing that it opens up your mind to, how might we? Let's think about it. Versus like, how do we improve discovery? That's a different, your brain works differently hearing this. That is a really powerful phrasing. Just wanted to highlight that.”

A) User-Centric Approach (use Inflections)

- ChatGPT: “What would make the experience seamless for the user? Example: A filter or sorting mechanism for document types directly on the results page.”
- ChatGPT: “HMW make it easier to find documents by file type?”
- ChatGPT: “Examples of User-Centric What: Display trust signals (e.g., user reviews, verified authorship). Introduce visual indicators (e.g., document type icons next to each result).”
- LennyBot: “Start by deeply understanding your users' needs and pain points. Conduct interviews, surveys, and observe user behavior. The goal is to uncover unmet needs or inefficiencies in their current solutions. For example, when Airbnb was expanding, we focused on understanding what hosts and guests really needed, which led to features like Instant Book. Always ask: What job is the user hiring your product to do?”
- LennyBot: “Slack is a classic example. They focused on building a product that users loved, rather than catering to enterprise buyers. By creating a seamless, intuitive communication tool, they empowered teams to adopt Slack organically. This user-first strategy led to widespread adoption across organizations, eventually forcing enterprise buyers to purchase Slack because their teams were already using it.”
- ChatGPT: “Problem: Users struggle to find recent, high-quality academic papers in search results. Solution (“What”): Introduce a filter by publication date and display metadata (e.g., journal name, publication year) prominently in search snippets.”
- ChatGPT: “User Problem: Users struggled to find content they wanted to watch in a vast

library. Solution ("What"): Netflix created a personalized recommendation engine to suggest shows and movies based on viewing history and preferences."

#### Painstorming

- ChatGPT: "Painstorming: List every pain point a user might experience in your product. Pain: "It's hard to differentiate a helpful spreadsheet from a useless one based on the title alone." What: Add snippet previews showing the first few rows of a spreadsheet."

#### B) Technology-Led Approach (use Inflections)

- ChatGPT: "What capabilities does your tech stack offer? Example: Using embeddings to surface documents similar to the user's past preferences."
- ChatGPT: "Leverage the capabilities of your tech stack to unlock innovative solutions."
- ChatGPT: "Start from what the tech can do and work backward to user problems: "Our engine can rank by metadata richness. How can that improve search?""
- ChatGPT: "Examples of Technology-Led What: Deploy embeddings for semantic similarity to cluster documents by intent. Implement auto-suggestions using a transformer model to refine ambiguous queries. Build a document summarizer for PDFs using generative AI."
- LennyBot: "Here, the idea generation is driven by new technological capabilities. Keep an eye on emerging tech trends and think about how they can solve existing problems or create new opportunities. For instance, with the rise of AI, companies like Jasper are using it to transform content creation. Ask yourself: What can this technology enable that wasn't possible before?"
- LennyBot: "Jasper, an AI-driven content creation platform, leverages cutting-edge AI technology to revolutionize how content is generated. By harnessing the power of AI, Jasper enables users to create high-quality content at scale, something that wasn't feasible before. This approach not only solves existing challenges but also opens up new possibilities in the content creation space."
- ChatGPT: "Tech Analysis: The search engine has access to embeddings-based ranking and clustering capabilities, enabling semantic understanding of queries and document relationships. Solution ("What"): Implement dynamic query suggestions based on embeddings and create clustered results sections in the search page (e.g., "Templates", "Case Studies", etc.)."

#### Understand Your Current Tech Stack

- ChatGPT: "Learn what your backend and algorithms can do. Example: Your search engine uses embeddings to analyze semantic meaning—this could enable improved query understanding."
- ChatGPT: "Follow emerging technologies like large language models, vector search, or hybrid ranking systems. Example: Multimodal search combining text and image inputs."

#### Collaborate w/ Engineers and Data Scientists

- ChatGPT: "Ask open-ended questions about potential applications: "What can our ranking models surface beyond relevance to boost engagement?""

#### 2) Brainstorming Techniques

##### IF Brainstorming New Ideas:

##### Crazy Eights (Idea Eight) Workshop

- "Use Crazy Eights to [get ideas flowing - quickly. By restricting how much time you spend crafting each idea](#), you encourage attendees to think on the fly and throw logic and reason (the enemies of creativity) to the wind. The result? A whole heap of ridiculous ideas, and one or two that just might triumph."

- “This tactic generates a lot of ideas, quickly. [Eight 'out there' ideas in eight minutes!](#) Sometimes, to be truly creative, our brains need structure and rules. By restricting space and time, but letting everyone know that anything goes - this tactic forces ideas out, fast. It's far less painful than it sounds.”
- “[How to run a Idea Eight workshop](#) 1. Get everyone to take a piece of paper and fold it three times to make a grid of eight rectangles. 2. Make sure everyone understands the problem that you are solving. This can be in the form of a How Might We... question. 3. Have a timer ready and explain that everyone will have one minute per crazy idea (one idea per box). Ideas can be written or drawn. 4. Start the timer and encourage the group to move to the next idea as each minute as it passes. The pace might feel uncomfortable, but that's the point! 5. At the end of the eight minutes, ask each person to talk through their ideas. Encourage the group to steal each other's ideas for the next step. 6. Do the exercise again, or ask the group to put their top two or three ideas into the T-Bar Format. 7. Ask each participant to present their final ideas to the group.”

#### Reverse Brainstorm Workshop

- “A one-hour Reverse Brainstorm tactic [turns catastrophic thinking into a distinct advantage](#). Allow your team to really let loose with this one, coming up with ways to overcome the most atrocious obstacles to your project's success. Even those who think they lack the creative streak to generate great ideas are able to think of ways to make something worse, so this can be a great approach to build your team members' confidence in their own abilities. It starts off with the absurd, but with a little bit of work you end with the ingenious.”
- “This workshop tactic allows you to [come up with solutions to the worst, most despicable things that could derail your project](#). This exercise leads to absurd suggestions, which can give you ground-breaking solutions when reversed.”
- “[How to run a Reverse Brainstorm workshop](#) 1. Identify and write down your problem or How Might We... question on a large surface so it's clear for everyone to see. 2. Reverse the problem, for example: Problem: How might we increase customer satisfaction? Anti-problem: How might we increase customer dissatisfaction? 3. Run Idea Eight to generate ideas for the anti-problem. 4. After sharing the ideas, collect them and randomly distribute the anti-ideas back amongst the group. 5. Ask the group to reverse the ideas they've been given. These will now become real solutions for the actual problem. For example: Anti-solution: Not returning customer calls immediately upon a call request. Real solution: Returning customer calls immediately upon a call request. 6. Do it again to gather even more ideas, or evaluate what you've got with Rose, Thorn, Bud.”

#### IF Developing Existing Ideas:

##### Round Robin Workshop

- “Use Round Robin to help you [develop partially formed ideas into something a little more polished](#). An added bonus of this approach is that you end up with a different evolution of the original idea for every member of the workshop, which can lead to some very interesting discussions, and plenty of material for further development.”
- “This workshop tactic [helps you develop your teammates' ideas quickly](#). For example, when you already have a rough outline of an idea, but you're ready for it to evolve into something more robust. Thinking of what the next 'version' of the idea is will help you progress towards a fully formed solution. Collaboration doesn't get more ruthlessly efficient than this.”
- “[How to run a Round Robin workshop](#) 1. Give each person a large sheet of paper. Ask



them to fold their piece of paper so that it is divided into four equal sections. 2. With the paper in portrait, ask the group to write the name of their idea and the problem it solves at the top. 3. Give them five minutes to draw their idea in the top left box with enough detail that someone can understand it without explanation. 4. Afterwards, instruct everyone to pass their paper to the person on their left. 5. The next person should look at the previous idea and develop it further, drawing their version in the next section of the paper. Additionally, they can include a statement about why the previous idea would fail. 6. Carry on doing this until all the sections of the paper are full. 7. Put the final ideas into a T-Bar Format and present them back to the group. 8. Decide which ideas to evaluate with Secret Vote. If you have a lot of ideas, consider prioritizing them with Impact Effort Map.”

#### Storyboard Workshop

- “If you want to create a clearer picture of how your ideas might look and work in the real world, try a Storyboard workshop. This workshop takes up to two hours to complete and [examines the user journey in detail, allowing you to examine what will work, what won't and whether or not it can be streamlined in any way](#). It might take a bit longer than some of the other approaches on this list, but it's worth it when you create a solid plan out of your crazy idea.”
- “This workshop tactic gets you to [draw your idea as a sequence of moments and real-world interactions so you can better understand how it works](#). Story time: one day, a team had a cool new idea. But it was so hard to explain - in fact, it still wasn't entirely clear to them! So they grabbed Workshop Tactics to figure out the best approach. Before long, the answer emerged and they all knew what they had to do. They got to work, and sketched a storyboard to put their idea in context and get everyone on-side. It worked a treat! The team and their new-found supporters were ready to start making progress in no time.”
- “[How to run a Storyboard workshop](#) 1. Consider the minimum amount of frames you need to communicate your idea. To do this, plot out the key steps in the user's journey. For example: 1) opens Workshop Tactics; 2) reads the Workshop Strategy card; 3) picks a tactic; 4) runs a successful workshop. 2. Once you have your key steps plotted out, start sketching out the scene of the first step. 3. When you're done, it can be helpful to write a few words to describe each frame. 4. Evaluate your idea, as a group, by asking: Does it make sense? What could be improved? What isn't needed? What's missing? 5. Alternatively, you can use Rose, Thorn, Bud or Idea Beetle to evaluate your storyboard.”

#### IF Evaluating Ideas:

##### Idea Beetle (Good for Startup Ideas or BIG Projects)

- “This workshop [helps you evaluate if your idea is strong and has 'legs', or if it needs more thinking](#). You might think you have a really good idea, but by evaluating it against a set of questions, you can quickly test its robustness.”
- “[How to run an Idea Beetle workshop](#)
  1. Draw the Idea Beetle on a large surface:
  2. In the head, write the name of the idea. In the body, describe the idea.
  3. For each leg, write the answer to either or both sets of questions:
    - a) Who is it for, and how does it help them?
    - b) What makes it different to what already exists?
    - c) What happens to the idea if you reverse it?
    - d) How could you grow this idea?
    - e) Why would people use this again and again?

f) How would explain it clearly in one sentence?

— — — —

- a) Is the concept of the idea simple?
- b) Is the idea unexpected?
- c) Is the idea concrete? Can you visualize it in your head?
- d) Is the idea credible, and is there enough detail?
- e) Is the idea emotional? What does it make people feel?
- f) Is there a story? How do you tell others about the idea?"

Rose, Thorn, Bud

- “This tactic [allows you to thoroughly evaluate an idea, project or process, identifying positives, negatives and opportunities](#). Evaluate something as a group in order to find out what you really love about it, what might not be working and how to improve it.”
  - “[How to run a Rose, Thorn, Bud workshop](#)
    1. Select and agree on the thing you want to evaluate. For example: a design, a project, an idea, a service, your life choices, the movie you just saw.
    2. Write a short description or find a suitable image of the thing.
    3. Put it on the wall so everyone can see it clearly.
    4. Explain the sticky note colour system:
      - Rose: red sticky notes (positive aspects of the thing)
      - Thorn: yellow sticky notes (negative aspects, or things to watch out for)
      - Bud: green sticky notes (potential opportunities to grow the idea)
    5. Using this system, ask your group to write as many points as they can within a time limit.
    6. Theme Sort the sticky notes and take it in turns to discuss each person’s point.”
- 3) Break the “Action” down so you can test your “Key Hypothesis” in days NOT weeks (little by little)
- “Speed... What it really looks like is you have some rough time budget for how long you think something's going to take, and by the time 10% of it has passed, you have a workable solution. It's not like, "Oh, at the halfway point, we have something that is maybe a candidate that we can play around with." It's like, no, no, no. After week one you have something that works that tests some kind of key hypothesis internally so that you can feel like is this thing actually panning out the way we expect it to or did we have some crazy incorrect assumption? And you don't want to wait until you're 80% done to be able to make that kind of judgment because then it's just too late. Then you're pushing deadlines out, and you're making your marketing team very sad. Amazing. Okay, so the way you think is, "[We're going to spend a month on this feature. Let's get something workable. We can start testing with potential users even internally in the first few days, essentially in the first week"? Yes. Yeah.”](#)

Define the testing plan, e.g: Concept Testing (User Interviews), Prototype (Usability Testing; Employee Dogfooding), Discovery A/B Test (1%), Scaled A/B Test (50%), Scaled at 100%

## **for New Solutions (Value-Add)**

for New Solutions (Value-Add / New Value)

How can you collect inputs (data) that nobody else has? This is a goldmine!

Insight = the What;

Replace a False First Principle w/ a New First Principle; e.g.: *we are going to reduce the cost of components needed to launch a rocket*

the Value is created from *this* Insight;

Proposes your New Value Proposition Truth; THE CHEAT CODES TO THE UNIVERSE

- “So one of the things that I learned is that if you have the right insight, and we'll get to some of this, you have a first mover advantage into the future. And so a lot of times your first implementation won't be right, but if your insight is correct, you can navigate the implementation to the right implementation to get product market fit.”
  - “Yeah, so unlike an inflection, an insight does come from the founders. An insight, I like to say, is a non-obvious truth about how one or more inflections can be harnessed to change people's behavior.”
  - “And so, great startups happen when a subset of people in this world buy into the founder's insight, and then move with them to co-create that future. And then, eventually, what was a heresy becomes the conventional wisdom as more and more people start to realize the advantage of it.”
  - “That's right, and in the early days of product market fit, I like to say we want to answer a very simple but profound question: What can we uniquely offer that people are desperate for? And if we have an insight, that makes us unique. Now, if a customer doesn't like your idea, a couple of things could be true. One is, your insight could be wrong. If your insight's wrong, you don't have a startup, you should just stop. The other thing, though, that could be true is, your implementation is wrong. So you had the right insight.”
  - “And there are people who do a good job of this, like Maddie Hall who started Living Carbon. She was working at Zenefit and at first she tried to think of a startup and she had ideas that weren't that good. She had a laser tag idea and a few other things. But then she decided to go follow Sam Altman for a year to be his chief of staff. And Sam Altman visits the future multiple times a day with people. And so that's what led her to this idea that for Living Carbon, which does genetically modified trees. I mean, it couldn't be farther away from Zenefit, right? But she saw Microsoft was about to spend a lot of money, a bunch of other companies about to spend a lot of money on carbon takeout. She saw that the genetic engineering technology was getting good enough that you could engineer these trees. She married the inflections with the need and then off she went. But she was basically sampling a lot of different futures until she found one that she liked.”
  - “I'd mentioned that you want to escape the comparison trap when you have your insight and when you have your idea, in creating movements and telling stories, you want to break free from the conformity trap.”
- 0) **Note to self:** you know when you think “I wonder if other people experience this? Or have this feeling?” **the answer is likely yes**, and if that “thing” is some sort of problem, **then you may be onto a startup idea**
- “More generally, try asking yourself whether there's something unusual about you that makes your needs different from most other people's. You're probably not the only one. It's especially good if you're different in a way people will increasingly be.”
  - “The way to get new ideas is to notice anomalies: what seems strange, or missing, or broken? You can see anomalies in everyday life (much of standup comedy is based on this), but the best place to look for them is at the frontiers of knowledge. Knowledge grows fractally. From a distance its edges look smooth, but when you learn enough to get

close to one, you'll notice it's full of gaps. These gaps will seem obvious; it will seem inexplicable that no one has tried x or wondered about y. In the best case, exploring such gaps yields whole new fractal buds."

- "When you find the right sort of problem, you should probably be able to describe it as obvious, at least to you. When we started Viaweb, all the online stores were built by hand, by web designers making individual HTML pages. It was obvious to us as programmers that these sites would have to be generated by software. Which means, strangely enough, that coming up with startup ideas is a question of seeing the obvious. That suggests how weird this process is: you're trying to see things that are obvious, and yet that you hadn't seen."

1) An Inflection is Happening: a point in time where something new gets introduced that creates new empowerment for the 1st time possible;

comes from the world around you

Inflections == NEW ADOPTIONS IN THE MARKET (e.g: adoption of smartphones, ride sharing, and streaming platforms over established market alternatives); *AND Inflections == saying "powered by..." such as this product gets its power from AI, OR iPhone location technology, OR this regulation;*

- "The verb you want to be using with respect to startup ideas is not "think up" but "notice." At YC we call ideas that grow naturally out of the founders' own experiences "organic" startup ideas. The most successful startups almost all begin this way."
- "So in the example that we gave earlier with Lyft, the inflection was the iPhone 4S, insight was, oh, that means you could do Airbnb for cars. And so, you had to have some type of a creative insight to see that. Now, what was non-obvious about it, or non-consensus about it, who's going to want to get in a stranger's car? That's crazy, right? And thank God ... I mean, if there's one piece of goodness about us passing on air bed and breakfast design, Anne and I were like, man, nobody's going to want to stay in a stranger's house, that's crazy. And at the time, air bed and breakfast, the host of the guest stayed in the house at the same time, and the host would feed Pop-Tarts or something like that to the guest the next morning. This is right around the time of the Craigslist killings and stuff, where this is just scary and kind of crazy, couchsurfing as a service. But by the time we saw what was Zimride at the time, what became Lyft, Anne and I were much more prepared to believe that insight than we would've been because we'd foolishly passed on Airbnb. So that's a really important aspect of insights. So the insight needs to leverage inflections, but this is the subtle part, it needs to be non-consensus and right, not just right."
- "So in the world of opportunities, if you're right and consensus, you still don't do that well. And an idea that is right but consensus has a couple problems to it. One is, if it's consensus, it's probably not radical enough. Because when you think about it, human beings are conditioned to like things, and so, if everybody likes your startup idea, it means it's too similar to what they already know, what they're familiar with, which means it's probably too similar to the consensus, it's too similar to the incumbents..."
- "...and so, the best startup ideas have this trait where most people don't like it or are even hostile to it, or just kind of meh about it. But some subset of people are just like, where have you been all my life? This is amazing, I love this. They fall irrationally in love with the idea. And so, most of the great startups that I've seen have that attribute to them, and the reason is that a great startup, unlike a conventional company that proposes the future as an extension of the present. "

- “And this is the hard part about being non-consensus and right is, [you don't know for sure that you're right at first, you only know that you're non-consensus](#). And so, you have to be willing to risk being wrong to be spectacularly right. And so, what you're trying to do, though, is pursue opportunities where the odds are massively in your favor.”
- “An [inflection](#) is an external event that creates the potential for radical change in how people think, feel, and act. Inflections happen external to any startup or any company for that matter.”
- “An inflection, I'm a little persnickety about, [it's a turning point](#). And so in math, it's a turning point on a curve where the slope changes. But in tech startups, it's a point in time where something new gets introduced that creates new empowerment for the first time possible. And so when people talk about timing and why now? Inflections for me were the unlock.”
- “Dynamics are [waves of change that roll through an industry](#). They are the net result of a myriad of shifts and advances in technology, cost, competition, politics, and buyer perceptions. Such waves of change are largely exogenous – that is, beyond the control of any one organization. If you can see them coming, they are like an earthquake that creates new high ground and levels what had previously been high ground, leaving behind new sources of advantage for you to exploit.”
- “You develop an early market by demonstrating a strong technology advantage and converting it to product credibility, and you develop a mainstream market by demonstrating a market leadership advantage and converting it to company credibility.” - Geoffrey Moore (Crossing the Chasm)
- “If you look at the way successful founders have had their ideas, [it's generally the result of some external stimulus hitting a prepared mind. Bill Gates and Paul Allen hear about the Altair and think "I bet we could write a Basic interpreter for it."](#) Drew Houston realizes he's forgotten his USB stick and thinks "I really need to make my files live online." Lots of people heard about the Altair. Lots forgot USB sticks. The reason those stimuli caused those founders to start companies was that their experiences had prepared them to notice the opportunities they represented.”

#### Inflection Validation

- “...one of the things I emphasize in the book is [stress tests](#). So it's funny, founders never really come to me and say, "Hey, can you help me come up with a good idea?" They would think they're weak sauce if they had to do that, right? So usually what's the more common occurrence is they'll say, "I've got this idea, what do you think about it?" And so what I can say to them is, "It's not my place to have an opinion, but let me just ask you, does it embody one or more inflections?" And if it does, there's a few we could stress test that we can say, "What is the specific new thing that was just introduced? How does it empower people? How does it specifically empower specific people in specific ways? And under what conditions might that empowerment be realized? And under what conditions might it not be?" Because nuclear power has existed for a long, long time, but we haven't built any new nuclear power plants in 50 years. And so just because you have a power doesn't mean it's going to get used. It could get regulated out of existence. Customers could decide they don't want it. And so we want to answer all three things. What's the specific new thing? What is the specific form of empowerment it offers and to who? And under what are the empowerment conditions?”

#### 1: What specific new thing (inflection) was introduced?

- “...[the inflection was the new thing](#) was the iPhone 4s with the GPS chip...”



- “When the laws were changed because of shelter-in-place for telemedicine visits, it used to be illegal to do a telemedicine visit across state lines. But now all of a sudden with COVID and shelter-at-place, not only was it made legal, but it could even be reimbursed by the healthcare system. And so [that's an inflection](#)...”
- 2: What is the inflection’s specific form of empowerment?
- “...that's an inflection because [it empowers patients to access more doctors, and it empowers doctors to access more patients, and it also changes the delivery mechanism in an empowering way](#). In no event was that a technology change, that was a regulatory change that allowed technology to be empowering in new ways, but it was a specific new thing that meets that condition. It empowered specific people in specific ways, and there was a new set of empowerment conditions that ended up being made.”
  - “...[the empowerment was you can locate anyone within one meter accuracy](#) with an algorithm, and that's going to be pretty much anybody with a smartphone. And that's a lot of people...”
- 3: What are the inflection’s empowerment conditions that need to be met?
- “...in order for this to be met, [people are going to have to want to share their location information with applications. The government's going to have to not outlaw GPS chips and phones. Apple's going to have to keep wanting to ship GPS chips and phones](#). And we felt like those were pretty reasonable bets. We felt like it's pretty likely those empowerment condition will be met.”
  - “And [one of the things that we would ask at the time was, once COVID and shelter-at-place goes away, are they going to revert back to the old laws? And if they did, that would've been a problem](#). And so that would be the empowerment condition...”

#### Inflection Types

Regulatory Inflections; E.g: Deregulation, Covid Laws (Shelter-in-Place)

- “Here are five 'guideposts' to read the shifting dynamics of an industry:.. [Deregulation](#): this can enable previously stretched competitors to become more involved with profit-making.”
- “I would argue that here we are doing a podcast on a video platform, even though it's not Zoom, I would say that Zoom was another example. The [idea of people working from home a reasonable number of days a week is a permanent condition](#), I think is another inflection that happened with COVID.”
- “When the laws were changed because of shelter-in-place for telemedicine visits, it used to be illegal to do a telemedicine visit across state lines. But [now all of a sudden with COVID and shelter-at-place, not only was it made legal, but it could even be reimbursed by the healthcare system](#). And so that's an inflection because it empowers patients to access more doctors, and it empowers doctors to access more patients, and it also changes the delivery mechanism in an empowering way. In no event was that a technology change, that was a regulatory change that allowed technology to be empowering in new ways, but it was a specific new thing that meets that condition. It empowered specific people in specific ways, and there was a new set of empowerment conditions that ended up being made. And one of the things that we would ask at the time was, once COVID and shelter-at-place goes away, are they going to revert back to the old laws? And if they did, that would've been a problem. And so that would be the empowerment condition, but it's a fairly robust way of stress testing any inflection, right? Is to ask those three or four questions.”

Technology Inflections; E.g: Existing Technology (GPS Locator Chips in Smartphones) or

Changes in Technology (Traditional Pistons replaced by Jet Engines, Camera Quality increasing on Smartphones)

- “One thing I love about inflections, and this kind of goes really old school, is [just because you have a power doesn't mean you know how to use it, right?](#) So the wheel was mounted horizontally for 500 years before somebody mounted it vertically. So originally people used the wheel to make pots, and that was a good innovation because it accelerated making pots, but then somebody decides to mount it vertically, and now you're propelling wagons and you just change transportation entirely.”
- “And so most people don't realize that [the thing that's underneath us or the thing that's in our hands or the thing that's in our pocket](#) might have a power that when unleashed could change the future.”
- “Like Michael Saylor, once I was talking to him and he said, [the Romans could have invented the printing press a lot earlier](#). They had sandals that would make marks in the mud. You could have, in theory, drawn the connection between those marks in the mud and the ability to have movable type and letterpress, but nobody did. And so quite often these inflections, they'll just go unrecognized for a while, but they're always there. They're always there. They're there right now. In the ambient atmosphere, there's somebody about to harness an inflection that most of us would just walk right by and never see.”
- “Here's the other thing that's hilarious about Airbnb, so they do this thing because they can't pay their rent. They [put up this WordPress site to pay for their rent](#) because there's a design conference in San Francisco. In the meantime, they're brainstorming startup ideas, so they wanted to do a startup together, but it never occurred to them at first that air bed and breakfast was the startup idea. They're like, we just need to use that to make money so we can go do a real startup. And so, that's the irony, too, is that, you look back on it and almost smile at the fact that they didn't know what they even had at first, it was almost an accident.”
- “In the takeoff phase, let's say you've launched a product, you've gotten customer traction, now you're in a phase where there's just very rapid growth, probably other entrants like you, what are you facing? What you're facing is remember [that underneath all of this is a change in technology. That's what made the product market fit possible in the first place](#). But that doesn't just stop. That if you're in a technology wave, often there are all kinds of offshoots both for you and the compliments to your business and everything else going on at the same time. And to win at that stability phase, which is really a market share win, you have to be aware of those and understand, okay, we have to incorporate this new feature. Or maybe now things have gotten to the point where this new market segment is, our product is attractive before it wasn't. This is meat and potato stuff for somebody at that level and it may well be the decisive element in terms of whether you win that market share battle with the other contenders.”
- “Here are five 'guideposts' to read the shifting dynamics of an industry:.. [Raise fixed costs](#): the simplest form of transition is triggered by a substantial increase in fixed costs, such as when traditional pistons were replaced by more advanced jet engines, which leaves but a few competitors left able to pay for the added cost.”
- “The dynamics of change are important to consider when formulating strategy. [Sensing waves of change in society, or in a given industry, is crucial](#). As computer technology progressed in the 20th century, the focus shifted from interconnected individual computer systems—that were made and maintained by companies like IBM and DEC who

specialized in integrated systems—to a series of component parts driven by the microprocessor. Now each part was 'smarter', and didn't require expertise of holistic integration. The industry had shifted, and IBM had to readjust.”

- “So we've brought up Lyft a little bit ago, so maybe we'll use them as an example. So [the inflection that enabled Lyft was the iPhone 4s shipped with a GPS locator chip](#)... You could have had the idea for ride-sharing before the iPhone 4s, but it wouldn't have mattered because the riders and the drivers wouldn't have been able to locate each other well enough. If you'd waited too long after the iPhone 4s, it would've been obvious. And so there was this window of time, this magical moment when a new type of empowerment was possible for the first time ever. And the companies that the founders who understood that were in a position to offer that kind of empowerment in the form of a radical product that changed the future.”
- “What are some other examples? The [locator chips in the smartphones powered other companies as well](#), it powered DoorDash, Instacart. They had different insights which we'll get to, but there were lots of different ways to harness that power.”
- “So like with the selection for Lyft, the inflection was the new thing was the iPhone 4s with the GPS chip, the empowerment was you can locate anyone within one meter accuracy with an algorithm, and that's going to be pretty much anybody with a smartphone. And that's a lot of people. And in order for this to be met, [people are going to have to want to share their location information with applications](#). The government's going to have to not outlaw GPS chips and phones. Apple's going to have to keep wanting to ship GPS chips and phones. And we felt like those were pretty reasonable bets. We felt like it's pretty likely those empowerment condition will be met.”
- “Airbnb, company close to both of our hearts for different reasons. They benefited, I think from a couple things. One was the proliferation of customer reviews online and people's trust of reviews as a substitute for trusting the brand of a hotel. But then also Facebook Connect made it possible to pass people's profile information. And so the guest and the host didn't quite seem like as much of a stranger as they might've. And so there were a few things that happened at the same time, and then the great financial crisis. And so you had people upside down on their houses needing to find some way to generate income. So [all of those things came together at the same time to help Airbnb](#).”
- “Another example would be [the cameras getting better on the smartphones](#), which enabled Instagram. So Instagram was at the convergence of a few inflections. First of all, there were smartphone adoptions. There were just more of them. And so they crossed like 10 million smartphones, but then you had the cameras getting a lot better. You had more of them connected on Wi-Fi. You had the networks having better upload speed for smartphones. So all those factors converged and made it possible for Instagram to offer a product that was good enough to take most of your photos with. You didn't start to think, “Oh, I need a digital camera separate from my smartphone. Now I can just use my smartphone everywhere I go.” But Instagram could have come out in 2008. It probably wouldn't have worked it probably, or it wouldn't have worked to the extent that it did. Its window of timing was just right.”
- “What about in terms of Twitch? What was the inflection there? I think there were a couple. The first was [the shift towards user generated content and sort of internet celebrities](#). Justin Kan wanted to be an influencer before there was a term to describe it, right? He was really building the product that he wanted for himself. But right before Twitch or right before Justin.tv, which was the original company, Time's person of the

year had been you, and they had YouTube on the cover of the magazine. And so you had, that was a major turning point in how entertainment was happening. But simultaneously, broadband penetration had reached critical mass. The CDNs were getting really good, we thought that they would get better. And so you were in a situation where the conditions to live stream video for the first time broadly over the internet were being met. Whereas you could have done that even two years before. In fact, Kyle Vought had to invent some pretty miraculous stuff to even make it work when they did. But you could see how, okay, once video starts streaming on the internet in real time, that could be a thing. You could just see how that would be a thing if it worked. And so I'd say those are the inflections."

- "...you have to leverage a point of disruption, one that puts the incumbent a bit back on its heels. In this case, wireless networks taken to their extreme threatened to cannibalize wireline networks, which were and still are the heart and soul of Cisco's franchise. Moreover, a new standard had just been released for Wi-Fi (802.11n, to be precise), which for the first time promised wireline performance delivered over the air. So there was a 10x value proposition potentially in play—arguably the single most pragmatic definition of a disruptive innovation." - Geoffrey Moore (Crossing the Chasm)
- "[...there's a lot of technologies, whether it's vertical farming, whether it's cellular meat, or masty salination of water](#), so you know you turn on your faucet and it's basically ocean water that's pouring out that you that you can drink, these are incredibly energy thirsty technologies, they require an enormous amount of electricity, and then on top of it all there's carbon removal which might be one of the most important technologies of the next 30-40 years, that's also incredibly energy intensive..."
- "...is there a shift, a step function in the tech? That's somewhat obvious, I would say. [Deep learning was one for Google Lens. Back then, speech recognition was a step function for conversational search. I would say for Robinhood, the generational shift was very clear and the fact that phones were a primary means for you could actually have an app or mobile app for finance that you could use. So look for that inflection. What is the tech inflection? And right now, of course, LLMs and reasoning models are that step function...](#)"

Consumer Behavior / Belief Inflections; E.g: Sense of Direction for the Future Evolution of an Industry (Trust in User Reviews Online increasing, General Population Adopting Telemedicine Visits), Economic Slowdowns (Predictable Biases)

- "Here are five 'guideposts' to read the shifting dynamics of an industry:.. [Attractor states](#): this provides a sense of direction for the future evolution of an industry, but such attractor states might not come to be."
- "...there can be a belief inflection. Belief. So for example, during COVID, the amount of telemedicine visits exploded. And so [as a result, there was a permanent change in people's belief about whether they would want to do a telemedicine visit](#). Before that, the technology was there, but a lot of people just didn't do it. The doctors didn't want to or decide to, or the patients didn't want to decide to. But now all of a sudden people were doing it, they're like, "This is much better. I'd much rather do it this way than go visit the doctor and wait in line and all that stuff." And the doctor's like, "I'd much rather do this than have these people backed up in my office.""
- "Here are five 'guideposts' to read the shifting dynamics of an industry:.. [Predictable biases](#): biases include an inability to predict a dip in sales after continuously rising all-time highs; an overprediction of current companies and business models; and the advice from consultants and analysts that businesses should copy whatever the current largest

player does.“

- “...the second factor that we should look for is, what is the consumer behavior shift? So to give you an example, when we started working on Google Lens, what we said is, look, people were taking mostly pictures for sharing, selfies and sunsets and so on, and suddenly when storage became mostly free and everybody had phones everywhere all the time, you took pictures of everything, and then you... use the camera as the as the keyboard for your world, for the real world. And so how do you kind of then say, oh, this consumer shift is big. And so therefore, as you get orders of magnitudes more photos, then you want more to come out of them and you can apply AI to that.”

Business Model Inflections; E.g: Ways to Monetize

- “...the third inflection point, particularly I would say in enterprise, but also in consumer is the business model shift. Is there an inflection point in the business model? So any great products, if you think about search, like the second price option and the fact that you had CPCs, same thing with SaaS and the fact that you could actually charge or monetize enterprise products in a different way, and with AI the monetization just barely scratched the surface of whether you do seat monetization usage on tap. And then of course, outcome-based stuff, outcome-based monetization.”

2) First Principles Thinking - think about problems using a beginner’s mind; once you understand the fundamentals of an idea, you can rearrange them, change them, or put them together differently to create a new idea or product.

- “...there's an objective, a collective, and a subjective way to look at the world.”
- “...notice the way people go about thinking from first principles in practice. Essentially, they figure out what problem they want to solve, identify the levers that are keeping them from getting there, question every assumption about what’s possible within each lever, do the legwork to find out facts on the ground, and then act.”
- “A lot of how we approached Stripe was thinking from first principles. I remember when we were pre-launched and we had some buzz going because we had some early customers, and one of my friends took me out to lunch. He was a VC, and he was like, ‘All right, look, I’ve been hearing about this Stripe thing. What’s your secret sauce?’ I was like, ‘I mean, we just make payments really good.’ And he’s like, ‘No, no, come on, you can tell me, what’s the secret sauce?’ And that really was the secret sauce. We rethought every single piece of what we were doing from the ground up, from first principles. Not locked into the way that people had been doing it. We asked how should it be? Where’s the pain and does it need to be there?”
- “I think the great entrepreneurs can look at a problem with very fresh eyes, like almost consistently, and Bezos described that as "day one thinking", right, like just pretend this is day one every day and then other people use the term "first principles", but it basically means like when you see a problem pause for a second and really think through what is the best possible solution here, what are some alternative solutions, and get from everybody like how do we solve this problem?”
- “That being said, many of history’s biggest breakthroughs came from someone making the effort to think from first principles. This includes the classic examples of SpaceX and Tesla, the breakthrough that led to the transformer architecture driving today’s AI revolution, the invention of human flight, the discoveries of nuclear energy and general relativity, and so many more. It’s not an accident that history’s most important scientists



- [come at problems in this way—with a beginner’s mind.](#)”
- “Thinking from first principles isn’t a new or groundbreaking idea. In fact, it’s been the dominant mode of thinking among all great scientists and philosophers for awhile now; it’s probably the single most consistent factor among great thinkers. Although there have been many practitioners of this way of thinking, I’d like to zoom in on one that you may have heard about: Aristotle. He was a prolific organizer who believed that everything could be divided into categories and subcategories. [The smallest subcategory in any domain is what we would call a first principle](#)... As one of the earliest major contributors to the study of biology, it makes sense that Aristotle was a first principles thinker. He would dissect animals to gain real world knowledge and then use his capacity for reason to organize and categorize this information. This cycle of seeking knowledge through experience and using reason to give it structure is how one comes to know the first principles of a subject. Aristotle believed that we couldn’t possess true knowledge unless we understood these principles.”
- “...the idea is to understand what all went into creating the things or problems. For example, when thinking about a food item such as Pizza, the first principles thinking will result in [knowing about how Pizza came into existence in terms of what all went into creating Pizza such as raw materials, cooking method, expertise, tools, etc.](#)”
- “First principles are the fundamental building blocks of an idea; they are the most indivisible parts that we know to be true and that we use to build more complex thoughts. I know this sounds a little abstract right now but let me give you some history, an analogy, and an example... [Imagine your knowledge in a specific domain as a tree. Someone who thinks from first principles - an unconventional thinker - will understand that body of knowledge from the fruit all the way down to the root.](#) The fruit is what we see in front of us: it’s the unearned knowledge that we can obtain, experience, and repeat right away. We can look at an apple tree, say that it’s just a thing that produces apples, and call it a day. It’s a very shallow understanding of the tree but it’s not untrue. On the other hand, a first principles thinker will want to know how this creation really came to be. They will see that the apple is connected to a branch. Every branch is a subset of a greater whole called the trunk. Finally, they see that the root is the most fundamental part of the tree which gives rise to the fruit. They have gathered multiple pieces of information about the tree through experience but they have also organized the pieces of information in relation to each other. These free-floating facts have been transformed into an organized body of knowledge.”
- “A well-written essay is... enjoyable to consume and difficult to produce without understanding its fundamentals. We can identify its fundamentals by breaking it down into its component parts. [An essay is a collection of paragraphs. Well, a paragraph is a collection of sentences. A sentence is a collection of words. Words are a collection of letters and letters are the fundamental building blocks of an essay.](#) Once the components of an essay are understood, we can look at improving each one from the simplest to the complex. If we can make each individual component remarkable then the totality should be remarkable and that is the art of first principles thinking... we could have created another layer above the essay: we could call a collection of essays a book. We have now invented something new... ..once you know how to write letters it becomes easier to make words. Once you know how to write words you can make sentences. Once you can make sentences, you can make paragraphs, then essays, then books, then entire libraries.”
- “...for batteries they would say [it's going to cost you \\$600 per kilowatt hour, and it's not](#)

going to be much better than that in the future, and you say, no, what are the batteries made of, so first principles would be: what are the material constituents of the batteries, what is the market value of the material constituents, so you can say okay it's got cobalt, nickel, aluminum, carbon, and some polymers for separation, and a steel can, so break that down in on a material basis and say, okay, what if we bought that in the London Metal Exchange what would each of those things cost, it's like \$80 per kilowatt hour, so clearly you just need to think of clever ways to take those materials and combine them into the shape of a battery cell, and you can have batteries that are much cheaper than anyone realizes.”

- “First principles thinking is stripping a problem back to its base requirements, doing away with all of the assumptions or historical precedents around how that problem has always been solved. You focus instead on what you actually need to do, and develop a brand new solution on how to solve that problem the best. So if I were to say that I needed to move all of my furniture from my home in Oregon to my new home in Texas, you might tell me the solution to that problem is to hire movers to take care of it. Applying first principles thinking would say that I don't really need to move my furniture - the problem I actually need to solve is that I need a place to sleep, a place to sit and eat, and a place to sit and relax in my Texas home - moving the furniture from Oregon is actually one of many possible solutions to the real problems. It might make more sense to sell all of my furniture in Oregon and buy new furniture in Texas rather than try to move it.”
- “After studying the psychology of virality, Jonah Peretti founded BuzzFeed in 2006. The site quickly grew to be one of the most popular on the internet, with hundreds of employees and substantial revenue. Peretti figured out early on the first principle of a successful website: wide distribution. Rather than publishing articles people should read, BuzzFeed focuses on publishing those that people want to read. This means aiming to garner maximum social shares to put distribution in the hands of readers. Peretti recognized the first principles of online popularity and used them to take a new approach to journalism. He also ignored SEO, saying, “Instead of making content robots like, it was more satisfying to make content humans want to share.”[8] Unfortunately for us, we share a lot of cat videos. A common aphorism in the field of viral marketing is, “content might be king, but distribution is queen, and she wears the pants” (or “and she has the dragons”; pick your metaphor).”
- “But if you're looking for startup ideas you can sacrifice some of the efficiency of taking the status quo for granted and start to question things. Why is your inbox overflowing? Because you get a lot of email, or because it's hard to get email out of your inbox? Why do you get so much email? What problems are people trying to solve by sending you email? Are there better ways to solve them? And why is it hard to get emails out of your inbox? Why do you keep emails around after you've read them? Is an inbox the optimal tool for that?”

0: Avoid Reasoning by Analogy (reasoning by analogy is solving problems based on prior assumptions and widely accepted best practices; avoid copying what other people are doing to solve this problem by adding slight variations);

**“LLMs raise the *floor*, NOT the ceiling” because they tell you what has worked in the past, but don’t generate never-before-seen ideas;**

- “Reasoning by analogy, or copying what others are doing, is sort of like being a cover band where you’re playing somebody else’s music. Whereas with first-principles

thinking, you go back to the fundamental raw materials of music, which are the notes, and then you build an original song from scratch. That is first-principles thinking. It's really difficult to do because a lot of what we do in life is informed by what we've done before, and also by what others are doing around us."

- "...reasoning by analogy is solving problems based on prior assumptions and widely accepted best practices. For example, a chef uses first principles thinking to transform raw ingredients (first principles) into a totally new dish. Someone who doesn't know how to cook will likely follow the instructions of a recipe, never deviating from the widely accepted instructions. Both will (probably) result in a good meal, but only one is truly unique."
- "We get through life by reasoning by analogy, which essentially means copying what other people do with slight variations. And you have to do that. Otherwise, mentally, you wouldn't be able to get through the day. But when you want to do something new, you have to apply the first-principles approach."
- "I think it's important to reason from first principles rather than by analogy. So the normal way that we conduct our lives is we reason by analogy, it's we're doing this because it's like something else that was done or it's like what other people are doing, slight iterations on a theme and it's because it's kind of mentally easier to reason by analogy rather than from first principles, but by first principles is kind of a physics way of looking at the world and what that really means is you kind of boil things down to the most fundamental truths and say okay, what are we sure is true or are sure is possible is true, and then reason up from there, that takes a lot more mental energy."
- "So somebody could say that battery packs are really expensive and that's just the way they will always be because that's the way they've been in the past, you're like, well, no that's pretty dumb, you know, because if you applied that reasoning to anything new then you wouldn't be able to ever get to that new thing."
- "So you know it's like you can't say nobody wants a car because horses are great, and we're used to them, and they can eat grass and there's lots of grass all over the place, and you know there's no gasoline that people can buy so people are never going to get cars..."

1: Understand the Hierarchy of the Goal (JTBD): breakdown what is needed to achieve your goal into Categories and Subcategories;

**"What we do doesn't change, only how we do those things changes [inputs:letters to outputs:books]";**

- "First principle thinking is a thought structure that enables you to think about everything in categories and subcategories until you get down to the smallest subcategory possible, which is the first principle. Aristotle defined the first principle as the first basis from which a thing is known. First principle thinking is the search for a fundamental truth that an idea is built upon, once these first principles are found the idea can be improved upon by improving or changing the levels above the first principle. A great example of this process is a book... a book is made up of chapters, which are made of paragraphs, which are made of sentences, words, and letters, in this case the letter is the first principle of a book, because there are only 26 of them in the english language the letters themselves cannot change, but everything on top of this can be improved, which in turn improves the final product."
- "So, you see the benefits but how can someone become a first principle thinker? ... create hierarchies. Most ideas are nested inside or outside one another and it's the job of a first

principles thinker to map out how these ideas are linked. As Aristotle, like all empiricists, would say, knowledge begins with experience... Once they've reduced an idea down to the smallest fundamentals that they can conceive of, they have arrived at the first principles. These [fundamentals can be used to innovate, optimize, learn more complex ideas, or to teach others. One of the best ways to discover these fundamentals is by actually writing down and organizing the information in a subject that you're interested in by using a hierarchy or a mind map](#) like how we did with the essay."

- "...for batteries they would say it's going to cost you \$600 per kilowatt hour, and it's not going to be much better than that in the future, and you say, no, what are the batteries made of, so first principles would be: [what are the material constituents of the batteries, what is the market value of the material constituents, so you can say okay it's got cobalt, nickel, aluminum, carbon, and some polymers for separation, and a steel can, so break that down in on a material basis and say, okay, what if we bought that in the London Metal Exchange what would each of those things cost](#), it's like \$80 per kilow hour, so clearly you just need to think of clever ways to take those materials and combine them into the shape of a battery cell, and you can have batteries that are much cheaper than anyone realizes."
- "It's like you're setting, saying, "I would like to build something really, really great and I'm going to go through a series which is much, much more complex than what a thermostat does," which basically checks the temperature and then makes a decision of air con or heating. [You re-derive literally every decision that is valuable, every foundational assumption, every foundational ABC direction. And you want to see the observation you've made in the meantime since you last derived the next step. Re-running the entire function over the state that is now updated, the higher fidelity information, would you come to the very same thing?](#) Sometimes fairly early in the construct in the tree of foundational assumptions, change is made."

2: Identify a "False First Principle" at the bottom of your Hierarchy - the key to innovation is identifying a False First Principle;

False First Principles == Existing Assumptions that are considered TRUTH:

- Launching rockets is too expensive because they're a 1-time use;
- Electric vehicles are expensive and can't travel long distances because ...;
- Online payment systems are complex because they require integration with multiple banks and compliance with strict regulations;
- Hotels are the only option for travelers to stay at;
- Prescription glasses are expensive because of middlemen costs;

- "The concept of first principles can also be used to [innovate by identifying and replacing what used to be a first principle with a new first principle](#), I call this the concept of false first principles. False first principles are first principles that seem valid but are actually obsolete..."
- "Yesterday's first principles can become today's false first principles, [the key to innovation is correctly identifying a false first principle and breaking through it.](#)"
- "When Ford was making cars in the early 20th century [the conventional method to build a car was to have a few people assemble the car piece by piece until it was fully built, this was the first principle of car manufacturing. At the time Henry Ford challenged the first principle](#) by creating the assembly line through his belief that more cars could be created faster with specialists each contributing to a small part of the assembly process

repeatedly. What was the first principle became a false first principle, not only for all car manufacturers but also almost all types of complex manufacturing in the future.”

- “Conventional thinking in the 1990s was that [people would only trust face-to-face transactions for purchases. Amazon believed that this was a false first principle and built an online shopping platform](#) that depended upon this fact, obviously Amazon was right and today the entire world shops online, validating this as a new first principle. Today people trust online shopping.”
- “When SpaceX was founded in the early 2000s [launching a rocket was extremely expensive because rockets were single use. The technology needed to make a reusable rocket did not exist at the time and no one believed that rockets could be reused. SpaceX believed that this was a false first principle](#) and set out to replace this conventional knowledge with a new first principle: rockets can be reused just like cars, trains, boats, airplanes, and every other form of transportation.”
- “Find the first principles, ask as many questions about your goal as possible so you can break it down into its fundamental building blocks. SpaceX broke down the cost of launching rockets into its many components. The first principles included the cost of the rocket fuel, the steel aluminum, and other metals needed to build the rocket, labor costs. etc. For SpaceX [the false first principle was the cost of the components needed for every rocket launch.](#)”

Start w/ System Awareness (leads to Disagreeableness); step back and see the big picture, then mess with the system (messing with system == disagreeableness)

- “[...you've got to get the system to behave in a way its creators didn't intend.](#) That's a hugely important idea. But to do that, you need to understand your startup is a disagreement with the status quo, so you got to recognize what is the status quo. The first thing that we talk about is this idea of system awareness, to be aware of the system you're in and understand it, and then to find a novel approach within that system. Then, and this is often really difficult for startups, to be disagreeable enough to be willing to do something others either can't or won't.”
- “The winning team made \$650, \$605, somewhere in that range. You know what they did?... You got \$5.00 in seed capital, you got five days to plan, two hours to execute, and then you're going to present your findings in front of this class, the graduate class of Stanford entrepreneurship for three minutes... The winning class sold its three minutes to a company that wanted to recruit Stanford grads. It's brilliant, right? They made an ad. What are you going to say as the professor? "Okay, yeah, well done," because [they recognized the system they were in. They took a step back from what they were told they had and they looked at what they actually had. So I think that's a great example of system awareness, seeing the big picture of what you're in. Once you see the big picture, now it's time to mess with things.](#)”

[!!!] A False First Principle is **usually** the **result of something from the past**, which **can be solved using technology from today**, but because **no one has seen this answer yet** the masses stick to the FALSE first principle

- “Because everything that you encounter, that every solution, every product, everything that exists is path-dependent, highly, highly, highly path-dependent, and often path-dependent based on having to make compromises, based on things that were true at the time a decision was made but are no longer true. The entire... linguistic research field. It's cool. We now have autoregressive models that are just like... we don't need to research the structure of grammar to be able to make machines also engage in the spoken word.



We actually can just train on the internet, it turns out. So that was not possible back then because you didn't have the right architecture for this, but now it is. So I think what you have to do is to actually have, when you come up with a new product or you discuss a new product, you have to derive it from first principles. You have to say, "How would we solve this problem given every fundamental building block that we have available right now?" For that, to do that, you actually have to understand the power and the composability of all the building blocks that exist right now, which is a tall order and no one is perfect at this. But so this way, you go ahead and say, "Okay, cool, so this is how we are implementing this thing. This is how it will be implemented today." And now we can talk ourselves in taking shortcuts. "Maybe we should actually start up doing it the way everyone else does. Maybe we derived exactly what everyone else does as the correct thing to do." Sometimes there was a lot more wisdom encoded in the status quo than you expect, which is I think is super delightful. Then you figure that out and so when you act on it. But what isn't okay is skipping the exercise and doing the same thing everyone else does because that is again a abdication of product leadership. And so yeah, I would say I become extremely suspicious if I get a pitch to do a good version of the same thing everyone else does because I just find that in our space specifically very rarely to be the best solution."

[!!!] Consider **Taboos** (that aren't offensive): what you can't say or think today may be acceptable in the future (e.g: Airbnb - letting a stranger stay in your home, may have been taboo in the past)

- "Great work tends to grow out of ideas that others have overlooked, and no idea is so overlooked as one that's unthinkable. Natural selection, for example. It's so simple. Why didn't anyone think of it before? Well, that is all too obvious. Darwin himself was careful to tiptoe around the implications of his theory. He wanted to spend his time thinking about biology, not arguing with people who accused him of being an atheist."
- "Whatever the reason, there seems a clear correlation between intelligence and willingness to consider shocking ideas. This isn't just because smart people actively work to find holes in conventional thinking."
- "It's not only in the sciences that heresy pays off. In any competitive field, you can win big by seeing things that others daren't. And in every field there are probably heresies few dare utter. Within the US car industry there is a lot of hand-wringing now about declining market share. Yet the cause is so obvious that any observant outsider could explain it in a second: they make bad cars. And they have for so long that by now the US car brands are antibrands — something you'd buy a car despite, not because of. Cadillac stopped being the Cadillac of cars in about 1970. And yet I suspect no one dares say this. Otherwise these companies would have tried to fix the problem."
- "Training yourself to think unthinkable thoughts has advantages beyond the thoughts themselves. It's like stretching. When you stretch before running, you put your body into positions much more extreme than any it will assume during the run. If you can think things so outside the box that they'd make people's hair stand on end, you'll have no trouble with the small trips outside the box that people call innovative."
- "If you could travel back in a time machine, one thing would be true no matter where you went: you'd have to watch what you said. Opinions we consider harmless could have gotten you in big trouble. I've already said at least one thing that would have gotten me in big trouble in most of Europe in the seventeenth century, and did get Galileo in big trouble when he said it — that the earth moves. It seems to be a constant throughout

history: In every period, people believed things that were just ridiculous, and believed them so strongly that you would have gotten in terrible trouble for saying otherwise. Is our time any different? To anyone who has read any amount of history, the answer is almost certainly no. It would be a remarkable coincidence if ours were the first era to get everything just right. It's tantalizing to think we believe things that people in the future will find ridiculous. What would someone coming back to visit us in a time machine have to be careful not to say?... I want to find general recipes for discovering what you can't say, in any era.”

- “Like every other era in history, our moral map almost certainly contains a few mistakes. And anyone who makes the same mistakes probably didn't do it by accident. It would be like someone claiming they had independently decided in 1972 that bell-bottom jeans were a good idea. If you believe everything you're supposed to now, how can you be sure you wouldn't also have believed everything you were supposed to if you had grown up among the plantation owners of the pre-Civil War South, or in Germany in the 1930s — or among the Mongols in 1200, for that matter? Odds are you would have.”
- “What can't we say? One way to find these ideas is simply to look at things people do say, and get in trouble for. Of course, we're not just looking for things we can't say. We're looking for things we can't say that are true, or at least have enough chance of being true that the question should remain open.”
- “The statements that make people mad are the ones they worry might be believed. I suspect the statements that make people maddest are those they worry might be true.”
- “Certainly, as we look back on the past, this rule of thumb works well. A lot of the statements people got in trouble for seem harmless now. So it's likely that visitors from the future would agree with at least some of the statements that get people in trouble today... To find them, keep track of opinions that get people in trouble, and start asking, could this be true? Ok, it may be heretical (or whatever modern equivalent), but might it also be true?”
- “...another way to figure out which of our taboos future generations will laugh at is to start with the labels. Take a label — “inappropriate” or “improper” for example — and try to think of some ideas that would be called that. Then for each ask, might this be true? Just start listing ideas at random? Yes, because they won't really be random. The ideas that come to mind first will be the most plausible ones. They'll be things you've already noticed but didn't let yourself think.”
- “If we could look into the future it would be obvious which of our taboos they'd laugh at. We can't do that, but we can do something almost as good: we can look into the past. Another way to figure out what we're getting wrong is to look at what used to be acceptable and is now unthinkable.”
- “Kids' heads are repositories of all our taboos. It seems fitting to us that kids' ideas should be bright and clean. The picture we give them of the world is not merely simplified, to suit their developing minds, but sanitized as well, to suit our ideas of what kids ought to think. You can see this on a small scale in the matter of dirty words. A lot of my friends are starting to have children now, and they're all trying not to use words like “fuck” and “shit” within baby's hearing, lest baby start using these words too. But these words are part of the language, and adults use them all the time. So parents are giving their kids an inaccurate idea of the language by not using them. Why do they do this? Because they don't think it's fitting that kids should use the whole language. We like children to seem innocent.”

- “...one more way to figure out what we can't say: to look at how taboos are created. How do moral fashions arise, and why are they adopted? If we can understand this mechanism, we may be able to see it at work in our own time.”
- “I suspect the biggest source of moral taboos will turn out to be power struggles in which one side only barely has the upper hand. That's where you'll find a group powerful enough to enforce taboos, but weak enough to need them.”
- “...if you want to figure out what we can't say, look at the machinery of fashion and try to predict what it would make unsayable. What groups are powerful but nervous, and what ideas would they like to suppress? What ideas were tarnished by association when they ended up on the losing side of a recent struggle? If a self-consciously cool person wanted to differentiate himself from preceding fashions (e.g. from his parents), which of their ideas would he tend to reject? What are conventional-minded people afraid of saying? This technique won't find us all the things we can't say. I can think of some that aren't the result of any recent struggle. Many of our taboos are rooted deep in the past. But this approach, combined with the preceding four, will turn up a good number of unthinkable ideas.”

Discover breakthroughs (be surprised; write down your surprises, remember your surprises)

- “I believe that there can't be a recipe for breakthrough. And why is that? Well, recipes exist for things that have already been discovered, so if I give you a recipe for making a cake, somebody has probably made that cake before, the exact way they're defining it. And so, breakthroughs, though, by definition, haven't happened yet, they haven't been discovered. The general theory of relativity had to be discovered by Einstein, and the idea for ride-sharing had to be discovered by the ride-sharing companies, or Airbnb, by Chesky and Nate and those guys. And so, what you want to adopt is the right mindset. And how do you adopt the right mindset? You interact with new technologies at the cutting edge, but you actively savor surprises. And when you think about it through the lens of a breakthrough and what we just said, it makes sense, because if you want to find a breakthrough, you want to be surprised, you want to discover the undiscovered, you want to know something you didn't know before. Because if all you do is an experiment that proves, that validates what you think, you didn't really learn anything, when you think about it, you just doubled down on your existing understanding or opinion.”
- “I learned this lesson from Scott Cook, who was the founder of Intuit. Whenever he would be presented a new product, people would present the idea to him, and he would say, what were your three biggest surprises as you were coming up with this plan? And what he would find is, quite often, they couldn't name any. And he felt like when people can't name the surprises they came up with, they're too brain locked on what they want. They have the agenda they have, they want validation, rather than truth seeking. And so, if you're an authentic truth seeker, you're always hoping to be surprised, and you think of surprise as a gift, because you think, wow, maybe I encountered that surprise before anybody ever has. And so, that's kind of what we mean. And you want to construct your experiments so that you're in a position to be surprised.”
- “So Chegg was wanting to see if people would do textbook rentals, so they created a fake site called Textbookflicks. But here's where Osman and Aayush were very savvy. Rather than just test whether people would rent a \$100 dollar textbook for \$35, they tested an arbitrary set of prices, all the way up to \$75. And so, they had the demand preference curve at different prices. And Textbookflicks wasn't a real site, so you'd get to the shopping cart and it would give you a 404 error. But we could tell that people wanted to

rent textbooks, and the surprise was that they would rent them for more than we thought. We thought we need to get at least 35, but some students were willing to pay 75. And so, that understanding was huge, if we'd only done an experiment to validate the hypothesis of, yes, will they rent it for 35, our pricing model would've been totally different from, oh, wow. And when you think about it, it makes sense, the student didn't want to keep the textbook. Econ 101, I'm going to give it back anyway, so 75 bucks is less than 100, I can buy beer with the extra money. So that would be an example of the surprise. But most of the startups that have had great outcomes, I find, there was a kind of surprise like that.”

- “Being non-consensus is not the same as being contrarian. Being contrarian is another form of conformity because it's still relative to somebody else. Most of the great founders I see, they almost feel guilty that they found this secret, but they earned the secret by tinkering with the future and noticing surprises, and having their noticing filter tuned to volume 11, where most of us wouldn't notice it, most of us would just pass the secret right by because we're looking to validate what we think is already true.”
- “So to me, secrets are earned. A lot of people, I think, have the wrong idea of what vision is. A lot of people tend to think visionaries as like, they have a special pair of binoculars, and they can look out farther than the rest of us can. But in my experience, that's not how inventions really happen, the way inventions happen is, people get their hands dirty and they learn about what's missing in the future because they're getting their hands dirty with what's new about it. And so, they earn the secret by going down this rabbit hole of exploring something at the cutting edge for its own sake. And just like I'm a trained spotter for startups, they become a trained spotter for this new thing that they're excited about. And they frustrate the people around them, they'll be at a party, and everybody's talking about the basketball game, the Celtics against the Mavs, and somehow that reminds them of the fact that they want to test prices for textbook rentals. But they're that interested, it's the last thing they think about when they go to bed, the first thing they think about when they wake up.”
- “And so, that's where I find most of the really great earned secrets come from, they're earned in the sense that you earn them by getting your hands dirty, and you earn them by being awake to the possibility that secrets are there or that just most people aren't looking.”
- “In the sciences, especially, it's a great advantage to be able to question assumptions. The m.o. of scientists, or at least of the good ones, is precisely that: look for places where conventional wisdom is broken, and then try to pry apart the cracks and see what's underneath. That's where new theories come from. A good scientist, in other words, does not merely ignore conventional wisdom, but makes a special effort to break it. Scientists go looking for trouble. This should be the m.o. of any scholar, but scientists seem much more willing to look under rocks.”

Question the assumption that the False First Principle is true by Asking: Why? Why not? (Why does the world have to be the way that it is today?)

- “The other thing I would say though is people always talk about first principles thinking, but if there's truth in it, I think that's like when Elon's like, “Well, why does the rocket cost a gazillion dollars to launch? And there's no reason they have to throw away the materials and blah, blah, blah.” One example might be, why do we need a 4,000 pound vehicle to move a human three miles? Or even a couple of humans. We do an Uber Pool or a Share, and you move two humans or three humans, even then that's pretty inefficient. If you think about just the physics there, the energy expenditure. And that's where I think

you might come up with bikes and scooters and little other things. And sure it's not always, it's raining or you want the car, but that's sort of an example of why questioning why are things the way they are, and then is the way they are super inefficient or not optimal in some sense? And that is often a doorway to opportunity to see, okay, well maybe things could be different. And so I kind of extend that at a larger level to the future."

- "Everything you're wearing, eating, using, listening to, sitting on, was a disruptive innovation at some point. That's how everything happens, right? I think there's this really interesting thing where everything new is threatening at some level at the beginning. I mean, probably literally the first guy who invented chairs got shit from his tribe mates for making a chair. And they're all obvious in retrospect, right? Everything is obvious in retrospect. But I think there's this really deep thing that people have where if something is disruptive of your worldview, it feels threatening, and you have this very stark choice to make that's either you're wrong or it's wrong. And humans are storytellers. It's very easy for us to tell stories about why something is right or wrong if we're motivated to. And so I call these why-not questions. People ask these why-not questions a lot. So a new thing pops up, and if you're not ready to receive it for some reason, you're not already half there or you don't have a problem that it solves or whatever, it's just threatening and irritating, and you come up with a why-not question. We heard a bunch of these with Google Docs, with Writely, in the early days about the browser wasn't ready, the whole model of the cloud was like, people aren't going to trust you to store your files. That's really weird. What if there's no connectivity? I heard the no connectivity on an airplane story 100 times from journalists. Like, "What if I'm on an airplane and I write stuff?" I'm like, "I don't know. There'll be connectivity on airplanes soon." Which there is. And those are all just why-not questions."

3: Identify a New First Principle by Asking: What if ...? (use your imagination);

New First Principles overcome Existing Assumptions:

-Existing costs can be reduced in an innovative way (e.g: reusable rockets == reduced cost);

-Payments can be accepted online with a few lines of code (process simplification);

-Unused rooms or properties can be rented out to travelers (unused resources == way to make money);

-Removing the middleman can reduce the cost of prescription glasses (process improvement == reduced costs);

- "Tesla is a great example. SpaceX is a great example where people are like, "That doesn't make any sense." And Elon's like, "Well, what if you could land rockets and reuse them and they get really cheap? That's pretty amazing. What if I can fix the battery problems and a car is basically a software product, right?" Those are pretty amazing what-if questions, right, of those products."
- "And what people do sometimes they get in a rut, they just come to work, and they just go through their email, they do whatever they did the day before, they don't think why are we doing this? And is there a better way to do it?... it is a very cool thing to really think like I wonder if we actually made the batteries ourselves what that would look like? Or I wonder if we could get to two-day shipping? Or what if we do same-day shipping?"
- "I think the more interesting ones are the what-if questions, like, what if this does work? Just use your imagination. Think about, how far can I extend the curve? What are the implications of that? I'm an engineer, and engineers are fundamentally pessimistic people. Somebody once told me engineers come into the world broken. They just look at



everything as a problem to be solved. And I think there's something to that. But I feel like I've missed out more by being pessimistic than I have by being too optimistic too early. So I have this kind of mantra now that there's just not that much of a prize for being pessimistic and right, particularly in a moment like this. It's much better to be optimistic and wrong than pessimistic and right, I think. So I don't know. And I'm an impatient person. I'm a creative person. I'm a messy person. I just like to create and explore and find stuff. So disruptive innovation just seems natural to me. But I think it's not an exaggeration to say, literally, that wheat you had in your bread this morning, if you eat bread, some weirdo was messing around with plants 1,000 years ago and everybody thought he was a nut, or she was a nut, and then we had wheat... Everything is like that.”

- “But right now there's a lot of why-not stories, right, around generative AI. So it's expensive, it hallucinates, it's sarcastic, it's random, it doesn't do the same thing twice. Yeah, they're real, they're actual issues to solve, but I look at it and think, "Well, what if? [What if we can build software around it? What if we can build more complicated programs than what we've been able to build? What if we actually have a reasoning engine that we can use to do meaningful things? What if this is really the second Industrial Revolution](#) where, in the first one, we had a surplus of physical energy beyond just our bodies and things like water reels, and now we have a surplus of cognitive energy beyond just our brains, right?" And that's a really transformational idea.”
- “A lot of how we approached Stripe was thinking from first principles. I remember when we were pre-launched and we had some buzz going because we had some early customers, and one of my friends took me out to lunch. He was a VC, and he was like, ‘All right, look, I’ve been hearing about this Stripe thing. What’s your secret sauce?’ I was like, ‘I mean, we just make payments really good.’ And he’s like, ‘No, no, come on, you can tell me, what’s the secret sauce?’ And that really was the secret sauce. We rethought every single piece of what we were doing from the ground up, from first principles. [Not locked into the way that people had been doing it. We asked how should it be? Where’s the pain and does it need to be there?](#)”

Inputs > Operations (Functions) > Outputs;

**Better Inputs OR Better Operations == Better Products** to accomplish the same JTBD;

**Book Example:**

```
# Example: function for writing a book
    write_book(letters, words, sentences, paragraphs, chapters):
    # Step 1: Combine letters into words
    combined_words = " ".join(words)
    # Step 2: Combine words into sentences
    combined_sentences = " ".join(sentences)
    # Step 3: Combine sentences into paragraphs
    combined_paragraphs = "\n\n".join(paragraphs)
    # Step 4: Combine paragraphs into chapters
    combined_chapters = "\n\n--- Chapter Break ---\n\n".join(chapters)
    # Step 5: Return the completed book
    book = f"Book Content:\n\n{combined_chapters}"
    book
```

**Farming Example:**

```
# 1. Pre-1800s
plant_seeds(tool="wooden_plow",
```

```
power="oxen",  
method="hand")
```

## # 2. Early 1800s - Mechanical improvements

```
plant_seeds(tool="wheeled_mechanical_plow",  
            power="oxen",  
            method="seed_drill")
```

## # 3. Late 1800s - Steam engines

```
plant_seeds(tool="wheeled_mechanical_plow",  
            power="steam_tractor",  
            method="seed_drill")
```

## # 4. 1910s-1920s - Internal combustion engines

```
plant_seeds(tool="wheeled_mechanical_plow",  
            power="gas_tractor",  
            method="seed_drill")
```

## # 5. 1940s - Chemical fertilizers & pesticides

```
apply_inputs(fertilizer="synthetic_nitrogen",  
             pesticide="DDT",  
             method="broadcast_sprayer")
```

## # 6. 1950s-1960s - Hybrid seeds

```
plant_seeds(seed_type="hybrid_corn",  
            fertilizer="synthetic",  
            method="precision_drill")
```

## # 7. 1960s-1970s - Water efficiency

```
irrigate(method="drip_irrigation",  
         schedule="automated")
```

## # 8. 1980s - Integrated pest management

```
control_pests(methods=["biological",  
                      "chemical",  
                      "monitoring"],  
              strategy="IPM")
```

## # 9. 1990s onward - GMOs

```
plant_seeds(seed_type="Bt_corn",  
            traits=["insect_resistance",  
                  "herbicide_tolerance"])
```

## # 10. 2010s - Drones

```
monitor_fields(method="drone",  
               sensors=["infrared",  
                      "multispectral"])
```

# 11. Late 2010s-2020s - Autonomous machines

```
harvest_crop(tool="autonomous_tractor",  
             sensors=["LIDAR",  
                    "GPS"])
```

# 12. 2020s - Regenerative agriculture

```
manage_soil(methods=["cover_cropping",  
                    "no_till",  
                    "composting"])
```

[!!!] Change the Status Quo by delivering value in a way that nobody else knows (aka “Value Hacking”)

- “By definition, [your startup is like a disagreement with the status quo, and the status quo was created by those in power](#), so they're naturally not going to like it when you don't play by their rules. They very quickly label you as evil.”
- “...so once you have a non consensus and right insight and you have a team of people who have the stuff then then you go into this [mode of the value phase](#), or what I sometimes call value hacking, and what you're trying to do in value hacking is figure out what you can build that is unique that people are desperate for, and if your insight is truly powerful it will connect with somebody desperate because you'll be solving the problem in a novel way that's never been solved that way before and it's an order of magnitude noticeably better for those people...”
- “...and so the trick to value hacking is to say “okay, [in the insight phase I posed a truth, now in the value hacking phase I need to discover the truth](#)”, I need to validate that it's that my idea was true, and the way that I do that is I find the people out there who believe what I believe and who are desperate for the product that I'm going to deliver, and then and only then do you start to you know only when you've proven your value hypothesis do you start to test your growth hypothesis”
- “...so the way I see it is that [the value phase or value hacking is really about seeking the truth rather](#) than selling, and so if the truth of your value proposition is super compelling then growth becomes the exercise of syndicating the truth, and if the truth of your value proposition is not present you have to grow by throwing money at the problem of growth, you have to spend money on marketing programs and you have to persuade people to buy rather than teach people to buy...”
- “...so value hacking is this phase where you get this scar tissue in muscle memory, but it's incredibly valuable because now all of a sudden you know how to [deliver value in a way that nobody else knows](#)... what people need to think about is how do I have a value proposition that is awesome, that is resulting in customers literally pulling product out of me desperately, and then I could start to think about growth because I have a value proposition that's true, and now I only have to teach people to buy rather than to persuade people to buy, but you enter the value proposition that is so strong that the customers in your target audience would be irrational not to buy if they knew the truth, and then you're you then you scale in terms of the markets readiness to adopt your solution, but you know kind of along the technology adoption curve”
- “What is technology? It's technique. It's the way we all do things. And [when you discover a new way to do things, its value is multiplied by all the people who use it](#). It is the proverbial fishing rod, rather than the fish. That's the difference between a startup and a

restaurant or a barber shop. You fry eggs or cut hair one customer at a time. Whereas if you solve a technical problem that a lot of people care about, you help everyone who uses your solution. That's leverage."

- ["If you look at history, it seems that most people who got rich by creating wealth did it by developing new technology. You just can't fry eggs or cut hair fast enough."](#) What made the Florentines rich in 1200 was the discovery of new techniques for making the high-tech product of the time, fine woven cloth. What made the Dutch rich in 1600 was the discovery of shipbuilding and navigation techniques that enabled them to dominate the seas of the Far East."

[!!!] Push the Boundary/Edge of Today - be "Cutting Edge"

- "...people were like "we got to make this into a show", because the short actually had the kind of language that the movie had, I mean it was very hardcore, and a lot of people said "this is really funny, but you'll never get this on TV", but we knew it won't work without that language, that's the only thing but we knew, [you know it's really all about limitations, we knew that as long as we're on television we're pushing the television edge, which was why when we made a movie we knew okay now we got to take it time because now we're pushing a movie edge](#), if we had only done it the same way as it's on TV for a movie, then no one would have said "wow, this is really cutting edge"..."

Be Disagreeable: if 50% of people hate this then that is a good thing (e.g: Cybertruck)

- "There's a researcher named Zachary Hambrick who did some work with sailors as the Navy was trying to restructure how it hired. He gave the sailors this dashboard. It had four quadrants. One corner was a fuel gauge, and when it got to a level, you had to press a button. One was add two numbers together. One was like some word thing. One was press a tone. In the middle was a scoreboard. So your job was to monitor these four consoles and try and maximize your score. So as soon as it needed your attention, you'd attend to it. Then unbeknownst to these sailors, about halfway through the test, he changed the scoring so that one of the four quadrants represented 75% of the points. So now doing the math would get you more points. Some of the sailors changed their behavior. They recognized this one thing was contributing more. They hammered on it and they'd do really well. Other sailors did what they were told, super conscientious. Now, [the Navy has always recruited in the military people who do what they're told and are super conscientious. Turns out the people that don't do that, we call them disagreeable... But there's a difference here between people who are playing the game right and people who are questioning whether they're playing the right game.](#)"
- "In poker there are rules. The rules tell you which cards win, which hands are stronger, whose turn of play it is. But the strength of your cards isn't how you win in poker. If that's how we played, it would just be a game of statistics and it would be incredibly boring. [You win by bluffing. You win by deceit. You win by looking for your opponent's tells.](#) But we never talk about that in business school."
- "There's this woman from the 1600s. Her name is Deu-la-Deu Martins. She was married to the king of a city state who went to war. She was left behind to guard the castle. The enemy shows up, and the castle is pretty well fortified. [She realizes they have about two weeks worth of food, and then they're going to get captured. So she rounds up all the flour in the castle. She bakes a bunch of bread. She goes up to the parapets, and she throws it over into the awaiting army](#) and says, "For you, who could not conquer us by force of arms and wanted us to surrender through hunger. Thank God, we are well provided for and seeing that you are hungry, we send you this help and we will give you

more, if you ask!" And the army, believing that there was still considerable resistance within the walls, and being themselves very hungry, are said to have lifted the siege and returned home. That's a very valid strategy, but we don't talk about those kinds of strategies. Was it evil? No. Was it clever? Yeah... But we don't talk about that kind of thinking in business and in startups enough."

- "...they do not go ahead with a campaign or an ad unless it gets 50% disapproval. [That's like their North Star metric: 50% of people hate this](#)... I love that just as a heuristic for how to know if your thing is subversive enough."

### 3) Live in the Future, Build what is Missing: the "What" == a Non-Consensus Solution (Non-Obvious Solution)

- "The number one thing I like to say is, get out of the present. And so, people talk about getting out of the building, and of course, we should, but getting out of the present is a little bit more subtle than that, right? So William Gibson was right when he said, ["The future is already here. It's just not evenly distributed." So most great startup ideas come from a future that exists right now today.](#)"
- "Being at the leading edge of a field doesn't mean you have to be one of the people pushing it forward. You can also be at the leading edge as a user. It was not so much because he was a programmer that Facebook seemed a good idea to Mark Zuckerberg as because he used computers so much. [If you'd asked most 40 year olds in 2004 whether they'd like to publish their lives semi-publicly on the Internet, they'd have been horrified at the idea. But Mark already lived online; to him it seemed natural.](#)"
- "Normal companies forecast, they say, I'm going to look forward from the present and forward project what the future will be. Great founders, pattern breakers backcast, they say, it's a given that the future has to be radically different for me to be a big winner, and so, I'm going to look for radically different futures and work backwards from those radically different futures. And so, the radically different future comes from that thinking different, thinking non-consensus. And then , [it's the different actions that get you to say, okay, now I'm out in this different future, but right now, I'm all alone in this different future. I have to get people to come join me in that different future, and I have to find people who are ready to move with me to that different future. And that's where the pattern breaking actions come in.](#) And not everybody's going to move at first, and so, I can't waste my time with people who won't move, I can't waste any URGs of energy on anybody other than those ready to move or are about to move. And then, I need to co-create the future with those early believers."
- "...what you do to come up with great startup ideas is, you live in the future, and you notice what's missing in the future. And it's axiomatic, [if you're living in the future, there will be unbuilt, missing things, because if it was all built, you'd be living in the present. And so, if you're living in the future and you notice what's missing, your intuition about what to build is far more likely to be right.](#)"
- "And so what I like to say to people, and this is a question that I always ask when I'm pitched, "Is this from the future?" And then some people will say to me like, "Hey, I have a Living in the future: valid opinions mental health startup. Mental health is a huge problem. It needs to be solved." And I'll say, "Why is your idea from the future?" "Well in the future I believe mental health needs to be solved." I'm like, "That's not what I'm asking. I'm asking what part of the future have you been living in that gives you the right to have an opinion about the future?" So I like to say, "If you're not living in the future, your opinion about it isn't valid." It's like saying, "I think a customer will do X." And



you've never talked to a customer. I'm like, "Okay, your opinion is interesting but irrelevant." And so the only relevant opinions about the future come from people who are living in it and coming from people who understand what's new about it in a very visceral way."

- "We always are under pressure to conform in this world, and people use the pressure of conformity to prevent us from exploring things outside of our limits... They're willing to pursue something that they're obsessed with, that they think has to happen in this world, and they're willing to sacrifice their status in the socioeconomic sometimes dominance hierarchy because fulfilling the mission is ultimately more important to them than fitting in. You can't stand out if you always fit in. The only people who are different can really make a difference. That's kind of the mindset."
- "Startup wins over the big company because it proposes a radically different future, disorients the incumbent, and sort of chaotically moves people to that different future. But like every startup I've ever seen, on the inside was wild. It was like a capitalist mutation. It was trying to find a beaked finch in the Galapagos Islands that's never been discovered before, and it's all ambiguous all the time, and people are arguing about what the right direction is all the time. It's just messy, but movements are messy. That's what comes with the territory."
- "One of the other ones that I like to keep in mind is every new idea looks dumb at first. Unfortunately, the dumb ideas also look dumb at first... But the more disruptive they are, the more dumb you're going to feel they are. You always listen for stuff like if they say it's a toy or if it's practical or it's stupid or I don't get it or whatever... If you hear people saying something's a toy, that's often a really good signifier that it's actually something real and threatening, and they can't think of a better criticism for it than it's just a toy right now."
- "Pay particular attention to things that chafe you. The advantage of taking the status quo for granted is not just that it makes life (locally) more efficient, but also that it makes life more tolerable. If you knew about all the things we'll get in the next 50 years but don't have yet, you'd find present day life pretty constraining, just as someone from the present would if they were sent back 50 years in a time machine. When something annoys you, it could be because you're living in the future."
- "Just as trying to think up startup ideas tends to produce bad ones, working on things that could be dismissed as "toys" often produces good ones. When something is described as a toy, that means it has everything an idea needs except being important. It's cool; users love it; it just doesn't matter. But if you're living in the future and you build something cool that users love, it may matter more than outsiders think. Microcomputers seemed like toys when Apple and Microsoft started working on them. I'm old enough to remember that era; the usual term for people with their own microcomputers was "hobbyists." BackRub seemed like an inconsequential science project. The Facebook was just a way for undergrads to stalk one another."
- "Since startups often garbage-collect broken companies and industries, it can be a good trick to look for those that are dying, or deserve to, and try to imagine what kind of company would profit from their demise. For example, journalism is in free fall at the moment. But there may still be money to be made from something like journalism. What sort of company might cause people in the future to say "this replaced journalism" on some axis?" But imagine asking that in the future, not now. When one company or industry replaces another, it usually comes in from the side. So don't look for a

[replacement for x](#); [look for something that people will later say turned out to be a replacement for x](#). And be imaginative about the axis along which the replacement occurs. Traditional journalism, for example, is a way for readers to get information and to kill time, a way for writers to make money and to get attention, and a vehicle for several different types of advertising. It could be replaced on any of these axes (it has already started to be on most).”

Do NOT be BETTER because making something better means you think the future will resemble the present

- “For example, [better doesn't matter when you're a startup](#), because better is an extension of the present. Better is when you think the future will resemble the present, but only be slightly different. The way startups win is by being radically different. A startup wins by avoiding the comparison trap entirely.”
- “And so, I kind of return back to, business is never a fair fight. And so, if I'm a founder, there's a universe of ideas I can pursue. The mistake that a lot of founders make, and it's very understandable, they say, I want to go after big market opportunities. So they analyze big markets, they find unserved customers with unmet needs in under-addressed markets, so then they go build a product to go solve that problem. And that's very appealing, because it seems obvious, and the dots connect forward in an obvious way. But unwittingly, it buys into a context, [it buys into the current definition of the market, which was already set by the incumbents](#). And so, what you instead want to do is pursue a slightly more ambiguous opportunity, but one that harnesses these powers. Ones where you look at the inflection and you say, wow, that's really powerful, you look at the insight, and you say, yeah, I know that this is going to be, in the future, I know that this is where things are going to be radically different someday. I would rather have those things present and be willing to pivot the product than not have those things and have a much clearer idea of what the product should be.”
- “Nobody looks at the Tesla cyber truck and says, oh yeah, well [how does that compare to Ford F-150](#)? And you may hate the cyber truck, you may think it's stupid, but nobody's neutral about the cyber truck. You want to have a product that people can't be neutral about, but that the people who magnetize positively to it just can't imagine a world without.”
- “The way to get startup ideas is not to try to think of startup ideas. It's to look for problems, preferably problems you have yourself. The very best startup ideas tend to have three things in common: they're something the founders themselves want, that they themselves can build, [and that few others realize are worth doing](#). Microsoft, Apple, Yahoo, Google, and Facebook all began this way.”

Force the customer to Make a Choice NOT a Comparison: Get the world to behave in a different way

- “I thought, a lot of times people on the right side of history believe their causes are so just that they let them speak for themselves as opposed to realizing they have to fight for them. We think it's pretty important that, even if you are coming at it from a position that you believe is very valuable and useful, you still have to recognize that [you're going to have to get the world to behave in a different way if you're going to win](#).”
- “So like Okta, at first, they wanted to do cloud systems management, they thought that they needed to do problem resolution, but when they showed it to customers, they were kind of meh about it. And they said, well, why are you meh about this? And they said, well, it's not a top priority. And they said, [what is your top priority? And they said,](#)

identity management. So they had the right insight, which was, customers would struggle to manage cloud services, but they had the wrong implementation of the insight, so then they came back with identity management, and it worked."

- "So like when Lyft launched ride-sharing and then Uber closely followed with UberX, nobody after riding a ride-share said, "Oh, how's that different from taxis?" It was just self-evident how different it was. And so that's what we mean by forcing a choice and not a comparison."
- "So the startup capitalist, it turns out, is a different type of capitalist. A corporate capitalist makes money by persistently compounding, makes money by extending their advantage, makes money by having a moat, makes money by doing things well over and over again in a compounding way. Startup has none of those things. There's nothing to compound. And so the way a startup wins is they just change the subject. They deny the premise of the rules and propose something completely different."
- "...you want to have an idea that just radically breaks the pattern that can't be compared to anything that's come before, and that's when the startup has a chance to play offense."
- "And so I like to say, "You want to force a choice and not a comparison." If everybody's selling apples, I can't be a 10 times better Apple. I want to be the world's first banana. And I want to say to people, "You may not want bananas, you may not like them, you may not value the advantage of bananas, but if you value banana-ness, I'm the only person that's got it." It's like, "Come to papa." And so that's like an insight feels like that. And in the early days, don't spend any of your time with people who love apples because you're not going to convince them and they're going to waste your time. What you want to do is find everybody in the world that values the advantages of bananas as soon as possible, not wasting any time on the people who don't. And so I'd say that that kind of wraps up the idea of insights is it like we want to force a choice and not a comparison. And even if it's halfway ripe, because that's the other thing, they need to be willing to tolerate the fact that you can't execute very well because how could a startup execute really well? They have no resources. And so the only chance for a startup to win is to win on a playing field where better doesn't matter where execution isn't as important as, "Got to have that thing. I'll take any version of it you give me because I am desperate for it.""
- "...so Brian never said, "Hotels suck. Death to the Four Season." He just said, "Hey, look, when you go to Paris, you have a choice. You can hang out in the Four Seasons and it's going to be just like the Four Seasons everywhere else in the world. It'll be in the middle of the town, or you can live in Paris like a Parisian." And he's like, "I don't have to say that the Four Seasons is bad for you to decide to choose me. And oh, by the way, if you want to stay in the same kind of hotel everywhere you go, I'm not for you." But so now let's say you're four seasons, your whole business is predicated on doing a good job of having a common experience that people could accept and that they're used to and that they expect. And so now you've taken all of the stuff that you invested decades in and turned it into something you have to apologize for all of a sudden. And so the great startups, they create movements not so much by criticizing the incumbent, but by showing the weakness in the strength of the incumbent. And then just saying to the customer, "Hey, look, you decide it's not up to me to decide what's bad about Four Seasons. It's up to you to decide whether you value my difference or not.""
- "The Tesla was this way, right? It wouldn't have survived a comparison with a Porsche of 9/11. The seats weren't as good, the radio wasn't as good, but Elon was telling a story about a different future. And when you bought the Tesla Roadster, you weren't buying it

for practical reasons. You were buying it for aesthetic reasons. You were buying it because you thought that that future was something you wanted to be part of."

Start a Movement (a set of the population with the same belief that are moving toward a different future; growth without needing to spend money): Flash Frozen Food, Seed Investing, Electric Vehicles (Tesla), Living like a Local (Airbnb), Ride Sharing (Uber, Lyft)

- "But fundamentally, a movement is a different way of developing a market than how most marketing people think about developing the market. Most people when they think about marketing, they think, "Okay, I've got a set of targets, I've got a set of programs. I've got inbound and outbound. I've got these things I need to do." What a movement does is it leverages a grievance of a minority against the tyranny of a majority. And it takes that and animates it in a way that those early believers are emotionally committed to moving."
- "And so a movement is basically a set of people with the same belief moving together to a different future. And when you think about it's equally the same, right, for the civil rights movement. And a movement is a way to crystallize the choice. If you believe in civil rights, you can't be half in on that. You either believe that it should be about the content of people's character, not their skin color. You can't be sort of not racist. You either believe or you don't believe. The people who followed Martin Luther King bought into the aesthetically better future that his movement promised... the notion is similar in that there's a set of early believers who believe they've been enlightened about something that the rest of the world doesn't get yet. And they think that the startup founder is sort of like the prime mover of that movement. And then what happens is that startup markets happen because the movements accumulate and accelerate and more and more people join them. And what was once heresy becomes the accepted conventional wisdom and now the company's no longer a startup, it's a company, and now all of a sudden it is a valid market and all of a sudden they're the status quo and they got to watch out for the next set of disruptor."
- "...the great startups, they create movements not so much by criticizing the incumbent, but by showing the weakness in the strength of the incumbent. And then just saying to the customer, "Hey, look, you decide it's not up to me to decide what's bad about Four Seasons. It's up to you to decide whether you value my difference or not."
- "One of my favorite examples is actually an old one, Clarence Birdseye. So you go into the supermarket and there's frozen food aisle. Well, Clarence Birdseye discovered how to flash freeze food when he was up in the Arctic looking at Eskimos, and they were flash freezing their fish and he wondered, could you do it for other things? And he found out you could fruit and vegetables, but it wasn't enough to just flash freeze the fish or the fruits or the vegetables. You had to convince the trains to have a refrigerated car. You had to convince the supermarket to have a refrigerated aisle. And so he had to start a movement where a whole lot of people simultaneously believed in this idea of being able to eat food in a more convenient way, not always in season, not always grown locally from where you were. And so all movements have that characteristic where you kind of start with a higher purpose and then you move people to that different future."
- "In my early days starting Floodgate with Anne, we thought that seed investing was a movement. And so we thought that there was going to be a day where seed funds would be a permanent feature of the venture landscape, but people didn't believe that in the late 2000s. And so we're like not enough that we just succeed and invest in good companies. We need to get the best LPs in the world to buy into this. We need to get Phil Horsley and

Horsley Bridge and Dave Swenson at Yale and people who are respected in the ecosystem to say, "Yeah, I buy into that." And so it was really important to us to get the right early believers in our movement."

- "Another one that I really like is Tesla. So Tesla's mission says, "Accelerate the world's transition to sustainable energy." They don't even say they're a car company. So [Tesla doesn't say, "Here's why we're better than Ford and Toyota."](#) And this is really important, right? Because the great movements do appeal to a higher purpose. They don't say, "I'm better than company X. I'm Avis, I try harder than her." They appeal to a more aesthetically higher purpose future. And then they show that this startup is the vehicle for that movement to be actualized..."
- "...Chesky did this brilliantly with Airbnb. So he [created a movement around living like a local](#). And so the other thing that a movement does is it turns the greatest strength of the status quo into its biggest weakness. And so Brian never said, "Hotels suck. Death to the Four Season." He just said, "Hey, look, when you go to Paris, you have a choice. You can hang out in the Four Seasons and it's going to be just like the Four Seasons everywhere else in the world. It'll be in the middle of the town, or you can live in Paris like a Parisian." And he's like, "I don't have to say that the Four Seasons is bad for you to decide to choose me. And oh, by the way, if you want to stay in the same kind of hotel everywhere you go, I'm not for you." But so now let's say you're four seasons, your whole business is predicated on doing a good job of having a common experience that people could accept and that they're used to and that they expect. And so now you've taken all of the stuff that you invested decades in and turned it into something you have to apologize for all of a sudden. And so the great startups, they create movements not so much by criticizing the incumbent, but by showing the weakness in the strength of the incumbent. And then just saying to the customer, "Hey, look, you decide it's not up to me to decide what's bad about Four Seasons. It's up to you to decide whether you value my difference or not.""
- "[Ride-sharing](#) was a movement."
- "So if we take the Lyft example, let's just say I'm a rider. In the past, [the world that is taxis suck in San Francisco](#). I can't even get one. And when I get one, it's gross and it smells bad and it's late, and they won't take my credit cards. I have to have cash. They can't rely on them to get me there. I guess my alternatives to park, you can't ever get parking people break into your car. That's the world that is. Logan and John would engage in a call to adventure, "Try this ride-sharing app. It shows cars on map, you know where they're all the time, they come within five minutes, fist bumped the driver.""
- "Now, [this was where the genius of the pink mustache came in](#). So the pink mustache honored the fact that a lot of times people resist the call. It's scary to get into stranger's car. So the pink mustache made it seem a little bit less scary. When you see these cars driving around in San Francisco, you're like, "Hmm, what's up with that pink mustache?" And you're talking to your friend and they say, "Oh, it's this new thing called Lyft. It's pretty cool. It's an app if you've seen it." And so Logan and John did, among the best I've ever seen at honoring the fact that people might resist the call."
- "We were talking about the go-to-market motion that you executed and modeled at Figma. There's two steps, right? Step one is get ICs to love you, and then [step two is help it spread from that person](#), right? ..."
- "If there's something unique I have for your audience, I would say it's: [don't just build a product, build a movement. And to the extent that we've been successful I think it's that](#)



[we give people something to believe in, a philosophy, a worldview, even silly things, like we had this tagline in the footer of the wordpress.org when we started, it's still there, it says "Code is poetry", this idea that we're not just writing code, like we're trying to create something... we name every word press release after a jazz musician for the past 60 releases or so](#), so those sorts of things bringing like a little art and soul, and some fun into it as well, it doesn't have to be serious all the time... give something to believe in, and work on, and aim towards, that's more than just a paycheck or more than just you know the utility, the base utility of the software, so it's not just the software, it's also like how are the meetups, how are people getting together, what events are you running, are there forums, how do people contribute, are there office hours or town halls, I do a lot of Q&A... what are the things you're doing around the software that's allowing people to get involved, that's inviting contributions, that's allowing people to build on top of it.”

## **for Existing Solutions (Doubling Down)**

for Existing Solutions: Reduce Time to EXISTING Value (Doubling Down)

[ARIA] Actions to increase engagement of EXISTING solutions

- “Product teams have lots of frameworks leading up to launching new features, including identifying user needs, defining solutions, and prioritizing them on a roadmap. But [what about a framework for increasing the adoption of features after they’ve launched?](#) It’s one thing to know that you should focus on optimizing existing features but another to know which features to focus on, and what to do to make them more successful. When I’ve looked for a framework for increasing engagement with existing features, I’ve always come up empty-handed. That’s what led me to create the ARIA framework.”
- “ARIA has four key principles: [Analyze, Reduce, Introduce, and Assist](#)”
- “ARIA is certainly not a complete list of everything you can do to increase feature adoption, and it would be a waste of time to create such a list anyway, because people are always innovating new ways to make features more engaging. Instead, [use the framework as a cheat sheet to help guide you](#).”

0: Growth: Top of the Funnel (Growth Funnel);

Differs from GTM Strategies aimed at getting 1st users

- “[Oftentimes, a lot of people equate growth to top of funnel, and that is also critical. I think having the right top of funnel motion is really critical and building on that](#). So I think there's one part of, it's like once you have the right top of funnel motion to get people to come in, how do you help to make sure of the defining value and the building habit and their routine? Because that's the thing that helps you to compound over time. If you're bringing a lot of people but they're not staying around, then you just have a leaky bucket and it doesn't matter how big your top funnel is. So making sure that that first-month and two-month, three-month experience is great. And then the other part is really figuring out how do you build compounding growth loops where it's not just one way of acquiring people, but you're building two and three and four ways that layer onto each

- other that help you to really supercharge your engine of acquiring people.”
- “And so you would have all of these different growth engines compounding each other. So every time the invitations got better, every time we've got more celebrities, every time SEO gets better, it's like [magnifying the top of funnel](#), and at the bottom of the funnel or mid-funnel, making sure that people are retaining and getting value and staying around over the long term.”
- “If you want to help it grow, [focus on helping it spread, self-perpetuate](#).”

Referral

SEM

SEO: [Google Crawling > Indexing > Serving Pipeline Notes](#), [Other SEO Notes](#)

- “And so [every time a news article came out, they would link to the creators or the celebrities Instagram account or that particular post](#). And so you have this whole SEO engine that worked. And the SEO engine was because you have both web, which we launched at Instagram, which created the canonical SEO tables, and then you had all of these inbound links from these celebrity sites and news media, but then what you also had is you had embeds for Instagram and all of these different sites, like a news article, whatever, the posts, Lenny's podcast, Instagram account, and those embeds help with SEO juice. And so you have not just the invites, but now you have the celebrities, now you have the SEO component.”

Keyword Types [[Intent Taxonomy](#)]: Problem-Intent (learn spanish) or Solution-Intent (language flashcards)

1: Optimization: Reduce Friction (Time) to Aha! Moment - ~3 seconds to value

- “I saw you tweet about one of the key things that you helped them through, which is to invert, I'm reading this quote, "Inverting the time to value so that the user experience is the aha moment in seconds." Talk about that insight and how important that is to building a successful consumer social app. This kind of concept of getting users to the aha moment is something I recurrently bring up to every company I work with. And you have to understand that [in 2024, people's attention spans are like three seconds. It's really sad, but we are spread thin through so many notifications, products, everything that if you can't demonstrate value in the first three seconds, it's over](#).”
- “So that's what I mean by trying to [get people to the activation moment, the aha moment](#) and get them to value.”
- “The first consistently effective way to increase engagement with a feature is by [reducing the friction associated with using it](#). This includes reducing the number of steps, reducing the effort to complete each step, and reducing how much we need to learn before we can really use it (i.e. reducing the “cognitive load”).”
- “...the assist principle, the goal here is to [assist the user in using the feature successfully](#)...”
- “If you want to increase retention, [get people to do the core action more often](#).”

2: Adoption: Increase awareness of solution at a point when the user is most likely to want to use it to finish their JTBD (in context of their JTBD); Product “Inboarding”

- “Reducing the friction associated with features is critical, but it only solves part of the problem. It doesn't matter much that you've been able to reduce the number of steps required, the effort per step, or the cognitive load if no one knows about the feature. In this section, we'll talk about how to [increase users' awareness of a feature and motivate them to use it](#). A key point here is that I'm not just talking about introducing newly launched features. I'm referring to all your key features. Many of your existing users

- don't know about all of them, and for your new users, every feature is new to them.”
- “...there are [three main things you want to do when you're focusing on inboarding for a feature](#) one is you want to make sure we're raising awareness that the feature exists second we want to show users how to use the feature and third we want to motivate them and educate them on why they should use the feature to increase their engagement with it...”
- “The first step to introducing a feature is to simply increase users’ awareness of the feature. We’ve all seen the common UI elements used for this: pop-up modals, tooltips, banners, pulsing hotspots, walk-throughs, checklists, etc. But [the key question we should ask isn't “how we should” raise awareness but “when”](#).”
- “The right time to introduce a feature is to introduce it in context, which means [at a point when the user is most likely to want to use it](#). Compared with a user who is simply told about a feature, a user who is told about a feature when they need it is much more likely to use that feature and remember it.”
- “...the first one is to increase the user's awareness of the feature in context and what I mean by in context is [introducing the feature at a time when the user is most likely to want to use it...](#)”

Repeat Visibility: 3-4 times

- “...there's a memo that was leaked to BuzzFeed while I was at Facebook. The main thing we found was like, [to be convinced to download an app, you need to see it. You need to see the marketing message three times or so](#). So you basically need to saturate an area with every kind of marketing you can. So we ran ads targeted at a particular school to when we were seeding and testing these apps. And we also followed people creating a dedicated Instagram account that went to that school, because we learned that high schoolers identify their school in their bio, so it says RHS on their bio. And so that was how we tried to get the entire school to adopt synchronously. We'd follow them and then accept the followbacks. Big misunderstanding though, and I get this DM a lot of people are like, "I'm trying to replicate your strategy. We've just done it at 15 schools and it's not working anymore." This is not the way we grew the app. This is how we tested apps. Really, it's a little bit nuanced there. That's an important nuance because you need to get enough intensity of adoption and density for a social network to start to get the flywheel spinning, but the app should grow by itself after that. And people think we just went from school to school following every kid on it. You can't, that's totally unrealistic. But for the first 100 users, yes, that's how we got them. And that allowed us to know whether the product was working or not.”

Motivate usage of the solution

- “...a third thing that you want to focus on is [explaining to someone why they should use the feature...](#)”
- “When interrupting users to enable a new feature, [ensure it's not something expected](#). It'll reduce the perceived value of the interaction. Pro tip: Instead, turn them on by default and gradually onboard new people when they start reaping the benefits of that feature (creating delightful moments!)”

Clear Benefits: e.g: copy including text like “Enhanced Safe Browsing”, or examples of use cases

- “[Clear Benefits](#): Benefits shouldn't be hidden. They should be the first thing you see.”

Novelty Effect: displaying a “new” badge or label

- “The [Novelty Effect](#). We react positively to new things, so make sure it's well shown.”

Exclusivity: copy including text like “We’re testing this new feature, and will soon roll it out to everyone.”

- “[Exclusivity](#). Finally, giving people a sense of exclusivity (when it's true!) is a good way of raising the psych.”

Break Barriers: answer user questions & doubts before / as they arise

- “When people see something new, they'll have questions (even doubts). The best way to [convince them to try something is to address those questions as they come to mind](#). If not, people will find something else to do... like eating brunch.”
- “Breaking user barriers. Always answer questions before they arise. That's also why you need solid user research.”

Explain how to use the solution (“Test Drive”)

- “...the second thing you want to focus on is [explaining how to use the feature](#) there are some pretty well known techniques that people use here such as tool tips which tend to be lightweight or a modal which tends to be a little more heavyweight but conveys more information if necessary and then you can even go through full walkthroughs where you're giving them step-by-step guidance on how to do something and which one you choose will depend on the feature that you're introducing...”
- “...[difficulty in understanding how to use the product effectively](#), resulting in delayed learning. As a matter of fact, the learning curve becomes too steep, impacting the overall usability of the product.”
- “At Viaweb the key to getting users was the online test drive. It was not just a series of slides built by marketing people. In our test drive, users actually used the software. It took about five minutes, and at the end of it they had built a real, working store. [The test drive was the way we got nearly all our new users](#). I think it will be the same for most Web-based applications. If users can get through a test drive successfully, they'll like the product. If they get confused or bored, they won't. So anything we could do to get more people through the test drive would increase our growth rate.”

Tool Tips

Modals

Walkthroughs

Step-by-Step Instructions

- “...provide guidance to the user [by telling them what to do](#) and a common tactic there is to provide step-by-step instructions...”

Product Tour

Announce the solution on multiple channels

- “...the last aspect of introducing is if this is a brand new feature not just a feature that the user hasn't used yet but something that's completely new just out in this release whatever it may be the focus here is to [announce this feature on multiple channels](#) so you can use external Communications like email or announcing on LinkedIn or social media you can use a pop-up within the app like a what's new pop-up or you can use tool tips or modals or walkthroughs like we saw before...”

Email

Social media

Modals

3: Retention (Re-Adoption)

Loop the User Back-in (Pull the user back to the product)

Push Notifications

- “As an example, in the early days of Pinterest, if you pinned something, you're pinning something that you found on Pinterest that somebody else pinned. So we would send a push notification, "Hey, Lenny, Sarah just pinned your pin to her art board." Now, if you were a dormant user at that point, it's been a couple weeks since you'd used Pinterest, that notification might pull you back into Pinterest and be like, "Hey, I wonder what other pins Sarah has on her art board." It's a great re-engagement loop where Pinterest doesn't have to do anything there intentional. [The user is creating the action that drives the outcome that Pinterest wants in that example.](#)”

[!!!] Too Many Notifications can be a bad thing

- “I think of companies like Houseparty and Clubhouse. What was interesting about both of those products is that you would think that the more users that came into Clubhouse or Houseparty, the faster the flywheel should spin. But the challenge was that they relied on push notifications. I don't know if you had this experience, but let's take Houseparty as an example. You started to follow a lot of people on Houseparty, and then all of a sudden, your push notifications just got overwhelming. Because it was a realtime product, that you had to use push notifications to know the moment to join the product, but when you had so many push notifications because the more people you followed, [the more notifications you had, you just get to this point where you start ignoring them](#). It becomes this thing where, even though the flywheel should be spinning faster, it starts breaking down. That's the real tricky nuance in this level three.”

Emails (e.g: when user searches for something that isn't available, if it becomes available then send an email that it is available)

Gamification (Rewards)

## **Writing Project Proposals**

Write “Value Prop” Proposal

- “There are really two goals here: 1.The first is to ensure the team is all on the same page in terms of clarity of purpose and alignment. In particular, we need to agree on the business objective we're focused on, the specific problem we are intending to solve for our customers, which user or customers you're solving that problem for, and how you will know if you've succeeded. These should align directly to your product team's objectives and key results. 2.The second purpose is to identify the big risks that will need to be tackled during the discovery work. I find that most teams tend to gravitate toward a particular type of risk that they are most comfortable with.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “At this stage [you haven't invested a lot of time into designing the solutions and the development hasn't started yet, plus you haven't presented anything to your business stakeholders yet](#), which makes it even easier to make changes/improvements at this stage”
- “We don't write PRDs in a single meeting; typically, [PM will take an initial stab at a PRD based on their understanding of the customer problem, and will then work with UX and Engineering](#) (and various other stakeholders, depending on the idea) to add/remove/refine/etc. That happens over the course of many conversations, not just one meeting, and must must MUST involve customer validation of the concept and design if that hasn't been done already. The PRD probably does spell out which OKR(s) the work is likely



to impact, but those OKRs have already been determined. The closest thing we have to a "project planning meeting" is when the PM along with Engineering and UX counterparts present their plan to product leadership for approval and alignment."

- "Requirement analysis happens to analyze all the requirements collected in the previous activity and plan a proper software solution. PMs or BAs create the business cases, customer journey diagrams and further brainstorm with designers, developers, and testers to develop the PRD or BRD. PRD or BRD is considered as [a reference document where all the requirements, timelines, schedules, and issues](#) are mentioned."
- "A PM's job is none other than Product Management, they will develop a product. Product Requirement Document (PRD) which [is the main document for a PM in developing a product](#)."
- "PRD is a document that [will describe the purpose, value, and functionality of the product or feature being developed](#). PRD is written from the point of view of the user to understand what a product should do. The PRD will be used by the product team to communicate what to build, the target users or who the product is for, and how the product will benefit users when implemented."
- "Ever wondered, why the guy from the testing team always asking for a PRD? Why stakeholders are always referring to that one PRD document as if it's a life manual? and the engineering team always comes back with a statement that sounds something like: "If not in PRD, not in scope!" That is the power that a well-written, strategized and lean PRD holds. [It binds the product together!](#)"
- "A Product Requirement Document describes the purpose, features, functionality, and behavior of the product you're about to build. A PRD [addresses what to build, why to build, who the product is targeted to, and how to build it with each phase precisely defined and strategized](#)."
- "I have always been a fan of one-pagers — short, space-constrained, descriptions of [a proposed product bet](#). A single page is something that you can put up on a wall for everyone to see. It takes between 3–6 minutes to read. If you use GDocs, you can invite commenting and suggestions. Overall, one-pagers encourage crisp communication, "product thinking", and collaboration. As with most things, it is the "conversation that counts"...you'll know one-pagers are "working" when they inspire a lot of interesting banter, edits, challenges, clarifications, etc."
- "A one-pager lies somewhere between the spark of an idea and coming up with a detailed plan for the product. It's a document [created after research and sets the tone](#) for a product or key feature early in the process."
- "One-pagers are short, space-constrained, [descriptions of a proposed product plan](#). It is something that you can put up on a wall for everyone to see. And It takes less than 5 minutes to read. Overall, one-pagers serve to encourage crisp and clear communication, product thinking, and collaboration. As with most other tools, you will know if a one-pager is working if it leads to conversations."
- "One-pagers communicate the data, insights, and beliefs [behind potential "bets"](#). Most startups are not dealing in the land of "sure things". The goal, therefore, is not to manufacture certainty or pitch your favorite solution. Rather, a good one-pager takes a data-informed perspective on risk and return."
- "One-pagers can help [create shared understanding around](#) value, outcomes, impact, opportunity, viability, and risk. Since they are short, it is easy to consume, collaborate on and share feedback."

- “One-pagers are no-fluff, no-spin, and to the point. However, it’s important to note that one-pagers are [not to be used to communicate detailed specifications, requirements, and plans](#).”
- “It isn’t just the job of the Product Manager to create one-pagers. Anyone in the organization can create a one-pager. [Identified a problem that our customers are having? Write a one-pager. Got an idea on something the product and engineering team should build? Write a one-pager.](#) I could keep going here but I think you get the idea.”
- “If your website has never had Search and is adding it as a new way for customers to use your product, that would be a great reason to write a PRD. [Document your discovery, your architecture decisions, your cross team partnerships and why you built it the way you did.](#)”
- “[Includes the participants involved](#) such as product owners, developers, and others.”
- “Your PRD shall be clearly able to clearly [define who the product is targeted to](#). Product thinking completely changes as per the target audience. A PRD with a business entity as the target audience will be completely different from a PRD written for a regular 40-year-old as the end user. Whomever the product is targeted, your PRD should be clearly able to categorize the EUs (End-Users).”

#### IF Small Problem THEN Opportunity Assessment Technique

- “An opportunity assessment is an extremely simple technique but can save you a lot of time and grief. The idea is to answer four key questions about the discovery work you are about to undertake: What business objective is this work intended to address? (Objective) How will you know if you've succeeded? (Key results) What problem will this solve for our customers? (Customer problem) What type of customer are we focused on? (Target market)”

#### Objective (*Summary: The User + The Project*)

- “One-pagers are no-fluff, no-spin, and [to the point](#).”
- “Remember that each and every data table or logic is supposed to enable a feature, which in turn enables the user to convert better. Not always is this understandable when explaining the back-end algorithm of a feature. However, if we [focus on explaining the user impact](#), this can be the key to building specific slides — or even the entire presentation, gaining our stakeholders’ understanding.”

#### Key Results (Success Metrics)

- “Success Metrics: How is the success rate of the product or feature [measured](#)? It can be from the number of users, time of use, and others.”
- “One of the advantages of working on a search engine is that you get robust and rapid quantitative feedback from users. It is fairly straightforward to [measure searches, clicks, and conversions](#). Search success can be tricky to define in a way that best aligns with searcher and business value, but in general it is highly measurable. There’s no excuse for not measuring search success and using that data to drive product development decisions.”
- “How are you measuring success of your products?... The true north of it is, [from quantitative side](#), is our success rate of our search sessions, how successful we have been finding what you have been looking for, it’s a quite complex metric, we’re constantly evolving it, other kind of similar one to it is the number of overall successful search sessions and of course that gives us the unique users part as well, how many people are using our product and if that’s growing or not, and then depending on the specific feature, for instance for typeahead the success of it is click thru rate, another thing we track,

especially for navigational intent, is time it took for you to click on the first result, so once you submit your query or as you're typing in your query how long it took you to get to the first result..."

- "...the question is [what's a hard definition of a successful search session](#), it is evolving, very high level definition of it is overall our search sessions are bounded by you clicking on the search box, so once you tap on the search box that starts your search session until you do that again, and then within that what's successful is the easiest measure of success is a click, so if you clicked on a search result, that's success, although it's tricky because you can click on a result and actually get back to it because you thought it was relevant but it really wasn't, so we do try to understand what's your dwell time in the destination, that sort of thing..."

User Problem

Target Market (User Segment)

IF Large Problem THEN Working Backwards Process (Press Release)

- "For smaller and more typically sized efforts, the opportunity assessment is usually sufficient. But when embarking on a somewhat larger effort, there may in fact be multiple reasons, several customer problems to be solved, or business objectives to be tackled. To communicate the value effectively, it may take more... A typical example of an effort of this size would be a redesign. There are likely several objectives in the redesign, and maybe it is intended to both improve the experience for current customers and perform better for new customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "But there are a few techniques that are central to how Amazon builds product, and one of them is referred to as the working backward process, where you start the effort with a pretend press release." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The idea is that the product manager frames the work ahead of the team by writing an imagined press release of what it would be like once this product launches. How does it improve the life of our customers? What are the real benefits to them? You've all read a press release before—the only difference is that this is entirely imagined. It is describing a future state we want to create." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The actual reader of this press release is the product team, related or impacted teams, and leadership. It's a terrific evangelism technique—if people don't see the value after reading the press release, then the product manager has more work to do, or perhaps should reconsider the effort." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

IF Brand New Problem THEN: Startup Canvas

Startup Canvas

## **Scope & Requirements**

Gather Requirements for TIS PRD

- "Product Requirement Documents (PRDs) are essential for understanding what we are building. The PMs generally write them. They provide a written definition of the product's feature set and the objectives that must be achieved. PRDs are finalized in close collaboration with the project leads, EMs, and other stakeholders, ensuring everyone is on the same page. This document is required for consumer-facing products, and optional

for internal refactors/migration. While PRDs won't be covered in detail, it's important to note that well-written PRDs are critical for any successful tech project. Before project design, a PRD needs sign-offs from the tech lead, EM, and/or PMM. In addition, tech leads guide PMs on the constraints or challenges they might face in building a product. This process allows all stakeholders to ruthlessly evaluate the scope and decide what's essential."

#### 1) Project Scope: Prioritizing Requirements in PRD

- "...as the product manager, your responsibility here is to provide a certain direction and carefully laid out guardrails for your designer to follow. You should be scoping the problem down to an initiative that is not just manageable but also ensures that the designer is spending their full time on the actual problem at hand, rather than going off on tangents on something that may not be the root cause or issue that was found during the discovery phase. Provide limitations and specify what is out of scope for the design. Make sure the designer is well aware of the scope before giving them lots of breathing room for them to think and create what could be the MVP of your next great feature."
- "It's a long-standing principle of programming style that the functional elements of a program should not be too large. If some component of a program grows beyond the stage where it's readily comprehensible, it becomes a mass of complexity which conceals errors as easily as a big city conceals fugitives. Such software will be hard to read, hard to test, and hard to debug. In accordance with this principle, a large program must be divided into pieces, and the larger the program, the more it must be divided. How do you divide a program? The traditional approach is called top-down design: you say "the purpose of the program is to do these seven things, so I divide it into seven major subroutines. The first subroutine has to do these four things, so it in turn will have four of its own subroutines," and so on. This process continues until the whole program has the right level of granularity-- each part large enough to do something substantial, but small enough to be understood as a single unit."

Setting the Right Scope: Focus is Key, Scope to the **Bare Bones**;

Ask yourself "*What if we remove this? Is the product still useful?*" then keep repeating that until you find *the thing* that, *when removed*, makes the product useless; Scope down to *that thing/those things*; use "Willingness to Pay" to decide the right scope

- "...my advice to founders... was you got to start with one thing. So payroll was always going to be our first product, it's what we will call our our primary front door, but we always thought we'd be adding more products over time, but focus is the key so first thing we had to prove, not just to potential investors around demo day, but to ourselves was: could we even build a functioning payroll system? So we scoped the solution we were building to the bare bones. It had to be a way to go do tax filings, it had to be a way to go do tax payments, it had to be a way to go obviously do tax calculations, it had to be a way to go move money from an employer account into an employee account; that's the basic building blocks and so that's all we focused on doing... so once we did that we did onboard some other companies in YC and that was a very manual process because we had only built this backend but we at that point could say that we are now processing payments to the tune of you know thousands of dollars tens of thousands of dollars, which was one of the key messages I wanted to be able to tell during our our demo day presentation..."
- "Quality is not something you compromise on most of the time. I think yes, there's

strategic compromises in quality, but most of the time what you want to do is have a bar for quality where people should come in and if they're using the feature, it should work, right? Of course. And the way to cut down on time, and I think this is a mistake people make a lot of the time, is when time is being pressured downward, a lot of times engineers, PMS, designers, they will cut on quality rather than cutting on scope. And actually you can cut on scope. It's actually, [the method that we use is we look at every element that's going to take any time to build and we just say, what if we remove this? Is the product still useful? And we keep repeating that until we remove whatever's left and we say it's going to be useless at this point. And that becomes the one-week project, right? It actually really works. It narrows down to the core of what you're really trying to ask.](#) So for example, let's say we wanted to build something to add an image on your video or something like that, and this is a really basic idea. I just made it up right now. And you might imagine a design in which you import your image from your camera roll, but before it lands in your video you might want to remove the background. You might want to change the hue and saturation or something like that. And you might expect a designer to design all of those features and you let it design, but you really quickly realize that you can cut all of that stuff. You can cut the background or you can cut the hue saturation. All you really need is pick. And then there might be a picker. We need a picker with a library, with a lot of different type. What if you want to pull from the cloud? What if you want to pull from the drive or something like that? Cut all of that, right? And essentially come down to the core, which is just native picker from the camera, lens, straight in the video, no UI. And that is already, that should be useful. If that's not useful, then anything else built on top of that is also useless. So that's how we might go about it."

- "[Customers complain the product has too many “nice to haves” and too few “gotta haves,” and they conclude they don't need the product, at least at that price.](#) And if they do like some of the “nice to haves,” they can't afford them. There is no compelling value story for the customer, and too high a price for non-compelling value because the features have hiked its cost" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "...before sketching out its new product design, the Guard, [Gillette spent thousands of hours interviewing people in India and other emerging markets. It observed them in their homes and on shopping trips to understand what features were must-haves and what features were nice-to-haves.](#) From this analysis, the company determined a price that Indian consumers were willing to pay." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "[The CEO told the R&D team to focus on the 10 features customers valued. The other 15? Forget about them.](#) In this way, the willingness to pay talk allowed the company to prioritize. Equally important, the talk showed them which features customers didn't need at all. The ranking of the 10 most desired features gave the R&D and innovation team its marching orders— which features should be developed first, second, third, and so on. In the vernacular of software development, it gave the team a product roadmap. More important, because the team focused on only the important features, they consequently built a better product experience for customers. The willingness to pay talk helped prevent the company from creating a feature shock." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "With initial research showing Porsche had real opportunities with an SUV and a four-



door family sedan, [the next step was to determine exactly what had to be in those vehicles. The company knows designing a viable vehicle means giving customers the features they want, not what Porsche wants. For Cayenne and Panamera, it conducted extensive value analysis to determine the features for each car.](#) Porsche did its value analysis in so-called “car clinics” in exhibition halls, where it rented competitors' cars and presented them alongside the new Porsche models. It then invited potential customers to evaluate the vehicles. Of course, part of what Porsche asked these potential customers about was their willingness to pay for the cars. This, too, went above and beyond the industry's typical customer research. Most automakers only gather customer perceptions, asking such questions as, “Do you like the car overall, the front, the interior?” or “How do you like this feature?” and “Would you be interested to buy?” But they typically don't take the next crucial step and ask the willingness to pay questions.” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### MoSCoW (MSCW)

- “There are multiple methods to [prioritize items by value](#), but my favorite method is using MSCW (Pronounced: Moscow). To run an effective MSCW prioritization, you need to do the following: 1. Write the timeline your MVP is targeting on a wall so everyone can see it. 2. If you don't have a timeline, estimate based on your quarterly goals. Market timing is an important factor for trade-offs. 3. Discuss with the definition of a Must, Should, Could, Won't have with your team. Write this on a wall. (or use Miro if you're working remotely). 3. Provide voting dots for your team to vote on the MSCW's. Limit votes on Must and Should items and unlimited votes for Could's and Won't's. (e.g. 5 “Must”, 10 “Should”, and unlimited “Could” and “Won'ts”. ) 5. Get everyone to walk around and vote. Discuss the outcome with your team — ask for reasons behind each vote. 4. If your team needs more Must's and Shoulds, give a little bit more then rinse and repeat. (Usually, 2 rounds should be enough).”

Must have (Direct Impact to Quarterly Goals); ~60% of Requirements are a “Must”;

Will the product work/sell without this feature?

Is there a simpler way to do this?

What happens if this feature is not added?

- “[Features that contribute to meeting our sales target](#) for this quarter.”
- “[Requirements in the category “must” are, of course, to be considered absolutely necessary and are essential for the success of the product/project.](#) Here, nice-to-have features are just as wrong as requirements that can easily be moved to a future release. Only requirements that have been classified as absolutely critical to the acceptance of the stakeholders and the targeted user group should be included in this category.”
- “[Requirements in this category that have not been implemented by the end of the project usually affect the acceptance of the product/project.](#) Under certain circumstances, the project is also considered to have failed — depending on the criticality.”
- “[Make sure that no more than 60 percent of the requirements are assigned to this category.](#) Of course, this varies greatly depending on the project and the level of the requirements. Set individual goals so that you can plan the project well.”
- “[Critical features that must be included in the product.](#) If it's not included, the product release will be a failure.”
- “...must have has a very simple definition: minimum usable subset, so what is a minimum usable subset? These are the [things that must be delivered otherwise the project will be](#)

[deemed a failure](#). That's how you define a minimum usable subset, nothing beyond that..."

- "What is the use of an online store in which I cannot enter a shipping address? What is the use of an appointment management application that doesn't allow me to manage these events properly? [Products without central and essential functions miss their purpose](#)."

Should have (Indirect Impact to Quarterly Goals, can be released in V2); ~20-30% of

Requirements are a "Should" (Must be escalated to PM before removing from Project);

What other features do we want the product to have?

- "[Non-direct features that can support in hitting our sales target](#) for this quarter."
- "“Should” is considered as a category of critical and important requirements. These requirements strongly contribute to the acceptance and success and are definitely worth aiming for. However, [they are not show stoppers if not met and do not cause an unavoidable failure of the project](#). In the simplest case, these requirements can be delivered in a future release."
- "[Requirements in this category are very often candidates for a future release](#). This allows more space for the "Must" category and makes a project more predictable. Make sure that about 20 to 30 percent of the requirements go into this category. Again, of course, this depends on various circumstances and constraints."
- "Important features, but not critical for the product. These could be [features released in phase 2 or added into phase 1 if your team has extra development time](#)."
- "...if this requirement is something you really, really want and [it must be escalated up to you before it's changing it should be a should have](#). A should have requirement it's going to feel a lot like a must-have however if i should have requirement it's not delivered the project has not failed because should have requirements obviously can be de-scoped but that cannot be done without escalation up to the project level i should just say business analyst and business visionary strictly so without escalation up to your project level these elements have to remain as they are..."
- "In addition to the primary payment methods, another payment method needs to be available. Even if it makes sense from a strategic point of view to offer this payment method, [it is not vital for completing an order or for the functionality of the online store](#)."

Could have (Impactful, but not for Quarterly Goals) ~ may not be included in Project Scope;

~10-20% of Requirements are a "Could"; Nice to haves (Does NOT need to be escalated to PM before removing from Project - These can be descope by your Development Team);

What do we add to this product later, which will make it easier for our audience?

- "[Improves customer experience and reduces calls](#) to our call center."
- "Achieve an agreement regarding the ranking of the individual categories! [All stakeholders must be aware that a "could" requirement may not be included in the project scope](#). However, this does not mean that it cannot be made available in a future release!"
- "[Requirements that are not crucial for success are the classic nice-to-have features](#), which are assigned to the "could" category. However, this does not mean that they are "worthless". If resource planning allows it, these requirements should also be implemented. They often increase acceptance — and for this reason alone, they should not simply be dropped."
- "[10 to 20 percent of the requirements should be optional requirements](#). As mentioned above, this depends on many factors."
- "Commonly called 'Nice to haves' aka 'NTH.' [These features aren't necessary for the release](#). As new information comes from users, these features may move to a 'Must' or

- ‘Should’, or to a ‘Won’t’ in future planning sessions.”
- "...well let's look at a could have requirement first of all, could have requirements within the DSDN framework [can be de-scoped by your solution development team so without it being escalated up to the project level](#), that's the board level, that's the people who are actually authorizing and sponsoring the project, without it being escalated up to them your solution development team had the ability to take that off the table... think about what would you be willing to leave in the hands of the architect and the builders okay what things would you be happy for them to take out should the project be running short on time to say you know what i'll defer this to your expertise based on your analysis of this project you can leave this out if you're happy to do that with a requirement then that requirement is a could have..."
- “When the customer signs in to the online store, he or she can be shown personalized product suggestions. This leads to higher acceptance of the store, but [does not affect the basic functionality of the platform if the requirement is not met](#).”

Won't have (No Impact to Quarterly Goals);

Which ideas do not serve our purpose?

- “[Does not contribute](#) to this quarter's goals.”
- “Whether “Would”, “Won’t” or “Want” — the “W” is not clearly defined. However, [it is obvious that this category should include all requirements that are excluded in the current project scope](#). Therefore, we mostly use “Won’t” as an explanation. This does not mean that they will not play a significant role in the future! Especially in dynamic markets, priorities can change faster than some product owners or project managers would like.”
- “Kill these ones. [These features will be things that aren't aligned with the goal of the product](#), or maybe the risk/value is in the wrong quadrant.”
- “The online store should not offer a language selection “Chinese”, as [this market is currently irrelevant](#).”

Do NOT Aim for Perfection (unless in domains with big penalties for making mistakes; e.g: healthcare)

- “Even if you start the way most successful startups have, by building something you yourself need, the first thing you build is never quite right. And except in domains with big penalties for making mistakes, [it's often better not to aim for perfection initially. In software, especially, it usually works best to get something in front of users as soon as it has a quantum of utility, and then see what they do with it](#).”

## 2) Requirement Elicitation for PRD

- “Requirement elicitation is all about [collecting the software product requirements from the stakeholders](#) and organizing them to plan the software designs, development processes, and testing plans. A lot of effective communication happens in the requirement elicitation stage.”
- “First let's talk about what a requirement is. A requirement is [either a condition or a capability](#) that is required from you by a stakeholder for a specific project. So when we talk about conditions we might mean contractual terms, obligations, compliance requirements, timeframes, budgets, or policies that you need to comply with. When we talk about capabilities, these could be features that your stakeholders need, so something like it must be blue, or it must be 8 feet high, or it must run at a certain speed, these are capabilities that your solution needs to have. So it's either going to be a condition or it's going to be a capability.”
- “When determining requirements, we want to strike the right balance between being

prepared and being agile. In other words, [the bare minimum effort that is needed to start building a great product.](#)”

- “The business analyst identifies the needs and wants of the stakeholders during the requirements elicitation process. Requirements are not normally readily available. The business analyst needs to [‘bring forth or draw out’ requirements from stakeholders using various elicitation techniques](#). The BA may capture these pieces of information as meeting notes on a notepad, scribbling on a piece of paper, notes on a whiteboard, an audio or video recording, photographs, status reports, presentations or even some diagrams were drawn using some tool to quickly capture stakeholder needs.”
- “[Where do you think the requirements come from?](#)... These are well researched decisions that come out of conversations with stakeholders, customer interviews/surveys, application usage analytics and long-term company goals, just to name four. that is a lot of information to digest and synthesize into requirements, not to mention overseeing the designs you need to be perfectly annotated if we don't want to have to reject your story 3 times before it's accepted.”

“What” do I need to know in order for an Eng OR Designer to build my TIS?

- “Do I know what I need to know? So what does this mean: let's say you asked me to implement sharepoint across the organization or maybe you asked me to convert all of our printing into some centralized printing solution, my question to myself would be: What does this take? Do I know the technology? Do I know how many people will use this solution? Do I know the location? Do I know how much? Do I know what specific functionality you're looking for? Do I know the volume of work that is going to go through the system? So those questions that i have in mind are going to be answered by specific people or certain documentation, so in this third step you want to know everything that is still missing for information, so now what you're going to do is create a list that says item number one that i need to know is how many people will use this solution, item number two how much are they willing to spend, which was probably covered in step number two here in the constraints, item number three for example the location, item number four are there any rules that i need to follow item number, five what you know maybe what systems are in place right now that will need to be replaced by the new system. So you will need to figure out, [you need to make a list of all the things that you need to figure out for this solution.](#)”

“Who” is needed to generate the list of “What” in order for an Eng OR Designer to build my TIS?

Product Designer

- “While writing the design requirement, [collaborate with your UX designer as much as you can](#). Take their input as there might be things that a designer thinks is important in order to have a better user experience which wouldn't cross your mind. For example, a designer might think the preview should be of a certain size and the profile picture should always maintain certain resolution in order for a good experience than those kinds of requirement should be written here.”
- “After conducting discovery, it's [time for you and the designer to discuss what the solution might look like](#). This might occur after having a brainstorming session with the whole team, or it might just be the designer's first run at coming up with a lo-fi wireframe of what the intended solution might look like.”

EM (and/or Senior Engineers)

- “Similar to the design requirement in this part of the epic [try to involve the engineers or](#)

[tech lead as much as possible](#). Their inputs in the early stage will be very useful while estimation and building it correctly. For example, the engineering team might want to build an API to integrate with some other system in order to fetch and maintain the quality of an image, those kinds of specifications and requirements should be mentioned under engineering requirements.”

#### Dependencies

“How” will I collect the information needed in order for an Eng OR Designer to build my TIS?  
via Team

[Product Trio](#)

[Eng Leads](#)

via [Assumption Validation](#)

via [Qualitative Methods](#)

via [Quantitative Methods](#)

via [Prototyping](#)

3) Review TIS in Product Trio Meeting; Stakeholder Review (via Tagging in Confluence, Slack, Email, etc)

- “Discuss these solutions with your team (tech, design, UX, data) to give them a heads-up on the direction you are thinking about the solutions, and also [get any feedback from them](#)”
- “[Take the feedback and ideas into consideration](#), and analyze them logically with data. There is nothing for you to lose with this PRD review session, it can only provide you insights, data, ideas which you didn’t know before”
- “Do this [after you have chalked out the solutions and discussed them with your team](#) (UX, Design, Tech, Data), and did your first set of usability testings with the paper prototypes. Post which you would have implemented the feedback you got from your team and the users to your solutions. At this stage, you can do the first PRD review with your product folks, before presenting it to your company stakeholders/business heads. Doing a PRD review at this stage will give you the much-needed insights and feedback you need about the solutions you have drafted. But you also have some user data to back up the solutions you are presenting, but again it is at a very preliminary stage, which means that there is enough room for improvisations to the solutions.”
- “Spec review: at this stage, you've put together a proposal for why to solve a problem and ideas around how to solve it. You [invite design, eng, your manager \(depending on how close they want to be to it\), other stakeholders to weigh in](#). This can be live or asynchronous depending on how much discussion you expect it will generate. The goal is to get alignment around IF the problem is worth solving right now, and how to do it. If it passes, you work with designers to create the solution.”
- “Establish a cadence with design that leads eng discussions. I find that the best Story Time sessions, particularly those for teams that deal in user-facing interfaces, are built around visual cues like wireframes. As such, those [wireframes need to be ready](#) in advance of Story Time, which itself happens in advance of the kickoff of development for any given user story. In order to achieve this, you’ll need to be on top of your game and develop a tight partnership with your designer, who’s responsible for developing their own shared understanding before running off to create their deliverables and perform user testing.”
- “A kick-off document lets you share with stakeholders [the smallest thing you can build](#) that will either validate or invalidate your hypothesis. This is valuable because your



stakeholders might not be aware of general lean start-up principles and might be expecting something closer to the vision before launch. (As a side note: I've always found it super valuable to share some of the best product practices that help us validate direction with the wider team)."

#### 4) Brainstorm TDS in Product Eng Leads Meeting; PRD Review Meeting w/ Stakeholders

- "...[how do i recommend that you review it with your team](#) so you're going to want to schedule a review of your document with the entire team depending on how long it is this might be a half hour review this might be an hour review at this stage there's going to be a lot of questions clarifications and challenges coming from the team that should be addressed in the PRD if necessary so the goal isn't that you show this and everyone loves it and you walk away um you're definitely going to want to get some constructive feedback from your team to make sure you've considered all of the risks and implications the goal at the end of this is that the prd is thorough and comprehensive enough there are no surprises later on here's how i recommend handling it provide each team member access to the document start the meeting by asking them to review it give them an allotted amount of time to review it leave a section after every section of requirements for notes and open questions when everyone's done reviewing it you should ask for level feedback overall on the doc these shouldn't be intricate questions about the requirements but instead should be any risks or issues people see overall with your product once you've gone through that start going through the questions that you have in line question by question address them verbally but then be sure to include the changes in the prd as well once all of that feedback has been incorporated you can pass the document over to development..."
- "You can do the first PRD walk-through at the initial stage of the PRD writing process, right after you have chalked out the solutions and done the first set of usability testing for them. At this stage, you will be looking for [approvals from your stakeholders on the PRD in order to kickstart the tech development work](#). You can do the walk-through, even though you won't be having all the details and it will be a work in progress."
- "PRD Walkthrough is a process, where the [Product Manager/Owner of the PRD takes the team \(Tech, Design, UX, Data, QA, Support\) and stakeholders \(Business Heads, Business POCs\) through the PRD in a presentation format](#). The Product Manager explains to the team the details mentioned in the PRD including user flows, wireframes, prototypes, etc. Post the presentation, the PM will take questions or feedback related to the PRD"
- "But you can communicate the same thing to your stakeholders, and [tell them that there will be a second PRD walk-through once you finalize the wireframes/solutions](#) based on user data."
- "[When the development process starts](#), you should bring your customer and the development team together and agree on the PRD content. Such meetings usually happen during the discovery phase."
- "Make sure everyone involved (meaning also [all stakeholders](#)) [are in the same room](#) at the same moment"
- "When launching any product you need to remember it isn't just about digital. Most products will require a service wrap and therefore cross-functional collaboration is key. You'll need to invite participants from sales, marketing, technology and customer service operations. You need to have those people in the room from day one. [Avoid having more than one expert per field](#). You need to keep debate structured and the meeting fast flowing. Too many people with the same expertise will get you bogged down in endless

debate and swirl. If you're developing a product that is going to work on desktop and app then consider bringing in experts from both areas. There's nothing worse than things getting lost in translation after a meeting someone wasn't invited to."

- "[Make sure you're the only Product Owner](#). Sounds obvious but it's amazing how many meetings are held with two Product Owners invited. One might have been invited to provide additional guidance, but before you know it you've got two POs playing off against one another."
- "One person, often [the project lead, is responsible for facilitating the meeting](#). That means inviting the right people, setting an agenda, booking a suited space, setting the context in the meeting and guiding discussions in the meeting."
- "Spell out [how you see everyone's roles, what they are responsible for and how everyone should work together](#). This should be the first thing you agree on as a team. Ways of working cannot be established later in the project without having to overcome and unpick bad habits."
- "The goal of the meeting is to [introduce all project members and stakeholders to each-other, understand responsibilities, and of course; get a general understanding of the project](#). Next, the project lead should explain what success looks like. Lastly, this is also a chance to define an initial way of working together."
- "During the meeting [you might want to run through requirements and other detail areas](#). If this is the case then make sure everyone has had time to digest any Trello board, PDFs or briefing papers. Don't use up meeting time reading when it should be about aligning, debating and deciding."
- "Leave enough time to discuss everything. [Don't schedule a kick-off meeting for less than 60 minutes](#). Time together to align and debate is worth the investment. Our last kick off meeting was 90 minutes."
- "Get someone to [act as note taker and decision tracker](#). There's nothing worse than leaving a kick-off only to receive no notes or actions. It simply slows things down and lets unresolved issues fester despite them being dealt with in the meeting."
- "A [kickoff meeting can set the course and the tone for the rest of the project](#). Meaning that if done right, it can contribute enormously to the success of the project itself. And done badly, the project kickoff meeting can destroy any chance of success before the project has even started."
- "Ask them for a common time slot (about 40 mins), where you can take them through the problem statement and solutions. And [you would like them to ask questions, give feedback post your presentation](#)"
- "You do not need to create a separate presentation for this. You can [take them through the PRD you are writing](#). To give them more time to think and understand the problem, you can share a non-editable version of your PRD document with them."
- "[Share this with the team that would work on this initiative, if prioritized, and any decision-makers that would influence whether this is a priority](#). At a minimum, I'd share with an Engineering Tech Lead, a UX designer, my manager or some other business leader, and someone close to the user under consideration (a UX researcher, a customer success manager, support team member, etc.) Ask their feedback and use it to polish your justification for the initiative. This must happen before you start to propose solutions. Don't waste anyone's time on problems not worth solving."
- "You cannot build any feature in its entirety in the first version itself. But unless you scope out the problem correctly, you won't know [which user needs to focus on and which](#)

[ones to ignore.](#)”

- “Before heading into this phase, [make sure you’ve aligned the idea with the business and validated the idea first](#). Scoping too early will create a lot of risky assumptions which will make you run around in circles.”
- “This process starts after you have completed the validation phase and [conduct a high-level scoping exercise using feature mapping](#). After this phase, you will head into the detailed scoping phase where you get into the details of the design and technical solution.”
- “Once you have [finalized the requirements and expected timeline](#), scope it out with your team (tech, design, UX, data) to understand what is achievable in the timeline”
- “By default, you will benefit when [all of your team that can impact the project is involved in the scoping phase](#). Thus, it helps to establish communication at the outset and escape the misunderstandings further.”
- “Out-of-scope items can be used to specify requirements for this phase if you need them. You can limit it to related requirements which stakeholders might assume to be part of the scope. Some [examples are the functionality to import data or support a platform](#). It’s a good practice to highlight the areas where scope creep could be a possibility.”
- “Scope the project — Rather than delivering everything in one go, split the project into more manageable chunks. [Release the chunks as separate versions.](#)”
- “Scope — what are we doing? [\(20 mins\)](#)”

#### Brainstorming Meeting

- “[Brainstorming](#): Members generate and contribute to each other’s ideas for solving a specific problem.”
- “Brainstorming is an efficient way to define their requirements. Users can come up with very innovative ideas or requirements. This can help gather ideas and creative solutions from stakeholders in a short time. Users or stakeholders can come up with ideas that they have seen or experienced elsewhere. [These ideas can be reviewed and the relevant ones can then be included in the system requirements.](#)”

#### Parking Lot

- “Some issues will require deep thought and reflection. Not everything will be answered in 60 or 90 minutes. [For bigger issues or items that need senior leadership decisions, log them in the parking lot and re-visit later](#). Avoid letting the meeting go off track discussing a contentious feature.”

#### Workshops

- “[Workshops](#): Working session where participants review a specific topic to reach a consensus.”
- “Workshops comprise a group of users or stakeholders working together to identify requirements. A requirement workshop is a structured way to capture requirements. Workshops are used to scope, discover, define, and prioritize requirements for the proposed system. [They are the most effective way to deliver high-quality requirements quickly](#). They promote mutual understanding and strong communication between users or stakeholders and the project team.”

#### JAD (Joint Application Development)

- “Joint Application Development (JAD) technique is an extended session to the workshop. [In the JAD session stakeholders and project team works together to identify the requirements](#). These sessions allow the business team to gather and consolidate large amounts of information. Identification of stakeholders is the critical to the overall success

of the JAD session. The JAD team includes business process owners, client representatives, users or stakeholders, business analysts, project managers, IT experts (developers, quality assurance, designers, and security).”

#### Design Sprint

- "A discovery sprint is a one-week time box of product discovery work, designed to tackle a substantial problem or risk your product team is facing." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "It could just as easily be considered a discovery planning technique or a discovery prototyping technique." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Some people use the term design sprint rather than discovery sprint, but as the purpose of the work—when done well—goes significantly beyond design..." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "There are several situations where I recommend a discovery sprint, starting with when the team has something big and critically important and/or difficult to tackle. Another situation where a discovery sprint helps is when the team is just learning how to do product discovery. And yet another is when things are just moving too slow and the team needs to recalibrate on just how fast they can and should be moving." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...during this week of intense discovery work, you and your team will likely explore dozens of different product ideas and approaches, with the goal of solving some significant business problem. You'll always end your week by validating your potential solution with real users and customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...a five-day week that starts with framing the problem by mapping the problem space, picking the problem to be solved and the target customer, and then progresses into pursuing several different approaches to the solution. The team next narrows down and fleshes out the different potential solutions, then creates a high-fidelity user prototype—finally, putting that prototype in front of actual target users and observing their reactions. And, yes, you can absolutely do this all in a week." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Technical Doc Analysis

- “Document analysis is one of the most helpful elicitation techniques in understanding the current process. [Documents like user manuals, software vendor manuals, process documents about the current system can provide the inputs for the new system requirements.](#)”

#### Reverse Engineering

- “This elicitation technique is generally used in migration projects. If an existing system has outdated documentation, [it can be reverse engineered to understand what the system does](#). This is an elicitation technique that can extract implemented requirements from the system. There are two types of reverse engineering techniques. Black box reverse engineering: The system is studied without examining its internal structure (function and composition of software). White box reverse engineering: The inner workings of the system are studied (analyzing and understanding of software code).”

#### Concept Modeling

- “[Concept Modeling](#): Technique used for visually representing a system or group of ideas that clarifies a concept. It’s especially effective when designing or drafting an early

solution or architecture.”

#### Process Modeling

- “[Process Modeling](#): Standardized visual representation of a process or activity. It defines the sequential execution of tasks in the system. It also provides the ability to model different levels and interactions.”

## **Programming Basics**

[Programming Basics](#)

## **ML Notes**

[Machine Learning Notes](#)

## **Search / Recs Notes**

[Search / Recs Notes](#)

## **AI / LLM Product Notes**

[AI / LLM Product Notes](#)

## **Prioritization**

Post-Validation: Prioritization (the when) - Add to Development Roadmap

- “[Once an opportunity has been validated and roughly estimated](#) (effort, dependencies, potential risks, and impact), it earns its place in the Roadmap and is turned into a Project.”
- “...once you’ve done that and once you’ve found that germ that you’re going to build a core strategy around and you have this core concept, you start fleshing out what you think are going to be the right steps and what sequence and why that might be, but how do you know this is ready for primetime? [How do you know this is a good product strategy?](#) So this is actually a really important part of the product strategy development process is being able to evaluate your own work... I find that finding the right sentence to force you to finish it can actually be a good forcing function for understanding if you’ve developed something strong, so I like these 2 sentences: ‘we are going to focus our efforts to achieve our goals by \_\_\_\_’ and if you can answer this sentence, if you can finish this sentence with an answer from your 1 page product strategy that’s cohesive then what you’re doing is you guarantee that you’re talking about a focused effort, you’re talking about narrowing in and you’ve answered that question and you’re also talking about how it’ll accomplish those goals... and then another sentence you can use is: ‘this is the most effective way to do this because \_\_\_\_’ and again this is another good forcing function sentence you can use to establish that you’ve evaluated the opportunity space and you’ve established a good core conceit and you’ve established a good structure of how you should accomplish this, and one of the best things you can do is actually give your product strategy to one of those panels of experts, one of those trusted colleagues, and ask them to finish the sentence for you, say ‘here, read this doc’ and then fill out this sentence and get a sense of if people are really getting the same sentence from your doc and if it’s a really compelling sentence...”
- “The roadmap includes many activities, and there is no fixed flow of activities inside the



roadmap; that is why [the roadmap comes with a challenge of activities prioritization](#). Many models help us prioritize the activities efficiently. I want to focus on some of the essential activities of the roadmap: Finalizing the Vision and Mission. Deciding the metrics associated with each goal like customer acquisition, revenue, profit, visibility, etc. Define the team structure and how we will get the resources. The Tech team also decides on SDLC models. There are a lot of models available. We must have heard the terms Waterfall or Agile. Agile is the most popular method nowadays. Another essential activity will be planning Mockups, Prototypes, and MVP (Minimum Viable Product). There will be many different activities in the roadmap, which vary from company to company, but I mentioned some common ones to understand.”

- How can I quickly validate the idea with a few customers before kicking off an MVP?
  - *Be wary of confirmation bias when talking to customers*
- What are the alternatives available to the customer compared to the product you are trying to build?
- Would your improved product really impact or change your customers’ lives?
  - *Try to quantify the impact in the amount of time or money saved for the customers*
- What is the cost of building?
  - *Account for opportunity cost and cost of MVP and iterations*

#### Product Discovery Retro

- “Run reviews and retros on both discovery and delivery work: When doing so, it’s important to get comfortable with failure. Discovery is all about learning and there is no learning without failure. Get people to celebrate and [talk about hypotheses that could not be validated](#), ‘failed’ experiments, and things they have stopped exploring. Make sure everyone understands that this ‘failure acceptance’ is in contrast to delivery work where you would never release a failing feature. By failing in discovery we avoid failing in delivery. This is something to shout about, so SHOUT ABOUT IT!”

#### PRD Stakeholder Approval (via Check Marks on Product Brief)

- “The second PRD walk-through can happen once the solutions are finalized with the details and they are [ready to go to the design stage](#). Basically, when you have finalized the wireframes or how the solution will function with all the details. Doing a second PRD walk-through at this stage will inform the stakeholders about how the solution is exactly going to function, and also they can start preparing for the product launch accordingly.”
- “This walk-through is particularly useful for Tech, QA, Data team because they can get a quick understanding of the finalized solution and the details that they need to focus on. [QA can start writing the test document, and similarly, tech and data can move ahead in their tasks as per the finalized solution.](#)”
- “Remember that each and every data table or logic is supposed to enable a feature, which in turn enables the user to convert better. Not always is this understandable when explaining the back-end algorithm of a feature. However, if we [focus on explaining the user impact](#), this can be the key to building specific slides — or even the entire presentation, gaining our stakeholders’ understanding.”
- “PRD Approvers are [stakeholders from every team](#) that the product manager is working with for the particular product development. PRD Approvers could be a team lead or someone who is well aware of and holds responsibilities on the processes that your PRD is focussing on. This person should be able to understand the product benefits and the changes it would bring for the users and should be in a position to communicate the same to their respective teams, get feedback, and give necessary approval to the PRD. PRD

Approvers are not fixed for every project that the product manager would undertake. It would differ based on the feature/product you are building, and which all teams and verticals will be involved in this.”

- “PRD Approvers can be your [single point of contact for communication with the respective internal team](#). They can help you with information, feedback from their team, communicating the PRD and ongoing updates in the product development process to their team.”
- “...are all the cross-functional teams ready? So for us this is legal, risk, customer service, that sort of thing... you can tag which teams are involved in that project and they’ll have to check it, and then other teams just get marked as FYI and [the feature doesn’t launch until everyone’s checked it, the last person to check it tends to be the VP](#) so the VP won’t look at it until every other box is checked and then he’ll put in a final check and we’ll start rolling out the feature...”

#### RICE Scoring, Prioritization

- “The RICE method focuses on prioritizing the potential impact of the features to be developed. In other words, projects with higher feature impact have higher priority. To get a detailed priority score, [we use the RICE score](#)...”

#### Reach:

- “...first up is Reach, it is basically how many users is your update going to reach? [How many people will be able to see it?](#)”
- “Estimated [number of users who will be affected by the developed feature over a period of time](#). For example, the number of new users per month.”

#### Impact:

- “...the second variable in Rice is I, I stands for impact, impact is what is the benefit of this particular update, now there are a lot of different ways that you can measure impact, you must have seen at your workplace all the different metrics your team measures around trying to find whether you’re progressing well or not, so for example you can [measure impact through what you’re delivering](#) is increasing revenue... is going to reduce churn (are more people going to stay with your company because of the update?), or is it going to increase the overall experience that existing users have, so there are a lot of different metrics that you can use to calculate your impact...”
- “...what I would advise when thinking about impact is make sure that it aligns with the goals of your organization, and goals might keep changing, for example this quarter your goal might be to increase revenue another quarter your goal might be to have new things in the market, so [make sure your impact aligns with your 12-18 month product roadmap, product goals, overall company goals](#)...”

#### Confidence:

- “...confidence is your accuracy of your underlying assumption, and the thing with confidence is the confidence value affects all your other metrics, so be aware, it’s also very tricky because the confidence value sometimes [you tend to bring in your personal biases](#) or the biases of the people who actually come up with the idea or the feature request...”
- “...it’s possible that somebody else might have the same idea, more conservative, like you know it’s a good feature but i’m not 100% sure, i think 70% sure that we might be able to bring in x amount of dollars if we release this feature, somebody else might be a pessimist they might be like this feature we did this 5 years ago it doesn’t work i have 0% confidence in it, so confidence is a matter of perception, as a product manager you might

have personal biases... [make sure that when you're coming up with a confidence value you go and talk with different people](#) make sure you're trying to filter out the personal biases we all have and come up with a realistic value for our confidence..."

#### Effort (T-Shirt Sizing):

- "...at this stage you probably don't have very flushed out requirements... as product managers you have to be efficient and you have to be smart about how you use your time, at this stage what you do have is very high level requirements, and if you're ever interacting with engineering teams with high level requirements, [what you get is high level estimates that are not necessarily accurate, they're ball park figures, but good enough for prioritization efforts...](#)"
- "...effort can be small, medium, large, extra large, [t-shirt sizing](#) is what it's called..."
- "How much effort needs to be made to realize these features, both [in terms of product analysis, design work, and engineering](#)."
- "A test for feasibility [measures the operational capabilities leveraged in a new solution](#). It asks the organization to look internally and objectively assess their strengths — technology, financial, branding, customer service, partnerships, etc. If a new solution can leverage ~80% of current operational capabilities, and new capabilities can be built where an organization is already strong, it will strengthen the foundation of the company and the competitive advantage of the business. Feasibility asks the question, how can we build this solution to make our business healthier and stronger? If a solution requires building completely new capabilities, the investment is riskier because of the amount of resources required and because it may change the market's perception of the company, not always for the better."
- "Feasibility [looks at your current resources to determine if you're capable of developing the product in the foreseeable future](#). Designers must consider how the product will impact the business."

#### Add Outcome to Product Roadmap

- "I define product roadmap as a prioritized list of features and projects your team has been asked to work on. These product roadmaps are usually done on a quarterly basis, but sometimes they are a rolling three months, and some companies do annual roadmaps." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...the Product Roadmap is a strategic communication tool to explain the product vision and strategy as well as [the necessary product development initiatives](#)... the Product Roadmap has two important roles that are making implementation priorities and managing stakeholder expectations... The Product Roadmap contains comprehensive information on product development priorities. Priority determination must be objective, either through metrics in the form of North Star Metrics, KPI, or OKR. Still unfamiliar with these three terms? The following article will help you."
- "After creating the Product Roadmap and determining priorities, the next thing to do is to communicate the Product Roadmap to stakeholders. As a good communication tool, we are expected to be able to explain the rationale for how the Product Roadmap was made, whether based on the impact factor of the features or the economic factor. With a complete explanation, every function in the company will certainly trust and support your product development considering that the Product Roadmap is made with a clear manufacturing basis. One thing that needs to be underlined is to [make sure that the Product Roadmap can be accessed by all employees without exception](#)."
- "A roadmap is a communication document which [helps you outline your strategy](#) - what

and why. That is when you use them, which essentially should be all the time. You can't have a product without strategy.”

Do NOT Include Bugs, Optimization Tasks, Little Things

- "They don't usually include little things like bugs and optimizations, but they do normally contain the requested features, projects, and big, multi-team efforts often called initiatives. And they typically include due dates or at least time frames for when each item is expected to be delivered." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Outcome Based Roadmaps (NOT Feature Based Roadmaps)

- "There are a few product teams out there that have modified their product roadmaps so that each item is stated as a business problem to solve rather than the feature or project that may or may not solve it. These are called outcome-based roadmaps." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Example Roadmap

## **Analysis / Statistics**

Analysis

Types of Philosophical Statistics

- You're trying to learn the "probability" of a situation: "In the video, there's a moment where I ask you, "What is the probability that the coin in my palm is up heads?" The coin has already landed, I'm looking at it, but you can't see it yet. The answer you give in that moment is a strong hint about whether you're inclined towards Bayesian or Frequentist thinking." ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04
- Frequentist (not random) vs Bayesian (random): "It is only by insisting that the parameter is not a random variable (Frequentist) that it makes any kind of sense to talk about your method's ability to deliver the right answer. As soon as you let the parameter be a random variable (Bayesian), there's no longer any notion of right and wrong. There's only your personal perspective." ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04

Which Methodology Should One Use?

- Frequentist statistics is more popular to use: "In summary, statistics is the science of changing your mind. There are two schools of thought. The more popular one - Frequentist statistics - is all about checking whether you should leave your default action. Bayesian statistics is all about having a prior opinion and updating that opinion with data." ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-02-29
- Both are good to use (depending on the situation): "Both! I choose based on how I'm framing my decision-making. It depends on whether the situation calls for choosing between actions or forming an evidence-based opinion." ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04; "Don't pick a side. See them as two different approaches that fit two different styles of decision-making and reasoning, then leave yourself the option of using whichever one suits the mindset/context you find yourself in." ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04
- Both are based on assumptions (both subjective): "They're both based on assumptions, so they're fundamentally subjective... The key difference is how they assist decision-making once the decision context has been framed." ~ [Cassie Kozyrkov](#), Chief Decision Scientist

at Google, 2021-06-04

#### Frequentist Statistics

- Interested in a true answer, not in an evolving opinion: “There’s no probability about it. I may not know the answer, but that doesn’t change the fact that if the coin is heads up, the probability is 100%, and if the coin is tails up, the probability is 0%.” ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04
- Properties of Frequentist Statistics: “What jargon tells you that you’ve stepped into their territory? ...confidence interval, p-value, power, significance. What are they using statistics to change their minds about? ...actions to take (default action, see this explanation). What is the main difference? ...the parameter is a fixed quantity (no probability about it). What do you gain by joining their way of thinking? ...it makes sense to talk about your method’s quality and “getting the answer right”. What do you lose if you choose their side? ...the core concepts are harder to wrap your head around (e.g. p-values and confidence intervals have counter-intuitive, wordy definitions) and lazy thinkers make a hash out of them frequent-ly.” ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04

#### Bayesian Statistics

- Interested in evolving opinion, not interested in a true answer: “For me, the probability is 50%! For you, it’s whatever it is for you.” ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04
- Properties of Bayesian Statistics: “What jargon tells you that you’ve stepped into their territory? ...credible interval, prior, posterior. What are they using statistics to change their minds about? ...opinions to have (prior belief). What is the main difference? ...the parameter is a random variable (no right answer). What do you gain by joining their way of thinking? ...intuitive definitions, e.g. credible intervals are what you wish confidence intervals were (but aren’t!). What do you lose if you choose their side? ...you lose the ability to talk about any notion of “right answers” and “method quality” — there’s no such thing as statistically significant or rejecting the null. There’s only “more likely” and “less likely” ...from your perspective.” ~ [Cassie Kozyrkov](#), Chief Decision Scientist at Google, 2021-06-04

#### Frequentist Statistics Process

- Frequentist Statistics uses math to guarantee risk is capped: “What’s the point? If you do your testing the way I just described, the math guarantees that your risk of making a mistake is capped at the significance level you chose (which is why it’s important that you, ahem, choose it... the math is there to guarantee you the risk settings you picked, which is kind of pointless if you don’t bother to pick ‘em). The math is all about building a toy model of the null hypothesis universe.” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-02-29

#### 1) Begin with Default Action (Control Group)

- Begin with a default action: “...begin with a default action...” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-05-24

#### 2) State Null Hypothesis: “there is no significant difference between test groups”

- State the null hypothesis: “...state the null hypothesis...” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-05-24
- The Null Hypothesis is that there is no significant difference between test groups: “In A/B testing, we are often interested in testing if the treatment group is significantly different from the control group in a certain success metric (e.g., conversion rate). The null



hypothesis is that there is no significant difference.” ~ [Lance Deng](#), Senior Data Scientist at Wish, 2020-03-19

3) Make Model where Hypothesis is True (Test Group)

- State the null hypothesis: “...make a little model...of what that world looks like where the null hypothesis is true...” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-05-24

4) Calculate P-Value; Compare to Significance Level

- Find the probability: “...ask ourselves what is the probability of getting data at least this damning in that world...” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-05-24

1) Power Analysis (The “Needed” Amount of Evidence);

Check if you will have enough data before you begin a test;

- “Use power analysis to check that you budgeted for enough data before you begin. Power analysis is a way to check how much power you expect for a given amount of data. You use it to plan your studies before you begin.” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-05-29
- Power is the probability that the test rejects the null hypothesis when it should be rejected (as sample size increases, the statistical power increases): “Statistical power is the probability that the test rejects the null hypothesis when it should be rejected. It is basically 1 minus beta. A common value for statistical power is 0.80 (so beta is 0.20). In order to obtain meaningful results, we want our test to have sufficient statistical power. And, sample size influence statistical power. For example, when comparing two means, the follow formula can be used to calculate statistical power. As sample size increases, the statistical power increases. Therefore, for our test to have desirable statistical power (usually 0.80), we want to estimate the minimum sample size required.” ~ [Lance Deng](#), Senior Data Scientist at Wish, 2020-03-19
- Estimate Power using an Effect Size, Sample Size, and Significance Level: “...the statistical power can be estimated given an effect size, sample size and significance level. Alternately, the sample size can be estimated given different desired levels of significance.” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-05-29
- Power answers “how much evidence should we collect?”: “Hang on, did we do our homework to make sure that we actually collected enough evidence to give ourselves a fair shot at changing our minds? That’s what the concept of power measures. It’s really easy not to find any mind-changing evidence... just don’t go looking for it. The more power you have, the more opportunity you’ve given yourself to change your mind if that’s the right thing to do. Power is the probability of correctly leaving your default action. When we learn nothing and keep doing what we’re doing, we can feel better about our process if it happened with lots of power. At least we did our homework. If we had barely any power at all, we pretty much knew we weren’t going to change our minds. May as well not bother analyzing data. Use power analysis to check that you budgeted for enough data before you begin. Power analysis is a way to check how much power you expect for a given amount of data. You use it to plan your studies before you begin. (It’s pretty easy too; in a future post I’ll show you that all it takes is a few for loops.)” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-05-29
- Higher Power will lower the probability of False Negatives: “The higher the statistical power for a given experiment, the lower the probability of making a Type II (false negative) error. That is the higher the probability of detecting an effect when there is an

effect. In fact, the power is precisely the inverse of the probability of a Type II error.” ~ [Jason Brownlee](#), PhD, 2018-07-13

#### Effect Size (Relationship)

- Calculated via correlation or difference (e.g: Pearson’s correlation): “The quantified magnitude of a result present in the population. Effect size is calculated using a specific statistical measure, such as Pearson’s correlation coefficient for the relationship between variables or Cohen’s d for the difference between groups... For example, the null hypothesis for the Pearson’s correlation test is that there is no relationship between two variables.” ~ [Jason Brownlee](#), PhD, 2018-07-13; “The calculation of an effect size could be the calculation of a mean of a sample or the absolute difference between two means. It could also be a more elaborate statistical calculation.” ~ [Jason Brownlee](#), PhD, 2018-07-11

#### Association (Correlation)

- Correlation: “Association. Statistical methods for quantifying an association between variables (e.g. correlation).” ~ [Jason Brownlee](#), PhD, 2018-07-11

#### *Pearson’s Correlation Coefficient*

- Degree of Linear Association: “The Pearson’s correlation coefficient measures the degree of linear association between two real-valued variables. It is a unit-free effect size measure, that can be interpreted in a standard way...” ~ [Jason Brownlee](#), PhD, 2018-07-11

#### Difference (between means)

- Difference between means: “Difference. Statistical methods for quantifying the difference between variables (e.g. difference between means).” ~ [Jason Brownlee](#), PhD, 2018-07-11

#### *Cohen’s d*

- Difference between means: “Cohen’s d measures the difference between the mean from two Gaussian-distributed variables. It is a standard score that summarizes the difference in terms of the number of standard deviations. Because the score is standardized, there is a table for the interpretation of the result...” ~ [Jason Brownlee](#), PhD, 2018-07-11

#### Sample Size

- Sample Size can be the Number of Days: “One way to perform the test is to calculate daily conversion rates for both the treatment and the control groups. Since the conversion rate in a group on a certain day represents a single data point, the sample size is actually the number of days. Thus, we will be testing the difference between the mean of daily conversion rates in each group across the testing period.” ~ [Lance Deng](#), Senior Data Scientist at Wish, 2020-03-19

Significance Level = Risk Tolerance; At what level can I not be confident? (Alpha / Critical Value);

*IF SignificanceLevel is 0.05 THEN if we run the test 100 times it will fail 5% of the time;*

- Significance Level is setting a threshold for “How ridiculous would living in this world be?”: “Reject the null hypothesis or don’t reject the null hypothesis. Now how do you make that decision? Well you compare it against a setting that the decision maker chooses, it’s called a “significance level”, it’s a threshold, it basically says “how ridiculous is ridiculous as far as you’re concerned? How weird do these data have to be for you to call it ridiculous?” and that’s a personal choice, you’ve got to ask yourself what your tolerance is for the risk of being wrong. If you’ve got quite a high threshold then it’s fairly easy for the P-Value to get under that threshold and for you to conclude

that things are ridiculous. Whereas if the threshold is really low, the significance level is really low, then that evidence has got to be really really weird in the null hypothesis world for you to react to it, and you set that in advance, and so you're going to compare the P-Value against that threshold that you set and if the P-Value is so small that it sneaks under there then I'd feel a little ridiculous about persisting in acting as if I live in that world, so I'd reject the null hypothesis and I conclude in favor of the alternative, that is how it works." ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-04-22

- Alpha is the Probability of saying there is an effect while there actually is none (Reliability): "A type 1 error, or alpha, is made when  $H_0$  is rejected, when in fact  $H_0$  is true. Alpha is the probability of saying on the outcome of a test there is an effect for the manipulation, while on population level there actually is none.  $1-\alpha$  is the chance to accept the null hypothesis when it is true—a correct decision—. This is called reliability." ~ [Kees Schippers](#), Marketing Data Analyst, 2022-02-02
- Alpha = 0.05 means if we run the test 100 times it will fail 5% of the time: "The critical value that most statisticians choose is  $\alpha = 0.05$ . This 0.05 means that, if we run the experiment 100 times, 5% of the times we will be able to reject the null hypothesis and 95% we will not. Also, in some cases, statisticians choose  $\alpha = 0.01$ . Reducing the critical value from 0.05 to 0.01 decreases the chance of a false positive (called a Type I error), but it also makes it more difficult to reject the null hypothesis. Therefore, with a critical value of 0.01, the results are more trustworthy but also more difficult to obtain." ~ [Javier Fernandez](#), Researcher, 2020-04-11

Confidence Level (How Confident do I want to be?);

Confidence Level =  $100\% - \text{SignificanceLevel}$ ;

*IF your significance level is 0.05, THEN the corresponding confidence level is 95%*

- Confidence Level =  $(100\% - \text{SignificanceLevel})$ : "...if your significance level is 0.05, the corresponding confidence level is 95%." ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-04-22

Power Analysis is used to Avoid Errors

Type I (False Positive): reject the null hypothesis when it should NOT be rejected

- Type I Error Rate = Alpha (Significance Level): "Type I error happens when we reject the null hypothesis when it should not be rejected. Type I error rate is the probability when Type I error happens, also known as significance level, or alpha. A common value for alpha is 0.05." ~ [Lance Deng](#), Senior Data Scientist at Wish, 2020-03-19

Type II (False Negative): accept the null hypothesis when it SHOULD be rejected

- Type II Error Rate = Beta (if Beta = 0.2 then Power = 0.8): "Type II error happens when we fail to reject the null hypothesis when it should be rejected. Type II error rate is also known as beta." ~ [Lance Deng](#), Senior Data Scientist at Wish, 2020-03-19
- Beta is the Probability of saying there is no effect while there actually is (Power): "A type 2 error, or beta, is made when  $H_0$  is not rejected, when in fact  $H_0$  is not true. Beta is the probability of saying on the outcome of a test there is no effect for the manipulation, while on population level there actually is.  $1-\beta$  is the chance to reject the null hypothesis when it is not true—a correct decision—. This is called power." ~ [Kees Schippers](#), Marketing Data Analyst, 2022-02-02

2) Measure P-Value (Probability);

- P-Value answers "how likely is this to happen in this uncertain world?": "Use power

analysis to check that you budgeted for enough data before you begin. Power analysis is a way to check how much power you expect for a given amount of data. You use it to plan your studies before you begin.” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-05-29

- P-Value answers “how likely is this to happen in this uncertain world?”: “How likely is this world to cough up something at least as damning the evidence we saw in real life? When you answer that question with a number, that number is the p-value itself!... If you live with an eight year old (that special sort of mischief), it’s plausible that an innocent Fido gets decorated with new collar (made of bin lid) every now and then. Your p-value might not be such a small number. Since the evidence then looks plausible under Fido’s innocence, you’ll see no reason to change your mind about calling Fido a good dog. If you live alone with Fido, you could still imagine a way to get evidence at least this damning. Maybe your crazy neighbor climbed in through your window, ran all around your apartment, put the bin lid on the dog’s head ...and jumped out the window again! This is possible. It’s just not very probable. When you squint at that probability, you find the p-value so teensy tiny that continuing to entertain the dog’s innocence makes you feel ridiculous. So you say, “I reject the null hypothesis. I find you guilty. BAD DOG, FIDO!” A p-value doesn’t \*prove\* anything. It’s simply a way to use surprise as a basis for making a reasonable decision. It’s possible that you came to the wrong conclusion — uncertainty is a jerk that way. You won’t know whether you got it right until it’s too late. That’s life. We can only strive to do our best in an uncertain world.” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-02-21
- The P-Value can be found using a Test Group as a “Toy World”: “How do you get the P-Value? You make a little toy model... of what the world looks like when the null hypothesis is true, we never examine any other world, we just look at that one, figure out how that world works... that’s what the hard work is, that’s what those calculations are all about, they’re all about figuring out that null hypothesis world to answer what is the probability that that world you just imagined coughs up evidence (data) at least as extreme, at least as damning to the null hypothesis, as what we just got. That number you get that way, that is the P-Value, and that is a punchline that tells you what decision you should make, because statistics is all about making decisions under uncertainty. So what’s a P-Value? The probability of seeing something at least as bad as what we saw in that toy world that is the null hypothesis, and it is therefore a summary of how ridiculous we feel entertaining the null hypothesis. The lower it is, the more surprising the evidence, the more ridiculous we would feel persisting in acting as if we lived in the null hypothesis world.” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-02-21

#### Tests for Measuring P-Value

##### One-Tailed Test

- One-Tailed tests will test either if the mean is significantly greater than control OR significantly less than control, but not both: “If you are using a significance level of .05, a one-tailed test allots all of your alpha to testing the statistical significance in the one direction of interest... you are testing for the possibility of the relationship in one direction and completely disregarding the possibility of a relationship in the other direction... Our null hypothesis is that the mean is equal to  $x$ . A one-tailed test will test either if the mean is significantly greater than  $x$  or if the mean is significantly less than  $x$ , but not both. Then, depending on the chosen tail, the mean is significantly greater than or less than  $x$  if the test statistic is in the top 5% of its probability distribution or bottom 5%

of its probability distribution, resulting in a p-value less than 0.05. The one-tailed test provides more power to detect an effect in one direction by not testing the effect in the other direction. A discussion of when this is an appropriate option follows.” ~ [UCLA, Statistical Methods and Data Analytics](#)

- One-Tailed tests provide more power to detect an effect: “The one-tailed test provides more power to detect an effect in one direction by not testing the effect in the other direction.” ~ [UCLA, Statistical Methods and Data Analytics](#)
- One-Tailed tests are not always appropriate: “Imagine you have developed a new drug that you believe is an improvement over an existing drug. You wish to maximize your ability to detect the improvement, so you opt for a one-tailed test. In doing so, you fail to test for the possibility that the new drug is less effective than the existing drug.” ~ [UCLA, Statistical Methods and Data Analytics](#)
- One-Tailed tests are appropriate when you’re testing whether something is less effective than control (not more effective): “So when is a one-tailed test appropriate? If you consider the consequences of missing an effect in the untested direction and conclude that they are negligible and in no way irresponsible or unethical, then you can proceed with a one-tailed test. For example, imagine again that you have developed a new drug. It is cheaper than the existing drug and, you believe, no less effective. In testing this drug, you are only interested in testing if it less effective than the existing drug. You do not care if it is significantly more effective. You only wish to show that it is not less effective. In this scenario, a one-tailed test would be appropriate.” ~ [UCLA, Statistical Methods and Data Analytics](#)
- One-Tailed tests are used when there is a difference between groups in a specific direction: “The one-tailed test is appropriate when there is a difference between groups in a specific direction... It is less common than the two-tailed test...” ~ [Javier Fernandez, Researcher, 2020-04-11](#)

#### Two-Tailed Test

- Two-Tailed tests will test either if the mean is significantly greater than control AND significantly less than control: “If you are using a significance level of 0.05, a two-tailed test allots half of your alpha to testing the statistical significance in one direction and half of your alpha to testing statistical significance in the other direction... When using a two-tailed test, regardless of the direction of the relationship you hypothesize, you are testing for the possibility of the relationship in both directions... Our null hypothesis is that the mean is equal to  $x$ . A two-tailed test will test both if the mean is significantly greater than  $x$  and if the mean significantly less than  $x$ . The mean is considered significantly different from  $x$  if the test statistic is in the top 2.5% or bottom 2.5% of its probability distribution, resulting in a p-value less than 0.05.” ~ [UCLA, Statistical Methods and Data Analytics](#)

#### Two-Sample t-Test (Independent Samples t-Test)

##### Compare to Significance Level (Risk Tolerance)

- Significance Level is setting a threshold for “How ridiculous would living in this world be?”: “Reject the null hypothesis or don’t reject the null hypothesis. Now how do you make that decision? Well you compare it against a setting that the decision maker chooses, it’s called a “significance level”, it’s a threshold, it basically says “how ridiculous is ridiculous as far as you’re concerned? How weird do these data have to be for you to call it ridiculous?” and that’s a personal choice, you’ve got to ask yourself what your tolerance is for the risk of being wrong. If you’ve got quite a high threshold then it’s fairly easy for the P-Value to get under that threshold and for you to conclude



that things are ridiculous. Whereas if the threshold is really low, the significance level is really low, then that evidence has got to be really really weird in the null hypothesis world for you to react to it, and you set that in advance, and so you're going to compare the P-Value against that threshold that you set and if the P-Value is so small that it sneaks under there then I'd feel a little ridiculous about persisting in acting as if I live in that world, so I'd reject the null hypothesis and I conclude in favor of the alternative, that is how it works." ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-04-22

P-Value > Significance Level (Accept Null Hypothesis) - REJECT TEST GROUP (KEEP CONTROL GROUP) - @ Scribd

- Accept your hypothesis if there is a high P-Value above Significance Levels: "If you live with an eight year old (that special sort of mischief), it's plausible that an innocent Fido gets decorated with new collar (made of bin lid) every now and then. Your p-value might not be such a small number. Since the evidence then looks plausible under Fido's innocence, you'll see no reason to change your mind about calling Fido a good dog. If you live alone with Fido, you could still imagine a way to get evidence at least this damning." ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-02-21

P-Value < Significance Level (Reject Null Hypothesis) - ACCEPT TEST GROUP - @ Scribd

- Reject your hypothesis if there is a low P-Value below Significance Levels: "If you live alone with Fido, you could still imagine a way to get evidence at least this damning. Maybe your crazy neighbor climbed in through your window, ran all around your apartment, put the bin lid on the dog's head ...and jumped out the window again! This is possible. It's just not very probable. When you squint at that probability, you find the p-value so teensy tiny that continuing to entertain the dog's innocence makes you feel ridiculous. So you say, "I reject the null hypothesis. I find you guilty. BAD DOG, FIDO!" ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-02-21
- A low P-Value would be ridiculous to entertain and implement: "So what's a P-Value? The probability of seeing something at least as bad as what we saw in that toy world that is the null hypothesis, and it is therefore a summary of how ridiculous we feel entertaining the null hypothesis. The lower it is, the more surprising the evidence, the more ridiculous we would feel persisting in acting as if we lived in the null hypothesis world." ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2019-02-21

3) Report w/ Confidence Interval: How confident are you?

"IF p\_value is <= significance\_level THEN you are confidence\_level% confident of your test resulting in N impact";

***"IF p-value is 0.03 and significance level is 0.05 THEN you are 95% confident of your test resulting in +2% impact."***

- Confidence Intervals are ways to report test results: "So how do we know if we learned something interesting... something out of line with the world in which we want to keep doing our default action? To get the answer, we can look at a p-value or a confidence interval... To perform the test, compare that p-value with a threshold called the significance level... A confidence interval is simply a way to report your hypothesis test results. To use it, check whether it overlaps with your null hypothesis. If it does overlap, learn nothing. If it doesn't, change your mind." ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-02-29
- Always report P-value vs Critical Value (aka Alpha aka Significance Level): "Important: It is always necessary to report the p-value and critical value." ~ [Javier Fernandez](#), Researcher, 2020-04-11

## Statistical Significance

- Statistical significance simply means we found something that could change our mind against the status quo: “The term statistically significant doesn’t mean something important happened in the eyes of the universe. It simply means we changed our minds. Perhaps incorrectly. Curse that uncertainty!” ~ [Cassie Kozyrkov](#), Chief Decision Intelligence Engineer, 2018-02-29

# Go-to-Market

## Go-To-Market Strategy (GTM) == Day 0 Marketing Exploits

- “...the shield is your go-to-market strategy and [the customer context that you're targeting is so different that the incumbent doesn't feel an incentive to attack you](#), they just say "oh, you can have that market, that's stupid product, a stupid idea" and so that's the shield that gives you time to perfect the technology...”

## LAUNCH ASAP (even if not perfect)

- “I should mention one sort of initial tactic that usually doesn't work: the Big Launch. I occasionally meet founders who seem to believe startups are projectiles rather than powered aircraft, and that they'll make it big if and only if they're launched with sufficient initial velocity. They want to launch simultaneously in 8 different publications, with embargoes. And on a tuesday, of course, since they read somewhere that's the optimum day to launch something. [It's easy to see how little launches matter. Think of some successful startups. How many of their launches do you remember? All you need from a launch is some initial core of users. How well you're doing a few months later will depend more on how happy you made those users than how many there were of them.](#)”

## GTM Strategy Types

### Tops-Down GTM == VP or Executive wants to buy

- “And [a lot of SaaS is tops-down where you go straight to a VP or an executive buyer](#), they then agree to buying a tool and then that goes down to their organization.”

### Bottoms-Up GTM == IC wants to buy

- “...if I were to define and think about how I define our go-to-market motion, and we've said it, we've called it a lot of things over time. We called it product-led, we called it community-led. [The way I think about it now is this bottoms-up motion, that really is focused on ICs](#). So it's all focused on like, "Okay, so you have this core audience." For us it was designers and they're largely individual contributors, so they're people who are practitioners who are using your tool. For us, it's like eight hours a day. If you're a designer, you're in it all the time. And they love you, and you build this relationship with them within the product, but it's beyond the product, right? It's also believing what the product can be in the company and the brand. And they love you so much that they're willing to put their social capital and themselves in the line and spread the product throughout whatever their communities are. And the one that's connected the most to revenue is companies. And so that's where the revenue model really clicks in is you have all these individual contributors who love you, but then they also work at these big companies and these big orgs, and they become these internal champions who spearhead

adoption within their organizations and eventually turn into large amounts of revenue. And I think of that as our bottoms-up motion. And that's different from tops-down. And a lot of SaaS is tops-down where you go straight to a VP or an executive buyer, they then agree to buying a tool and then that goes down to their organization."

GTM Medium Strategy: How can you change the status quo?

- "Two companies with the same product sold to the market, one wins and the other doesn't. It's often because of their medium strategy. [The medium is both the platforms you're in and the norms of that platform.](#)"
- "What you're finding is that most of the successful companies we know about or the most successful found not just the way to grow, but they did something subversive. And often it's something unprecedented... There was a time when things like an invite list, where if you invite someone, you get an earlier spot in the invite, there was a time that was the first time. A lot of these tricks are now known. The Dropbox model of when you invite someone, you both get more storage. That was cool the first time. If it works, it just becomes marketing. If it doesn't work or it becomes illegal, you stop doing it. So [the key isn't, "Go do those things." By all means do the things that work. The key is to go find your own. I think that finding that go-to-market strategy, that unfair, unprecedented, we call them zero-day marketing exploits, is as important as building the right product feature](#), having a seamless onboarding process and so on."

Recipes for GTM Tactics

- "What we found was these 11 tactics that keep showing up again and again as patterns or meta-patterns. You can't steal the tactic, but you can apply that tactic. So [if you can figure out how to get this disagreeable mindset and then you can scan your market, your products, and your medium for these vulnerabilities, and then you can apply one of these tactics, that's a very good method for coming up with a set of zero-day exploits.](#)"

Cornered Resource Recipes

Access: What can I do using my personal network that other people can't do? Who do I have special access to?

- "Access is another one. Now, this sounds obvious, right? [Do you have access to something other people don't?](#) You got to be careful here. Generally, rich white dudes like us have access to people that others don't. But it's important to mention that this is a tactic because often people have some kind of access."
- "...if you've got access, take a step back and say, ["What can I do that other people can't in my personal network? Do I have access to a resource at a different price?"](#) Oftentimes, that's the thing that gives someone an advantage, but we're kind of ashamed to admit it."
- "Jessica Scorpio, [when she was launching Getaround, which was a car rental-by-owner service, she had access to one of her VC's friends who had an early Tesla Roadster. So she brought it to CES. She let people drive it around, and it got lots of attention.](#) It also proved that you could get fancier cars on the platform."
- ["...the founder of MasterClass went to school with Dustin Hoffman's daughter.](#) Use that access..."
- "An example of Runway shared, I think one of the levers the founder had is [he knew a lot of fancy people. So he's like, "Hey, I'm going to send you something. Can I have your address?"](#)"
- "Before Bumble with Tinder, [Whitney was traveling around to sororities because she was a sister. She'd give a talk at a sorority about her startup, and then she would get all the girls to install it. Then she'd go across the street to the fraternity and say, "Hey, all the](#)

[girls are on this app."](#) That's an access strategy."

Arbitrage: What do I know before anyone else?

- ["Arbitrage is knowing something other people don't."](#) Obviously, you can achieve that by lying to them. You can achieve that by finding out sooner. There's all kinds of ways you can commit arbitrage... can you find out in advance of something?"
- "One of my favorite examples, this came to us from a guy Rob Passarella in New York, there's something called the Chappe optical telegraph. In, I think, 16th century France, obviously the speed of messages is very important for the war effort. So the French set up this optical telegraph. It was a bunch of towers. You could see each tower from the other. They had these gigantic stick figure semaphores that they would pivot to send messages. Basically, you'd sit there and you'd look, and when that semaphore moved, you'd write down the message and you'd send it to the next one. This way a message could travel across France at like 500 miles an hour, way faster than a horse. It's great. Of course, because there's an advantage here, [some bankers figured out how to pay off the Chappe telegraph operator to introduce an error in the message in Paris which would allow the person in the stock market in Burgundy to know what the Paris markets are doing before the news got there and trade on it."](#)
- "...a more concrete example, this is Farmville. [Pincus and Zuckerberg were very good friends. Zuckerberg told Pincus that apps were going to be allowed to post to user's timelines. This is why Farmville grew almost overnight.](#) At one point, it represented a massive proportion of Facebook's revenue is that Farmville would post these things saying, "Hey, Lenny, Alistair needs your help getting some grain for his cows or they're going to die." So there's a good example of knowing something before other people did."
- "I also think about the high-frequency trading and the arbitrage they found of just moving closer to the data centers and just buying land right next door to where the trading happens. There's actually a case of the Nikkei terminals, which computed the Nikkei index. They weren't getting the Nikkei index from Tokyo. It was being computed locally on the terminal. [Someone figured this out so they could compute the Nikkei index from the source stocks rather than waiting for the terminal to tell them, and they could beat the market for a significant amount of time...](#) "A hedge fund is an organization formed to discover something that will be illegal and do it until it is."

Existing Technology Recipes

Aggregation: aggregate things already available and turn it into something useful

- "Aggregation, this is a pattern we see over and over again [where one player in the market takes data from many places and then modifies it in some way.](#) That could be that they are using it for affiliate links, that's pretty easy, or selling the data, not that interesting. One of my favorite examples, and I actually helped put together a case study at HBS when I was teaching there with Srikant Datar, about a guy named LP Maurice. I think you might know LP. He's a Montrealer. I do. He had a company called Busbud. LP was traveling the length of South America, and he was trying to find bus schedules, and they're almost impossible to get. So when he got home, he decided to make an app so you could order, kind of like Kayak for bus rides, which doesn't sound that exciting, but bus tickets are a multi-billion dollar industry. So he got people around the world to send in these bus schedules. He put them all in one place. Then he went to the bus companies and said, "Hey, how about you let me sell bus tickets?" None of them wanted to hear from him. So what he did was he used automation to create thousands and thousands, I think it's millions and millions of pages of bus tables, properly structured JSON data. You had to

automate this thing. I think you actually had to get three separate Google Analytics accounts to manage all the data because it was beyond the capacity of one of them. Then for search engines, this is like catnip, like well-structured data that's not available everywhere else. So now he becomes the default destination because he's aggregated the data for a particular kind of data, bus ticket data. Then he allows you to go in and say, "I want to go from here to here," shows you the route. But the bus companies still aren't going to pay him money. So he puts a button on, it says, "Buy my ticket," and sends them to those companies. Then the next time he calls the companies, he goes, "Hey, have you noticed on your analytics that 20% of your traffic is coming from me? We should probably talk." Now they're willing to trade."

- "We actually think that [positioning is simply where you are on a grid. Counter positioning is drawing the grid](#). I would argue that you can position against your competitors. It is far better for someone to choose you instead of, rather than, over your competitors... if you're disagreeing with the market, you're probably disagreeing with how it scores value."

Misappropriation: use a medium that exists today in a way that's not being used (e.g. use the post office to your advantage)

- "An obvious example is Netflix. Netflix started out, they needed broadband. They didn't call themselves Postalflix. They called themselves Netflix. Clearly, they wanted to use the network. But a lot of people forget that Blockbuster had streaming first. Streaming wasn't a good play at the start of the online video industry because the penetration of broadband in the US was very limited. So [Netflix got the US Postal Service... They misappropriated the US Postal Service and turned it into an on-demand, very high bandwidth, but very, very high latency broadband network by sticking DVDs into envelopes. Blockbuster missed that completely](#). That was the key. It wasn't, "Can I stream video?" It was, "Can I get all of North America to receive a video in two days and use a website to order the next one?" That's an obvious example, but there are other tactics."
- "Then earlier on we talked about misappropriation with Netflix, misappropriating the US Postal Service."

### Belief Recipes

Weakness into Strength (Bug to Feature): *what customers might consider to be a "weakness" (we have a very low feature set) could be a "strength" (we are a simple product)*

- "Salesforce.com is a classic example of bug into feature. Salesforce had a crappy product at the start of the internet. It was using this thing called AJAX that kind of made the web interactive a little bit if you reload it often enough. But it turns out that that also made them really simple. They were competing against these companies, like Vantive and Clarify and Remedy, that cost millions and millions of dollars, took years to install, whereas they could be installed with a URL. So [they took their weakness, which was, "We are very low feature," their bug, their weakness, which is, "We have a very limited feature set," and they turned it into an asset, which is, "We are simple."](#) In fact, Salesforce's logo for all was no software despite the fact that they have their own programming language. So that's a good example of looking at your weaknesses and turning them into strengths. That pattern shows up again and again."
- "...the idea there is think about, [what's the limitation? Were you behind or potentially worse than your competitors? Then think about, how can we turn that into a benefit?](#) Often it's not that you have to turn it into a benefit. It's that it's already a benefit for a target market you have ignored. If your product takes a lot of time to configure, maybe



there are prosumers out there who are white labeling that stuff. "Oh, okay, that's a new segment." So it's this whole strategy."

Top Shelf: Make yourself *appear* to be one of the "big" competitors

- "I love the story of Whitney Hess when she was launching Bumble. She used the tactic we call the top-shelf tactic where [she put up these posters in universities as if it was made by the university. It basically said, "No Facebook, no Instagram, no Snapchat, no Bumble." Well, she's exploiting this medium called university walls, which are a really unregulated platform for distributing your message. But she's also sending this subversive reminder to people that she's one of the four top applications that the university doesn't approve of.](#) Nobody told her she could do that. Is that evil? No. Is it clever? Hell yeah."

Sliding the Window (Overton Window): the range of policies politically acceptable to the mainstream population at a given time

- "Sliding the window is a bit more nebulous, but it's about the Overton window and the realm of what's considered acceptable. A lot of companies have strategies that rely on a certain segment of the market being okay with something that wasn't... [There is a tremendous advantage to understanding that one part of the market already has an Overton window that's different from the mainstream market. Then you can appeal to that, and they will respect you for it.](#)"
- "So we talk about some examples of [the normalization of gay marriage through Will & Grace](#) and things like that in there. There's a good example of this."
- "There's a company in England, I think it's called Bodyform, that was the first to use red liquid in ads for female hygiene products and tampon products. [For a while it was literally illegal to use red liquids in those ads. When they finally did it, all the women... let a sigh of relief. Finally, someone said the quiet part out loud.](#)"

Regulation Recipes

Regulatory Changes

- "So [it may be important for your business to change the regulations either to allow what you're doing or to compel people to do the thing that's currently optional.](#) But a lot of startups don't look at regulatory change as a viable strategy, and yet it can be. It's also a great way to find loopholes."

Law Loopholes

- "I love the story of parklets. For a while, urban agitators would build these little two-hour long parks in the parking spot in front of their coffee shop, and every two hours they'd take it away and put it back because the law didn't actually say it had to be a car that was parked there. Then there's this guy in England who said, "I want to make a little park in front of my house," but the law says it has to be a car. So he built a park on a car. Then the local town government said, "Well, you're going to have to take your car in and get it smog checked once a year, so it's not going to last." So [he bought this historical van that was not required to be smog checked. So he just has a park in front of his house that's the back of a van parked there. Loopholes happen all the time.](#) We think they're funny, we think they're clever, but there are a lot of cases where you can find a loophole and use that to do something possible that wasn't otherwise possible."

Pre-Pivoting Recipes

Buyer Upgrade: Switch to a different target market using the same product

- "...[if your product isn't working for people that you're trying to sell it to today, maybe there's a different market that loves it. You don't have to change anything about what you're actually building. It's just a different target market.](#) Or even a different buyer. A

different buyer at the same company, essentially.”

- “The reality is your product may already be a perfect fit for a market you're ignoring... one of the tactics is called buyer upgrade. Buyer upgrade is where you are already selling the perfect thing, you're just selling to the wrong person. [Mr. Clean's Magic Eraser started out as melamine foam for aircraft insulation until the company noticed that people were wetting it and using it to clean stains off things. It turns out there's a much better market, which is people want to clean stuff...](#)”
- “I was talking to a company that was selling drones invented for bridge inspection. Bridge inspection is actually a really dangerous job. There are people who are continuously exploring the bridge for cracks and stuff. The city council doesn't really want to pay for it. It's a cost. If they find something wrong, well, they're going to have to fix it. Who does care? It turns out the insurance companies. So [if you go sell to an insurance company and you say, "Look, just don't sign off on bridges unless they have this drone," you have 100% close rate with everybody who needs insurance for their bridge. That's a good example of figuring out how to upgrade your buyer.](#)”
- “Hitachi makes a personal massager. You may have heard of this device. Hitachi was not selling a lot of these personal massagers. But it turns out [there's a very specific use case for these personal massagers that the Japanese management company did not want to mention. So they partnered with a company called Vibratex with the only condition being that Vibratex is not allowed to mention that the product was made by Hitachi.](#) So sometimes the buyer upgrade is getting out of your own way.”
- “...at Coradant, we used to make this web performance analysis thing. [It took me years to figure out we should stop selling it to operations and start selling to the marketing department.](#) Then I learned to say, "Analytics shows you what people did. We show you if they could do it." Within three months, Fidelity, Salesforce, and LinkedIn had bought our biggest product, just because I learned how to explain it to a different customer.”

Combination: add more to your product if you only have half of the solution

- “Combination is a big one. People overlook this often. [Sometimes people are not buying your product because it's only half of the solution.](#)”
- “David Ricketts, who's a Harvard professor of innovation, uses the example of mac and cheese. Kraft had figured out powdered cheese to support the war effort, but you can't really sell powdered cheese on its own. Then they found [this sales guy who was putting the powdered cheese and a box of macaroni together with an elastic, literally combining them, and now you'd buy it because it was a ready-made dinner.](#) I think a lot of us don't look at our product and say, "How is it being used?"”
- “There's an example, 1-800-MATTRESS in the States. They used to have this thing where... What's the one thing you care about that should be added to your product if you are trying to sell mattresses to New Yorkers? Delivery? Install? No, removal... It's really hard to get rid of a mattress in New York City. Some people would... Like, "Oh, yeah, we'll take away your old mattress." So you just look at the value chain and you go, "Wait, I'm in business of delivering and selling mattresses." One step before you in the value chain is get rid of the old mattress. But if you just change your product and slide the value chain over by one block, ["We include mattress removal." They're like, "Oh, yeah, these guys are going to replace our mattress. I don't want a new mattress. I want a replaced mattress."](#) It's that kind of mindset.”

Etc. Recipes

Bait and Switch (switch == buyer is happy with what they received, and it helps the company

achieve its goal)

- “Another one, bait and switch. This is a common strategy. Bait and switch can be evil unless [the buyer is delighted with the thing you've switched them for or you also deliver the thing you promised. Just evil enough, yeah... The key is they actually have to be excited about this thing that came up out of nowhere](#). Either the bait has to be free or the bait has to be you have to also give them the thing you promised, or they'd be so happy about the thing you switched them with that very few complain and you can resolve those complaints.”
- “A classic example of this is Tupperware. Tupperware promoted dinner parties in post-war America where women were being told to go back to the home after having helped out in the war effort and weren't very happy with that. Tupperware came to market. There was a huge number of people out there who wanted to run their own businesses. So [the bait was, "Hey, come to a dinner party," and the switch was, "Oh, by the way, become a part of this multi-level marketing scheme."](#)”
- “There's a company called Energage that does HR software. It's pretty hard to get people excited about HR software. So they launched this thing in conjunction with local newspapers to promote the Best Workplaces Survey every year. Used their tool for surveys. Every company wants its employees to fill out the survey. So now you have the survey, you fill it out, and then the newspapers published the best workplaces. They get to sell ads to those companies. Then [Energage gets to call the companies and say, "Hey, I've got all this data on your employees. Wouldn't you like to see what it says?"](#) So that tactic of maybe the thing you're selling is an exciting, but can you sell something that is and then use that initial transaction to switch to something that you actually wanted to sell?”

MUST-HAVE: a Medium Strategy

1) System Awareness: Find your users and their community;

1. What platforms are used by your target users?

2. How do your target users use that platform? (Identify the norms of the platform)

- “And also in the early days, they're not going to necessarily use you right away, and so it might take time. And then also, when you do get a couple of people who start to use your product, they're going to also start wondering what other people think about your product. And when you're the only marketing hire, and this is something marketers ask me a lot when they're the only marketer in an organization is, "How do you focus and prioritize, because there's so many things you could do? How do you decide what to do?" And so the thing that I think about a lot in this early phase, in thinking about ICs is, ["How do you get to them, and where can you go where they already are as opposed to making them come to you?"](#) Because I'm a firm believer, I think now, we have spaces where people can come to us, but in the early days especially, they're not going to come to your space. They don't know you. They don't care about you. They don't want to go to your Slack channel or something. You have to go to them.”
- “...choose your distribution matters a lot in the software business. For example, a video game, which is where I started, we were in Target and Lechmere and mass merchants. Our competitors were in Ziploc bags in computer stores. Well, [when something like Steam shows up, when something like downloadable shareware shows up, everything about your product changes.](#)”
- “...just [make sure the product you're building understands this is how you'll be distributed](#). This is who you're selling to.”

Online Experiences:

Forums: Reddit, Hacker News, Product Hunt

- “We realized early on the only way to find DVD owners was in the fringe communities of the internet: user groups, bulletin boards, web forums, and all of the other digital watering holes where enthusiasts met up.... [Posing as a home theater enthusiast or cinephile, \[Corey Bridges\] would join the conversation in communities geared toward DVD fanatics and movie buffs, befriend the major players, and slowly, over time, alert the most respected commenters, moderators, and website owners about this great new site called Netflix.](#) We were months from launch, but he was planting seeds that would pay off ... big time.”
- “The tipping point arrived via Reddit. The [team was connected with a member of the Final Fantasy subreddit and asked them if they’d mention Discord. According to \[co-founder Jason\] Citron, they posted something along the lines of, ‘Has anyone ever heard of this new voice over IP app called Discord?’](#) A few Redditors trickled in, checked out the product, and spoke with the development team via the platform. One reported back, ‘I just talked to the devs, they’re in there. It’s really cool. Check it out.’ That one comment was a miniature inflection point. More users flowed in, and Discord had figured out a grassroots distribution model.”
- “We ventured to build a marketplace for this apparently underserved niche, and while doing so we became familiar with Craftster.org (which at the time was another message board consisting of around 100,000 people). [We reached out to Craftster’s founder \[Leah Kramer\] and suddenly we had an audience with an even larger group of interested sellers.](#) By the time we launched the site (roughly two months after conception), we had thousands of sellers excited to register and try it out. The ball started rolling almost immediately (especially since we offered fee-free listing for the first few months while we built a billing system).”
- “For our first 1,000 users, there were a few hacks I found especially helpful in this phase. One was [using sites like StumbleUpon, Reddit, NotCot, and others \(and eventually Pinterest\) that featured great work around the web with a link-back.](#) I remember sending tons of ‘I noticed your work on MySpace/DeviantArt/etc. and thought you’d enjoy showcasing your work on Behance’ type of emails. The more personal these emails were, the better they converted. And I figured, for every great member we had, many of his or her admirers would follow. We have evidence to prove that the majority of new members joined because of someone they admire. My simple daily practice was to bring in 10 amazing new members every day. Whether it took a phone call or me building their portfolio for them, we were willing to do whatever it took because we were so convinced by the network effect.”
- “We started with the early adopters intentionally—who are the people who are actively looking for something like this? They tend to be [people who hang out on HN or Reddit. Getting your files on multiple computers was a niche problem.](#) But this audience was a technical audience; most of them were carrying around a thumb drive. A lot of that community struggled with that problem.”
- “The HN post did great—it stayed at the top of HN for two days (this was in April 2007, when HN was much, much smaller) and led to Paul Graham sending me a cold email (saying to get a co-founder if I wanted to get into Y Combinator, ha). But for me, the Digg post was the first big sign that Dropbox would resonate outside of the very early adopter community. [The HN post was in April 2007 and the Digg/Reddit posts were in March 2008;](#) we launched publicly/out of closed beta in September 2008. We hit a

million sign-ups in May 2009, and it felt like we were celebrating new big numbers (2m, 5m, 10m) every several months after that for a few years.”

Communities: Slack, Discord

Invitations

- “...if you actually unpack the top of funnel for what worked at Instagram, there's certainly a component of it, which was our core component, which was [invitations, where people inviting you and making sure that those invitations work and they work well and that people, their friends are coming on, you get notified.](#)”

Channels: Youtube, Nebula

TED Talks

- “Before Duolingo launched as a website, we had a splash page where people could sign up to be invited to the private beta. The splash page had a very clear message: unlike other language-learning software that costs hundreds of dollars, Duolingo would be 100% free and therefore accessible to everybody. At around that time, [Luis \[von Ahn\], our CEO, gave this TED talk about the idea for Duolingo in 2011](#), which went viral. This got more than 300,000 people to sign up for the private beta. After our public launch in 2012, our main marketing approach was word of mouth and PR. No money was spent on advertising.”

Email

- “To reach technology enthusiasts, you need to place your message in one of their various haunts—on the Web, of course. Direct response advertising works well with this group, as they are the segment most likely to send for literature, or a free demo, a webinar, or whatever else of substance you offer. Just don’t waste your money on a lot of fancy image advertising—they read all that as marketing hype. Direct email will reach them—and provided it is factual and new information, they read cover to cover.” - Geoffrey Moore (Crossing the Chasm)
- “We used [email marketing to get our first 1,000 users](#). We found email addresses of local service professionals and messaged them letting them know we existed. If they registered with Thumbtack, we would start sending them job leads. The number-one thing any local service professional wants is new customers. We found new customers for them, notified them via email, and they signed up.”
- “I [searched for top newsletter writers through old media stories](#) about the most interesting TinyLetters, etc. (which is how I found Griefbacon, one of the original Substacks). The more quality writers we brought on, the more the good word spread about Substack and the quality writers who were using it. And of course, many of those writers’ readers were quality writers themselves. Virtuous cycle.”
- “We [got our first 100 users by contacting the 100 designers and artists we admired most and asked if we could interview them for a blog on productivity in the creative world](#). Nearly all of them said yes. After asking a series of questions over email, we offered to construct a portfolio on their behalf on Behance, alongside the blog post. Nobody declined. This initiative yielded a v1 of Behance that was jam-packed with an average of about five ‘projects’ each from 100 top creatives, built the way we wanted (which set the standard for new members). This manual labor was the most important thing we ever did. It solved our chicken-or-egg problem.”
- “The site went viral within Harvard after [a message was sent to a mailing list of 300 Harvard students](#). New users were encouraged to invite friends, which helped build critical mass within that segment. More users within a segment improved the experience



for everyone else within that segment.”

- “Once we identified an influencer, [Nathan \[Bashaw\] or myself sent a personal email, inviting them to contribute and linking to the PandoDaily or Fast Company articles, to tell our story](#). A manual process indeed, but an effective way to recruit good contributors and open lines of communication for future feedback.”
- “LinkedIn, [email](#), you would be shocked to hear this, but cold calling. I never used to do this... The interest rates on cold calling are a lot higher than email in many cases.”
- “Actually our first three years were built on cold email before we actually had clients, before we got word of mouth from the founders we worked with, [I cold emailed the first 20 customers we had at Jellyfish](#). And the line I used in there was zero to one sales talent doesn't exist. That's why I want to have a conversation with you. So that was kind of that leading, wait, what? What does that even mean? And what I would do is tie that to them in some respects. If they recently raised the seed or series A, where they are in that journey. But I would lead with that and then tie it into like, hey, I noticed you're looking to target X, Y, and Z based off of what your website. I'd love to have a conversation with you. And that first piece is the relevance. Here's why this is relevant to you. And then I say, our belief at Jellyfish is zero to one sales talent doesn't exist. That's why we built this model. And you kept it really short... make sure it's concise so that you don't have to scroll on mobile phone.”
- “[LinkedIn](#), email, you would be shocked to hear this, but cold calling. I never used to do this... The interest rates on cold calling are a lot higher than email in many cases.”
- “...so I just never sent an email [unless the email was "you have matched this amount of money, you have this to go claim", the open rate was through the roof](#), just everyone wanted to always open these emails if they got one, and then what I just did is I decided one day every single airdrop from now on is going to be pay walled, so you'll see: "you have \$793,000.””

## Social Media

### Twitter, Bluesky

- “And so for us, Dylan really identified immediately that Twitter was the place where that existed, and that had nothing to do with us specifically. [The design community existed on Twitter](#) way before we did, and that's something that they just did on their own and that grew over time. They had this large network on Twitter of influencers, and that's also how people learned about things. Also, design's changing all the time, and so people would share best practices, things that they were doing, resources, and that just became kind of a home for designers. So, we really went all in on Twitter. That really became a key, our channel that we focused on, and really only focused on one. That was it, and we got pretty advanced on how we did this.”
- “And that was one of the ways we got to people, but that's also people who we followed, people who we tried to build this connection with on Twitter in the early days. And that's also where we pushed out that technical content that I was talking about. And then [we tried to just drive and spur a conversation about these things](#). First it was our launches, but then later it was this technical content or whatever it was that we were producing so that we could go to people instead of making them come to us just in their feed. And that became super important to us. We'd also interact with people.”

### LinkedIn

- “...when Jason Cohen (founder of WP engine) did this, [he reached out to Wordpress Consultants on LinkedIn, and since he was building WP engine which targeted](#)

WordPress folks, he made a bunch of connections and contacted people and just had conversations..."

Facebook

Instagram

Public Tagging

- "...so a lot of crypto people hang out on Twitter and I used to do these really kitschy, fun campaigns, where I did one called: "25 Days of Christmas", every single day for 25 days I would tag someone publicly on Twitter and say the amount of dollars they had unclaimed with a screenshot, it was basically saying like you're an idiot if you don't go claim this, and they would be tagging them and all that, and there would be this community pressure that was actually healthy of other people seeing it being like "I wish I had that to go claim."

DMs

- "To reach technology enthusiasts, you need to place your message in one of their various haunts—on the Web, of course. Direct response advertising works well with this group, as they are the segment most likely to send for literature, or a free demo, a webinar, or whatever else of substance you offer. Just don't waste your money on a lot of fancy image advertising—they read all that as marketing hype. Direct email will reach them—and provided it is factual and new information, they read cover to cover." - Geoffrey Moore (Crossing the Chasm)
- "The founders hired \$10/month interns to DM talent on Instagram and Twitter. The bet was that they could bring on celebrities and influencers who would message to their audience that they could be booked on Cameo, driving user growth. The interns ended up punching above their weight."
- "For the entirety of the summer of 2005, it was a lot of experimentation—going after bloggers, video bloggers, photographers, pets communities, etc. It was a lot of trial and error in guessing what type of content creators were looking and [were] in need of a service like YouTube."

Influencers

- "He said that for the launch of Behance, he reached out and asked all these influential designers to join his platform, and they said no. Then he said, "Oh, okay, pivot." "Hey, I'd like to do an interview about you for my platform," and they said, "Oh, sure." He said, "By the way, is it okay if we go and grab your design content for the blog post?" "Oh, yeah, sure." But the added advantage of that wasn't just the social proof of having all these famous people on the platform. It was that people who then followed could see how these famous people had done their templates, so it gave the new users a sense of how to behave when they got there."
- "A powerful yet underutilized way to get your early users is to enlist influencers to talk about your product, either by paying them or just by getting them excited about it. Influencers, if you think about it, are people who influence others (duh!), so your job is to figure out who your super-specific who are influenced by, and enlist them in your growth plan. This could be bloggers, newsletter writers, tweeters, Instagrammers, or actual celebs."
- "I think the biggest thing overall was that as we were prototyping and testing [Instagram], we gave it to a few folks who had a very large Twitter following. Not necessarily a large following overall, but a very large following within a specific community—specifically, the designer community, the online web design community. We felt that photography and

the visual element of what we were doing really resonated with those people. And we gave it to those specific people who had a large following.”

- “In the early days, although everyone focuses on our on-campus guerrilla marketing, the fact is that we used Instagram, in the early days before Instagram really had an advertising product. [We were reaching out to prominent Instagrammers who had a large following](#) and encouraging them to post for us. Because all of the posts were authentic, the signal to noise was very high.”
- “[Mark Zuckerberg] wrote about Spotify, Sean Parker reached out to us, [we seeded it with influencers \(journalists, musicians, tech CEOs/founders, etc.\) who all raved about us](#). So this built up pent-up demand. The issue with Lars Ulrich also helped us build fomo.”
- “[[Paul Graham](#)] forced their hand to launch when he referenced Reddit in his famous ‘[What I Did This Summer](#)’ essay, where he unleashed YC into the world. Just like that, Reddit was launched (without the founders’ knowledge or blessing), and traffic was spiking.... With that unplanned launch, just a day in, Reddit got over their first-1,000-user mark.”
- “Partner with an [influencer to promote your product](#).”
- “But another part that goes unspoken, still critical to this day was [the celebrity partnerships was critical, because basically they had this wonderful partnerships team that basically took Instagram and taught celebrities how to use it, how to make it work for them, how to tell their own story and be their own brand, and that was a critical growth funnel](#) because with that, you had the ability for them to create these celebrities and celebrity creators to set the norm for how the platform gets used, but they also were getting picked up by the news and the media for all the stuff that's happening in the celebrity world, which then added onto this other growth level, which was SEO.”

#### Finding the Right Influencers

- “...so the most important thing is finding the right several influencers to test with, and [the easiest way to find the right ones is to talk to your existing customers \(hopefully you have some\), go ask them who they watch, who they listen to](#), this has been the best way for us to source new influencers to work with.”

#### Underground Influencers

- “...then [I find these two underground, kind of undiscovered creators, I pay them each \\$50 for a promo, so \\$100 total, and overnight there was 5-10 million views](#), total of 45,000 downloads in that first big day, 200,000 downloads on that week, 500,000 downloads on the month, we're at 80k MRR from the jump, that's pretty much all profit, we ended up scaling it to a little bit over 250k MRR and then it kind of dropped down and plateaued to like 150-200k MRR consistently and that's where it's at now.”

#### Getting in Contact with Influencers - BE CREATIVE

- “I think that is where a lot of people get lost in marketing, they think “I will just DM influencers and expect a response within 24 hours”, then [they'll DM 10 influencers and they get no responses, they go “this is so hard”, and I'm like, no, you're not getting creative...](#)”
- “...most of the influencers were like 18-19 years old, they're just doing it for fun, and so getting in contact with them was really difficult, I would find that one of them had a Discord link hidden in their Instagram bio, and [I would join that Discord and I would send a message every 10 minutes until the person responded](#).”
- “...there were guys that [I was DMing their mom, saying “hey, get me in contact with your](#)

[son, I want to pay him money."](#)

#### Make the Influencer's Life Easier

- "...if you're going to work with influencers there's one giant exploit that you can take advantage of that doesn't work in most other channels, which is if you're incredibly easy to work with and you do a lot of work for the influencer, [you can get better deals if you can shoot your own B-roll for the influencer, there's a lot more room for arbitrage when doing one-off deals with influencers, do everything you can to make their life as easy as possible...](#)"

#### Content

- "“The designer advocate hire reminds me of something that Datadog did, where they hired engineers to write their blog posts. That's a great idea... So, ways you build credibility, just kind of mirroring back what you just shared, one is writing content. Basically, [putting out blog posts that designers would be like, "Oh, wow. This is really interesting,"](#) and start to feel like, "Oh, Figma keeps coming up in these really interesting pieces of content."”
- “Okay, so one is put out great content. People are like, "Oh, wow. [Figma's got some new ideas and maybe I should pay attention.](#)" The other is having someone that's that function actually talk to them. Yes. That was when we started accelerating this much, much more is when we brought in that designer advocate to help us with this full-time.”
- “How many posts would you say you put out in that first six months, just to give people a sense of here's how much? It's probably not a ton, right? It's probably some few really good ones. They took a long time. Also, I had to work with an engineer or a designer to do every single one. Maybe 10 at most. But those ones that went out, [we tried to get on Hacker News. We tried to get on Designer News at the time. Twitter,](#) we can jump into that, but it was also extremely big for us. And so it was more about quality than it was about quantity.”
- “Though rarely effective (only about 10% of startups), a potentially very high-ROI early growth strategy is to [create content that goes viral.](#) Only five of the more than 100 companies I looked at initially grew this way. But when it works, it's game-changing.”
- “The plan was: [I'll put up a YouTube video on my YouTube channel, send my fans over to Patreon.](#) And that's kind of how we'll start. At the end of the ‘Pedals’ video, I put a vlog where I told people about [Patreon], and I said, ‘Hey, I'm building this new thing, and I don't think it's just going to help me. I think it could help a lot of people. Check it out and let me know what you think. And if you're, if you're up for it, join me on this, on this journey here.’”
- “I like to write [high-quality longform pieces that will stand the test of time](#) (i.e. will be relevant 5+ years from now). These pieces helped drive much of our early growth.”
- “[Alex Tew] created a website that was basically just some waves lapping on the beach, and it was called donothingfortwominutes.com. And you literally had to just stare at these waves for two minutes and not move your mouse or tap on the keyboard, and not many people could do it. It was surprisingly challenging, but if you got to the end of it, it would ask for your email address. And we collected about 100K email addresses—it went super-viral. People started sharing it and writing about it, so it was ... 100,000 email addresses in two weeks.”
- “A video that tells your story, demos your product, or delights people [so much that they can't help but share it with their friends.](#)”

#### Newsletters

## Blog, Vlog

### Press

- “A surprising number of startups saw their initial growth come from press. Though often advised against, [getting press right out of the gate is a very legitimate early growth strategy](#), responsible for the early growth of over 20% of the most successful consumer startups.”
- “Our first 10,000 registered came directly [from our initial press launch](#).”

### PR

- “Anytime we’d launch a feature or add a new retailer to our marketplace, [we’d make a big announcement, and we got a lot of coverage just for doing that](#). PR is an [untapped growth channel for early-stage consumer startups](#). Founders underestimate the novelty their products and companies represent to the average consumer, and in turn they don’t leverage earned media enough.”
- “For each country launch of Spotify, we relied on [PR to acquire the initial users](#).”
- “[PR was key for growth in the early days. We had pieces in Wired, TechCrunch, Cheddar, etc.](#)”

### Offline Experiences:

- “Organize an [in-person experience that gets people fired up](#) about your product.”

### Phone Calls (Cold Calls)

- “Uber Black was initially ops- and phone-driven. They would [call limo companies to pitch them](#). A lot of limo companies were sole proprietorships, and the pitch was ‘While you are waiting for trips, we’ll guarantee you a minimum level of income if you keep this app on.’”
- “LinkedIn, email, you would be shocked to hear this, but cold calling. I never used to do this... The [interest rates on cold calling are a lot higher than email in many cases](#).”

### Door-to-Door (Direct Sales)

- “[Direct sales was critical to get the first listings on the platform, especially in immature markets without critical mass](#). It enabled us to pick and choose different supply types and build the right mix of homes. The local teams were accountable for their market and could themselves decide which supply to acquire, e.g. in which neighborhood, what size of the listing, and price points.”
- “[In the beginning it was me going door to door to convince restaurants to join](#). Thinking about how to convince them to join. I don’t think there was anything else that could be substituted for that.”
- “Airbnb is a classic example of this technique. Marketplaces are so hard to get rolling that you should expect to take heroic measures at first. [In Airbnb's case, these consisted of going door to door in New York, recruiting new users and helping existing ones improve their listings](#). When I remember the Airbnbs during YC, I picture them with rolly bags, because when they showed up for tuesday dinners they'd always just flown back from somewhere.”

### Startup Offices

- “We asked everyone on our team to give us [their list of contacts at startups, and we contacted them to ask their permission to come by with a free Bi-Rite ice cream sundae drop-off for their employees](#). They basically all said yes, because Bi-Rite is delicious. :) So we arranged a drop-off operation and had teams of staff with insulated bags taking ice cream sundae kits to all of the companies and giving them Lyft credits.”
- “[Among companies, the best early adopters are usually other startups. They're more open](#)



[to new things both by nature and because, having just been started, they haven't made all their choices yet.](#) Plus when they succeed they grow fast, and you with them. It was one of many unforeseen advantages of the YC model (and specifically of making YC big) that B2B startups now have an instant market of hundreds of other startups ready at hand.”

#### Conferences

- “How do you find users to recruit manually? If you build something to solve your own problems, then you only have to find your peers, which is usually straightforward. Otherwise you'll have to make a more deliberate effort to locate the most promising vein of users. The usual way to do that is to get some initial set of users by doing a comparatively untargeted launch, and then to observe which kind seem most enthusiastic, and seek out more like them. For example, [Ben Silbermann noticed that a lot of the earliest Pinterest users were interested in design, so he went to a conference of design bloggers to recruit users](#), and that worked well.”
- “I also just became a fiend for going to conferences. [Showing up in person and letting people know about what I was building led to even more signups as well.](#)”

#### Trade Shows

- “We did something that works and is often overlooked. We got off the internet and there was a team out there across the U.S. and Canada attending art/craft shows nearly every weekend. Supporting potential sellers (we would buy them lunch, drop off ‘craft show kits,’ pass out handmade promos)—these were artists/crafters that were influential in the handmade world. We knew if they set up shop on Etsy, and were successful, others would follow. [The community team went to a different show every single weekend all across the U.S. and Canada.](#) Most sellers I knew did not have any other kind of online presence or activity on other sites.”
- “The single most popular (over 50%!), effective, and highest-ROI strategy for finding your first 1,000 users is to [find an existing gathering spot for your super-specific who \(this is why it's important to be very clear and focused about who these people are\) and get in front of them there to pitch them](#). This can include niche online forums, events, transit hubs, Hacker News, Product Hunt, college campuses, malls, or even an REI.”

#### Hangout Spots, Storefronts: REI

- “I think our first 100 or so users came from [sitting at a fold-up table in front of REI and handing out stickers](#). We'd have them test the website and make sure they added their email to the newsletter field. Then they told friends!”
- “There was a very significant use of street teams early on at Uber. They [went to places like the Caltrain station and handed out referral codes](#). There are stories about how Travis [Kalanick] went to Twitter HQ personally and handed out referral codes.”
- “You can also be in closer touch with your users. [Intuit is famous for introducing themselves to customers at retail stores and asking to follow them home](#). If you've ever watched someone use your software for the first time, you know what surprises must have awaited them.”

#### Schools

##### High School Campuses

- “[We figured out ways to seed apps into schools](#). We also, during the course of that company, we figured out how to seed it into affinity groups, hobbyists, things like that... We launched this app and it was a polling app, tbh, and it immediately took off in the school that we seeded it into, in Georgia. We picked the one school that had the earliest start date in the United States because we needed to launch as soon as possible, given the

state of the company. I think it spread to 40% of the school downloaded it in the first 24 hours and it rapidly spread to the neighboring schools.”

- “Evan [Spiegel]’s mom tells her niece, who’s in high school in Orange County—so this is Evan’s cousin, who’s a high schooler in Orange County—about this app that Evan is working on, and her niece downloads it and thinks it’s really cool and starts using it with her friends in high school.... [It sweeps through the school, then it turns sweeping through other high schools in Orange County, then it moves up the state, and then it moves into other high schools in Northern California and in Silicon Valley, and the growth takes off.](#) So by December 2011, Snapchat is up to just over 2,000 users. The next month, January, 20,000 users. Couple of months later, in April, 100,000 users.”

#### College Campuses (e.g: University Walls/Boards)

- “The model we used in our mind was this hub-and-spoke model. Who are the hubs that have access to all of these spokes—the spokes being the people we want reading our newsletter? What we decided was this was professors of business classes or it was presidents of business clubs. So Austin and I just [pounded the pavement to get into every big business class in Michigan, \[every\] lecture with 75 to 500 people. We got into all the clubs,](#) and we would basically give our spiel at the beginning.... We got a couple thousand people from Michigan.”
- “[We held trial trunk shows on college campuses,](#) met with everyone we could talk to in order to gather feedback and suggestions, and adapted along the way.”

#### Fraternities; Sororities

- “I kind of had a little bit of a playbook [from Tinder’s launch]. I had maybe done it once before. [I went right back to SMU, this time decked out in yellow. And I went back into all those sororities and I spoke from the heart.](#) Listen, I have lived through the pain points of male-dominated relationships. I have felt it. I know what it feels like. And guess what? Every other woman in that sorority house, chances are she’s felt it too. I’m speaking from the heart, and I’m speaking to them about how they can be empowered and they make the first move and they go after what they want. And me and my early team members—the girls are at my office right now; they’re still with us—we went in there, and we took pizza boxes with stickers on it and offered a piece of pizza to the fraternity boys that would get on [the app]. We wrapped cookies in Bumble stickers. We took all sorts of goodies and we kind of growth-hacked our way to success.”

#### Ads

- “If your users aren’t inviting people to your app, you’re going to have to find another way to acquire them, and that most likely means ads. If you’re targeting older cohorts like adults, [you’re going to have to raise a huge amount of venture capital to finance that user acquisition pipeline and it’s going to be extraordinarily expensive.](#) As a seed stage up, it’s going to be basically impossible to grow that user base, especially to get density if you need actual network effects among users.”
- “Every consumer app I see is trying to build for adults, and your lesson there is basically if you’re trying to do that, [you’re probably going to need to raise money and spend a lot of money on paid ads.](#) Most likely, you’ll never get network effects.”
- “And finally, a strategy used primarily by food delivery and dating startups (and only about 10% of the startups I looked at) [is putting flyers, stickers, and signs where your super-specific who spends time](#)—essentially, getting in front of your super-specific who’s eyes as they go about their day.”

#### Drops (Non-Core Product Offerings)

- “Launch a [non-core product offering that gets attention, which reflects attention toward your brand and/or core product.](#)”

#### Promotions (Limited-Time Offerings)

- “Running a promotion on your existing product, [giving people a reason to pay attention and act.](#)”

#### Stickers

- “I think our first 100 or so users came from [sitting at a fold-up table in front of REI and handing out stickers](#). We’d have them test the website and make sure they added their email to the newsletter field. Then they told friends!”

#### Flyers

- “What we learned about our customers is that they didn’t care about DoorDash; they cared about the restaurant. So what we did was [print out tens of thousands of flyers that said ‘Dubar delivers, get hummus delivered!’ We stuffed them in our delivery bags](#). The bill of the flyers exceeded our cash balance. Later, we printed a bunch of flyers charging \$6 for delivery and put them all over Stanford University.”
- “I had to get really crafty. When I landed at Southern Methodist University, I took a picture of [a female friend] and then I took a picture of one of my guy friends on campus, and I dropped them into the match like the Tinder screens. And I wrote a big thing on top of it saying, ‘Find out who likes you on campus.’ I saved the file and I took it to the FedEx across the street from SMU, and [we printed, I think, a thousand copies. And I offered a bunch of people around campus \\$20 bills to help me put them everywhere](#). I mean, on people’s windshields, under dorm [room doors]. Everywhere, everywhere, everywhere.”

#### Signs

- “[We did in-store signage](#), but we copied it from Yelp, which was the first with their ‘People love us on Yelp!’ stickers. We did Open/Closed signs, sandwich boards, printed menus, business cards with promos on it, delivery bags. You name it—we tried it.”

#### Bags / Totes

- “[One offline hack that worked was that we produced reusable grocery bags with our logo on them and delivered the groceries in them](#). Hard to say the magnitude, but the bags may have given customers a physical reminder of us and reminded them to share with friends or re-order week after week.”

#### Co-Marketing (Business Partnerships)

- “[Collaborate with another company](#) to promote your products.”
- “On a whim, Ben decided to attend a conference in Salt Lake City called Alt Summit, a large female-focused design and blogging conference. He walked the halls pitching Pinterest and began to see a bit of interest. [Eventually he met a woman named Victoria Smith who had a blog called SFGirlByBay. She quickly saw the potential of Pinterest, and they decided to collaborate on a promotion: Victoria created a Pinterest board with all the things that mean “home” to her and then tagged other bloggers to do the same](#). Each blog had a small but rabid fan base, and their audiences loved it. They got Pinterest. Soon they started to use it for all kinds of other things, and just a year later, Pinterest was at over a million users.”

#### [!!!] Pitfalls of Partnerships

- “[Partnerships too usually don't work. They don't work for startups in general, but they especially don't work as a way to get growth started](#). It's a common mistake among inexperienced founders to believe that a partnership with a big company will be their big

break. Six months later they're all saying the same thing: that was way more work than we expected, and we ended up getting practically nothing out of it.”

2) Novelty within that System (Platform) of your target users;

Disagreeableness: if 50% of people hate this then that is a good thing; e.g: cyber truck, campaign explicitly saying “don’t sign up”, cringe/awkwardness, ...

- “...[they do not go ahead with a campaign or an ad unless it gets 50% disapproval](#). That's like their North Star metric: 50% of people hate this... I love that just as a heuristic for how to know if your thing is subversive enough.”

Boring Super Bowl Ad

- “Coinbase bought [a 60-second Super Bowl ad where they bounced a QR code around the screen for 60 seconds](#). Is it stupid? Yeah. They were ranked the worst of 64 Super Bowl ads. But they got 20 million hits, and their servers fell over. So that's a novelty thing. Just seeing a thing that's different, zagging when everyone else is zigging.”

Coupon Codes: “Recession Special: 10% off with code [ELON](#)”

Cause Controversy (Pick a Fight);

- “Take a stand against a big company or competitor, which [creates controversy and attention](#).”

Reverse Graffiti (with QR codes) - feels illegal, but it’s not

- “Even reverse graffiti. There's companies that would [start to spray signs on the floor, like the British Intelligence Agency did a recruiting ad, spraying it on the sidewalk because there's no law against cleaning up, so they just got a spray hose and wrote stuff](#). I know these sound like silly ideas... So that's a novelty thing.”

Free or Discount when ordered on the app in front of a Competitor (e.g: their Parking Lot)

- “I think Burger King is better than almost anybody at this stuff. When they launched their mobile app, the thing you want for your mobile app is you want as many installs as possible and you want geolocation turned on. So they said, “[Everyone can have a free Whopper, just order it from the app, drive to the store, and pick it up. But the catch is you got to order it from a McDonald's parking lot.](#)” That's genius, right?”

“Cheating” in an Interview by recording yourself in a situation many people struggle with and overachieving in this scenario using your product

- “I scaled Interview Coder to \$3M in annual recurring revenue in <3 months by going viral—recording myself passing an Amazon interview using the tool and getting kicked out of Columbia for it... I knew that [by recording myself using Interview Coder to pass an Amazon interview and sharing the controversy of getting kicked out of Columbia, the story would spread](#). I blew up my entire career and education to force this to work and it paid off in a big way. And in all honesty, I don't think there is a universe where this story didn't blow up. At the early stage, especially as a younger founder, you should be more confident in your ability to market virally than in your product being the next Airbnb or Uber. Build with virality in mind, trust your instincts, and TAKE MORE RISKS.”

Illegally launch in cities without permission

- “Bird (e-scooters) famously launched without permission or permits in cities. They dropped scooters overnight and dealt with regulation later” - ChatGPT

Exploit Other Products or Surfaces (e.g: in people’s homes, or cars, or where target users are often spending a lot of time)

Spoken Ad: “Alexa, what’s in a Whopper?”

- “I think Burger King is better than almost anybody at this stuff... They also [edited the](#)

[Wikipedia page for the description of the Whopper, and then made all the home speakers go read it by making an ad that said, "Hey, okay, Google, what's in a Whopper?"](#) They do a whole bunch of things."

Posters on University Walls (as if it was made by the university): "No Facebook, no Instagram, no Snapchat, no Bumble."

Other Examples

Duolingo Killed their Mascot

Sell "Nothing" for \$5 on Black Friday

- "Cards Against Humanity sold literally nothing for \$5 as a Black Friday Sale" - ChatGPT

Influencer Mystery Box

- "This company Runway, basically it helps you track your company's runway and finances and things like that. They did this really clever strategy where [they sent all these influencer types on Twitter a package. It arrives. It's a bag with a lock on it, and the lock says, "This will open in three days," and there's a countdown that's counting down, and you can't look inside until this lock unlocks](#). So everyone on Twitter's just like, "What the hell is this? I got this lock. I don't know what's inside. I don't know if I should break it open or just wait." The way I think about this is when someone gets their mail, they in theory open it immediately to see what's inside. So they found a really clever way to make it a moment, like a launch event, where everyone unlocks it and then starts tweeting, "Oh my God, I got this sweet bomber jacket and all the swag."

Ice Bucket Challenge (w/ app use)

Reward Early Adopters (1 month free of X)

Liking 10-year Old Posts on Social Media when Bringing back an item to a menu that's over 10-years old

- "I think Burger King is better than almost anybody at this stuff... a great example of their understanding of the medium, in 2019, [they started liking all these posts from influential posters from 10 years before, and they offered no explanation](#). People are like, "Hey, Burger King, why are you liking my old posts?" Because the reality is if someone likes your posts from 10 years ago, it's either a bot, a stalker, or you're about to get sued... So Burger King starts liking these things. Now, if Burger King had just liked that person's latest post, they would've missed it. Someone likes one of your posts, you have enough followers that it may get lost in the noise. But if it's something from 10 years ago, because of the mechanics of the platform, you'll see it. Burger King says nothing. Influencers start getting upset, "What's going on? What's going on?" Then finally the reveal, they say, "Hey, we've been liking some things from 10 years ago because sometimes the past is great. You know what else is great? Funnel cake fries and we're bringing them back." Millions of free impressions, not just because they understood that they had a funny message, but because they understood the mechanism of the platform, that by liking something from the past, someone would notice it. So understanding the mechanics of the platform, the norms of the platform and what are done there is so important to a go-to-market strategy these days, but we think it often gets overlooked."

"Gamify" Waitlist by allowing "jumping ahead" in the line by referring friends

- "Launching Robinhood meant joining a waitlist — but you could jump ahead by referring friends. It gamified access and turned FOMO into growth." - ChatGPT
- "Robinhood leveraged a referral-based waitlist to drive pre-launch growth, effectively turning the waitlist into a game where users could jump ahead by referring friends. This "gamified" approach, combined with a touch of Fear of Missing Out (FOMO),



encouraged widespread sharing and generated a significant number of sign-ups before the app officially launched.” - Google Search Labs AI

### 3) Repeat Visibility in that System: +3 times

- “...there's a memo that was leaked to BuzzFeed while I was at Facebook. The main thing we found was like, to be convinced to download an app, you need to see it. You need to see the marketing message three times or so. So you basically need to saturate an area with every kind of marketing you can. So we ran ads targeted at a particular school to when we were seeding and testing these apps. And we also followed people creating a dedicated Instagram account that went to that school, because we learned that high schoolers identify their school in their bio, so it says RHS on their bio. And so that was how we tried to get the entire school to adopt synchronously. We'd follow them and then accept the followbacks. Big misunderstanding though, and I get this DM a lot of people are like, "I'm trying to replicate your strategy. We've just done it at 15 schools and it's not working anymore." This is not the way we grew the app. This is how we tested apps. Really, it's a little bit nuanced there. That's an important nuance because you need to get enough intensity of adoption and density for a social network to start to get the flywheel spinning, but the app should grow by itself after that. And people think we just went from school to school following every kid on it. You can't, that's totally unrealistic. But for the first 100 users, yes, that's how we got them. And that allowed us to know whether the product was working or not.”
- “Inventors of wonderful new things are often surprised to discover this, but you need time to get any message through to people. A friend of mine rarely does anything the first time someone asks him. He knows that people sometimes ask for things that they turn out not to want. To avoid wasting his time, he waits till the third or fourth time he's asked to do something; by then, whoever's asking him may be fairly annoyed, but at least they probably really do want whatever they're asking for... Most people have learned to do a similar sort of filtering on new things they hear about. They don't even start paying attention until they've heard about something ten times.”
- “So anyone who invents something new has to expect to keep repeating their message for years before people will start to get it. We wrote what was, as far as I know, the first web-server based application, and it took us years to get it through to people that it didn't have to be downloaded. It wasn't that they were stupid. They just had us tuned out. The good news is, simple repetition solves the problem. All you have to do is keep telling your story, and eventually people will start to hear. It's not when people notice you're there that they pay attention; it's when they notice you're still there.”

### 4) Credibility

- “The first thing is all about credibility. I think in the early days especially, credibility is so important in establishing that initial credibility, again, especially with a technical audience like designers.”
- “Let's start with the first one, credibility. Okay. I was the first marketer at Figma. I think one of the things I learned right away, very quickly was that designers don't want to hear from marketers. They don't want to be marketed to and they have an extremely high bullshit meter. You use a word like efficiency, collaboration, all of those buzzwords, and they're just like, "I don't want to hear this." Traditional product marketing kind of stuff just doesn't work. They wanted to hear technical features. They wanted to understand how technical features work. They want to hear, "How am I going to use this?" And then they'll see the benefits, but they don't want to hear from marketers and they don't want to

be marketed to. And so I think especially with our audience in the early days, one of the things that I did was really try to not market. And that's so funny as a marketer to say that, but that was really core to build authenticity with people. And so the way that we did that in the early days was what we had was the tool, and that's pretty much what we had, and we had a design team and we had an engineering team. We did some cool stuff in the tool. First of all, the tool itself was a technical feat. It was the first time it used video game technology, WebGL. Evan's a prodigy. [The fact that he got a design tool to work on the internet was just amazing, and so there was a lot of engineering interest there, credibility building of, "How did you get this to work?" I got him to make technical content and that, I think, went to number one on Hacker News, that people were just interested in him. And then we had a design team, and our design team was our target audience. And so we talked a lot about how we chose to build features, all the things that went into it. And so many of the primitives of design tools have been like that forever, and so we changed the stuff. One of them would be how we did grids or how we did vector networks, and we'd go into these really deep details of how we chose to make those product decisions, all the craft decisions that went into it.](#) I remember one of my bars were deciding if something would hit this or not, if they would be interested was, "Did I understand it?" You know what I mean? And if I understood it, it was probably too basic, or if I could have written it myself, it was probably too basic. I remember we did one on grids in the early days, and we went really deep on Joseph Muller Brockmann and his influence on grids. And now, I very much know who Joseph Muller Brockmann is because I work with designers, but at the time, I had to Google it. I was like, "Who is this?" But that was one of my bars for if something would be good enough for our technical content, was if I could have written it, it's not good enough. And so that was key for us in building credibility, because we had this design team."

#### Product Advocate (Personal Face)

- "And then when six months after we launched, I actually got to hire someone to do marketing with me, [the first person I hired was actually a designer advocate](#). So it was not a marketer, it was someone who was a designer. The designers and the engineers that I was trying to get to help me with stuff also had to design and build the product, so they didn't have a ton of time. But this designer advocate was working full-time with me on this stuff, and he came from our user base. He was one of the very few people in the early days who just loved the product and was very passionate about it. And that became his full-time job was to represent, to meet with users, talk to them, to write content and create content, and to bring that back to the product, and that was what he did. And that designer advocacy positions actually scaled with Figma, and we still have it today. It's extreme. I think it's the magic dust, we call it, that we sprinkle on go-to-market to make a lot of our go-to-market function work. But yeah, we didn't focus on marketing, or traditional marketing. We're very focused on the technical aspects."
- "The designer advocate hire reminds me of something that Datadog did, where [they hired engineers to write their blog posts](#). That's a great idea... So, ways you build credibility, just kind of mirroring back what you just shared, one is writing content. Basically, putting out blog posts that designers would be like, "Oh, wow. This is really interesting," and start to feel like, "Oh, Figma keeps coming up in these really interesting pieces of content.""
- "A couple of just examples of that are those advocates, right? That's I think a huge one. When I was a marketer that advocate was just my partner. He gut-checked everything that

I did. He'd be like, no, that's too thirsty here. You're using a fluff word again. You know what I mean? Also, he was how we pitched the company. He was the people we talked to, he'd go to lunch at Etsy or whatever and just get feedback on things. And that function has really grown with Figma. So now that's a whole team at Figma, it's a large team and it's scaled with us with every product that we launch. So now we have developer advocates, FigJam advocates, and regionally. So we go into a new region and they're part of the landing team. We're in Japan, we need to find the Japan, now we have two of them, it's the Japan designer advocate because it's just so core to how we do things and we've scaled that. So I think on the credibility side, I think that those advocates and scaling those advocates are the magic dust that, I always call them the magic dust, that make sure that we are able to build those relationships and stay authentic around everything we do... Their profile is, [they're passionate users who oftentimes they find us more than we find them](#), right? You couldn't just post this job online and go source for it. It's like this will emerge from the community and then they love it so much and they know the product so well. They're technical experts.”

- “So Dylan has a huge presence, and especially in the early days and now even has a huge presence talking to users, we all did show too our engineering team. And so it wasn't just the brand handle, it was the people. And I think that that's really important to [put a personal face behind things](#), connect with people, answer questions for people, live there. And over time, we just built this very engaged group of people on Twitter with Figma. And that's still a huge place for us where the design community lives and where we get a lot from our users too. And I think the focus on that, and I think why it's so important is it allows people to passively follow you over time without having to invest in you, within the tool. So it was our way, especially because we knew it would take a while to build a product and get to a place for people to switch full time for them to follow along with us and build that confidence with us over time and keep coming back to the tool.”

## 5) Going Viral

- “Well, my first one-on-one, I sat down with Elliot and I said, hey, I'm here to learn. Please teach me everything that you know about virality. And he said, okay, well, hate to burst your bubble, but there is no such thing as a truly viral product. I said, what do you mean? How do you explain Facebook for that matter? How do you explain LinkedIn? And he said, what I mean is no app has sustained a viral factor of greater than 1 for any real period of time. Even Facebook in its heyday had a viral factor of about 0.7. And you told me that lasted for perhaps a year. So 1 person was creating about 0.7 new users. And I double clicked again and I said, well, Elliot, what about the address book import? This is one of the things that LinkedIn got famous or infamous for. You could import your address book and then it would spam slash invite everyone who happens to be members of LinkedIn in your address book. And then eventually it would just invite everyone to LinkedIn. And he said, that's an amazing feature, but you have to remember not everyone is going to use it all the time. So even that feature had a lifetime viral factor of about 0.4. And that's considered good. So 0.4 is good for a viral feature. 0.6 is great. Something like 0.7 is absolutely incredible. You're in the stratosphere up with Facebook at that time. So I said, well, okay, all of these things by definition are going to peter out. There's going to be an asymptote. None of these viral mechanics keep on compounding, which actually makes sense. It would be a little absurd if things just kept on growing. [What then is the true secret behind virality? And he said, it is word of mouth. It is the virality you can't measure that isn't a mechanic that isn't in a future. It is when 1 user spontaneously tells](#)

[another user about your product](#). And that really colored how I think about growth and virality.”

Word of Mouth == the secret to going viral

- "One of the keys in breaking into a new market is to establish a strong word-of-mouth reputation among buyers. Numerous studies have shown that in the high-tech buying process, word of mouth is the number-one source of information that buyers reference, both at the beginning of the sales cycle, to establish their “long lists,” and at the end, when they are paring down their short ones. Now, for word of mouth to develop in any particular marketplace, there must be a critical mass of informed individuals who meet from time to time and, in exchanging views, reinforce the product’s or the company’s positioning. That’s how word of mouth spreads.” - Geoffrey Moore (Crossing the Chasm)
- “The people who understood our technology best were the customers. They didn't care what language Viaweb was written in either, but they noticed that it worked really well. It let them build great looking online stores literally in minutes. And so, [by word of mouth mostly, we got more and more users. By the end of 1996 we had about 70 stores online. At the end of 1997 we had 500. Six months later, when Yahoo bought us, we had 1070 users](#). Today, as Yahoo Store, this software continues to dominate its market. It's one of the more profitable pieces of Yahoo, and the stores built with it are the foundation of Yahoo Shopping. I left Yahoo in 1999, so I don't know exactly how many users they have now, but the last I heard there were about 20,000.”
- “It's not quite as easy as I make it sound. [It took a painfully long time for word of mouth to get going](#), and we did not start to get a lot of press coverage until we hired a PR firm (admittedly the best in the business) for \$16,000 per month. However, it was true that the only significant channel was our own Web site.”

The “Whale”: Fake Virality (1 to many != going viral)

- “I actually have a post that I'm going to that very much aligns with what you're talking about, which is titled virality is a myth, mostly. And it's based, I forget, on this book where they do all this research on like actual viruses. And it turns out they're not actually spreading in this like exponential way. There's like 1 person that spreads it to a lot of people and it keeps happening. And that's actually apparently what the data shows. And I'm curious if you found this same thing, which is [when people think of an app as going viral, it's like 1 person with a massive platform sharing it and their audience adopts it. And it's like that's just 1 to many. And then it just happens a couple of times and it looks like it's going viral, but it's like a person to many people, not many people to many people](#).”
- “Yeah, we've definitely found that [there are whales, to use the gaming terminology, that 1 person is going to be responsible for inviting 25, 50, 100 people](#). And they may have various motivations for doing that. In Superhuman, as an individual subscriber, if you refer somebody else and they sign up, you both get a free month, which is a great incentive if you're paying out of pocket. So we have people who send many, many hundreds of invites, and there are some people who essentially have free superhuman for life now due to how many people they've invited. But of course, that incentive doesn't necessarily work inside of a company or inside of a team where ultimately it's the company paying for the product. So you have to then come up with new motivations for those people.”

Incentives for Creating Whales: 1 Referral == 1 Free Month

- “In Superhuman, [as an individual subscriber, if you refer somebody else and they sign up](#),

[you both get a free month, which is a great incentive if you're paying out of pocket](#). So we have people who send many, many hundreds of invites, and there are some people who essentially have free superhuman for life now due to how many people they've invited. But of course, that incentive doesn't necessarily work inside of a company or inside of a team where ultimately it's the company paying for the product. So you have to then come up with new motivations for those people.”

## **Pricing**

### Pricing

- “[We gave them a choice, download a trial of the paid version or download the free version](#), put a big graphical check mark next to the free version. But when they saw we had a business model and a trial of a paid version, the free version was credible. And so that essentially made that channel work for us.”
- “How often do you revisit the packaging ad pricing at this point?... I would say the core foundations aren't something we revisit a lot, but [we're continually adding new features and we have to think about what tiers should they go in](#), what does that look like? So those things influence that all the time.”
- “Set pricing at the market leader price point, thereby reinforcing your claims to market leadership (or at least not undercutting them), and build a disproportionately high reward for the channel into the price margin, a reward that will be phased out as the product becomes truly established in the mainstream...” - Geoffrey Moore (Crossing the Chasm)
- “Just because a customer wants it, I mean, they probably want free products that doesn't work for what we're going to be able to serve them with and still be a viable business and still survive. And so I think I actually used a lot of, when we were doing pricing, I used a lot of insights from your podcast with Madhavan... [there was an example of a water at a fountain is free, a water at a hotel is like five bucks, a water on the plane is... The context and the price of what you're offering somebody changes the value perception of what they're getting delivered.](#)”

### How to Set Pricing

- “New products fail for many reasons. But the root of all innovation evil—what billionaire entrepreneur Elon Musk would call the set of “first principles”—is the failure to put the customer's willingness to pay for a new product at the very core of product design. Most companies postpone marketing and pricing decisions to the very end, when they've already developed their new products. They embark on the long and costly journey of product development hoping they'll make money on their innovations, but not at all knowing if they will. [Price is more than just a dollar figure; it is an indication of what the customer wants—and how much they want it. It is the single most critical factor in determining whether a product makes money, yet it is an afterthought, a last-minute consideration made after a product is developed](#). It is so much of an afterthought that companies frequently call us and say, “We built a product—oops, now we need your help in pricing it.”” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke



- "The primary focus of the survey was to measure how well companies were monetizing their innovations across industries and geographies. The disappointing findings were reported in Harvard Business Review: 72 percent of new products introduced over the last five years failed—either to meet their revenue and profit goals, or failed entirely. These figures applied equally to startups and large businesses in every industry surveyed. Numerous other studies over the last decade have said your chances of developing a successful innovation are not even as good as winning a coin flip. For example: 65 percent of new products fail, according to the Product Development and Management Association. That rate of failure cost U.S. companies \$260 billion in 2010, according to researchers at the University of Texas at Austin.<sup>8</sup> 75 percent of venture capital-funded startups fail, according to a Harvard Business School study of 2,000 companies between 2004 and 2010. [These numbers show something is very wrong with the way companies bring new concepts to market.](#)" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

0) Focus on [Positioning](#) 1st (before Pricing)

- "I always say the same thing when it comes to pricing, which is [before you figure out pricing, you must first figure out positioning](#)... once you understand your positioning, you can then move on to pricing."

1) [Value](#) Testing: validate value assumptions; [value testing questions](#)

- "[The most successful product innovators we know start by determining what the customer values and what they are willing to pay, and then they design the products around these inputs](#) and have a clear monetization strategy that they follow through with. That's what LinkedIn did before it launched its Talent Solutions service for job recruiters, which now drives the lion's share of the social networking site's revenue and profits. That's what Porsche did with the Cayenne, and what Fiat Chrysler failed to do with the Dart. That's what a large, global pharmaceutical company has done with new products since the turn of the millennium, which has helped the company grow enormously over the last 20 years. That's what crystal maker Swarovski has done in developing new offerings for consumers, and for companies that embed its crystals in their products, to great financial success. That's what Dräger, a manufacturer of gas detection equipment, did in creating a hit new product that protects miners and other underground workers from gas leaks—a product whose sales were 250 percent higher than expected. That's what a six-year-old software-as-a-service firm called Optimizely did in creating a software to help companies improve their websites' abilities to sell their offerings, a software that has been used by thousands of customers. And that's what Uber has done in shaking up the world of public transportation, while watching its private valuation soar toward \$60 billion at the end of 2015. We'll tell you much more about how LinkedIn, Porsche, Swarovski, Dräger, Optimizely, Uber, and an innovative pharma profited from designing and developing products around the price in Chapter 13." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

0) Understand "Willingness to Pay" for the [SCOPE](#) of your project AFTER ideation, but BEFORE development;

IF there is a Willingness to pay THEN product/feature == Value

- "[In the early stages of designing your product around a price, when you are having the willingness to pay conversations, remember you're only trying to get to a ballpark idea of an acceptable price.](#) As you keep designing the product, you must keep refining this

estimate. Trying to optimize your price before you start designing produces a false sense of precision." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

- "...smart companies, on the other hand, have the willingness to pay conversation earlier and use this to shape the product and their own destiny." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "[Have the “willingness to pay” talk with customers early in the product development process.](#) If you don't do it early, you won't be able to prioritize the product features you develop, and you won't know whether you're building something customers will pay for until it's in the marketplace." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "...embrace a new paradigm: [Understanding if customers are willing to pay for your invention, before you commit too many resources to building and launching it, will dramatically increase your likelihood of success.](#) By designing your product around a price, your innovations will stand a far greater chance of surviving and thriving. Figuring how much customers will pay for your product when it is still in the concept stage will make your innovation process far more reliable. You and your company will be far more likely to succeed. You won't hope your product takes off in the marketplace after you launch it; you'll know. And you'll know this because you've designed it with features that customers got genuinely excited about when you described the benefits and because they also embraced a certain price for the product. Those nervous, nail-biting weeks of wondering whether your new product will actually sell according to forecast will come to an end. You'll know about the market viability of your new product long before you put it out to the market. You'll have a rigorous assessment of your product's true market potential at the front end of innovation, not at the back end." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "...when we say price we mean it to be [an indication of what customers value and a measure of how much they are willing to pay for that value. To build a product around a price, you must engage in deep discussions with potential customers before you design and develop it. Your dialogue must be specifically about their willingness to pay for the product you have in mind.](#)" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "...it is critical to start the conversation with customers about their willingness to pay for your product before you begin building it." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- “The early willingness to pay talk will help you in three essential ways: [1.It will tell you right away whether you have an opportunity to monetize your product—or not.](#) 2.It will help you prioritize features and design the product with the right set of features... Early willingness to pay talks help you avoid feature shocks by restraining you from overloading your product with unnecessary features that in turn force you to price it too high. They prevent minivations by giving you critical information on how much your customers value your product, and how much they're willing to pay for that value. That information will give you the courage not to price your product too low. The early willingness to pay talk will also help you identify the hidden gems in your firm by arming

you with the proof that there is indeed a market for these ideas. Your firm is far more likely to regard them seriously and invest resources to harness them. Last, the early willingness to pay talk will save you from bringing an undead product to market. If customers tell you they're not willing to pay the price you need to make money from your product, that will save you lots of anguish later." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

- "[The conversations demonstrated the company had a product customers were willing to pay for. Its managers were no longer operating on a wing and a prayer. Next, the innovation team dug one level deeper to find out which features customers were willing to pay for.](#) Prior to that discussion, the team believed one of the coolest features was enabling buyers to find out if one of their Facebook connections had used a seller of a product/service they were interested in. The team thought this feature would be critical to creating trust. They were super excited about building this and touted it as the number one feature. Certainly, consumers would be willing to pay for that and all the other features (25 in total), wouldn't they? When the company actually validated this with customers, it turned out customers were only willing to pay for 10 of the 25 features." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "[First, you want to understand your customers' overall willingness to pay for your product—the price range they would consider reasonable \(if, in fact, they would pay anything at all\). Then you have to ask yourself whether that price range would work for your company. It may not if you can't deliver a market-acceptable product at a price that makes you a profit.](#) Second, you must understand how much value customers place on each feature and what they'd be willing to pay for that value. In this step, you dig a level deeper to understand exactly which features customers value most and would thus be most willing to pay for. This step will help you create your product roadmap— what features to develop first, next, and so on. What's more, it will focus your team on the features that generate the most customer interest and help avoid a feature shock." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "It is truly about [understanding whether customers are willing to pay for your innovation and willingness to pay is a proxy for, do people actually value your product?](#) And how badly do they actually want the product? And this even comes back to understanding what pricing really is. When we talk about pricing, many people quickly gravitate to dollar figures. That's just a price point, that's a dollar figure. But when we think about price, we think about it as a measure. Like liter is a measure of volume, price is a measure of value. And when you think of it this way, it really stands for, do people actually want your product and would they actually buy it?"
- "For instance, [if someone comes and asks me, do you like the headset that you're using for this podcast? I'll say, I like it. Do you like it at \\$200? The whole conversation is different.](#) So if you didn't put pricing as part of your product market fit validation, you're often hearing what you want to hear."
- "[By pushing the willingness-to-pay conversation too far out in the innovation process, these companies put themselves in a situation where saying "no" comes too late.](#) They have already overinvested at that point. In some situations, this could get even more complex if this is the pet project of senior management and no one wants to say the idea

is a bad one. In such environments, people and teams bring undeads to market. They simply have a hard time saying “no”—even if in their gut they know the new product won't fly in the marketplace. They're not asked for their opinion, and raising concern only puts their careers at risk. And so they don't speak the truth about the undead in their midst. They only execute their piece of the project as they are told. And that's how such fatally flawed products hit the market." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Willingness to Pay for Scope

- ["The CEO told the R&D team to focus on the 10 features customers valued. The other 15? Forget about them."](#) In this way, the WTP talk allowed the company to prioritize. Equally important, the talk showed them which features customers didn't need at all. The ranking of the 10 most desired features gave the R&D and innovation team its marching orders— which features should be developed first, second, third, and so on. In the vernacular of software development, it gave the team a product roadmap. More important, because the team focused on only the important features, they consequently built a better product experience for customers. The WTP talk helped prevent the company from creating a feature shock." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "First, you want to understand your customers' overall willingness to pay for your product—the price range they would consider reasonable (if, in fact, they would pay anything at all). Then you have to ask yourself whether that price range would work for your company. It may not if you can't deliver a market-acceptable product at a price that makes you a profit. [Second, you must understand how much value customers place on each feature and what they'd be willing to pay for that value. In this step, you dig a level deeper to understand exactly which features customers value most and would thus be most willing to pay for.](#) This step will help you create your product roadmap— what features to develop first, next, and so on. What's more, it will focus your team on the features that generate the most customer interest and help avoid a feature shock." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- “The early willingness to pay talk will help you in three essential ways: 1.It will tell you right away whether you have an opportunity to monetize your product—or not. 2.[It will help you prioritize features and design the product with the right set of features... Early willingness to pay talks help you avoid feature shocks by restraining you from overloading your product with unnecessary features that in turn force you to price it too high.](#) They prevent minivations by giving you critical information on how much your customers value your product, and how much they're willing to pay for that value. That information will give you the courage not to price your product too low. The early willingness to pay talk will also help you identify the hidden gems in your firm by arming you with the proof that there is indeed a market for these ideas. Your firm is far more likely to regard them seriously and invest resources to harness them. Last, the early willingness to pay talk will save you from bringing an undead product to market. If customers tell you they're not willing to pay the price you need to make money from your product, that will save you lots of anguish later." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

## Concept Testing

- "The innovation team recruited several hundred potential customers to validate how much they were willing to pay. First, they explained the product concept and the functionality they were planning to build. Then they tried to understand if the customers saw any value in the concept. Most important, they asked customers whether they would be willing to pay for such a product. They found customers truly valued the concept and were willing to pay anywhere from \$10 to \$20 for a monthly subscription fee..." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

### 1) Collect Data to Validate (always follow up with "why?")

- "Your conversations will typically take one of three forms: one-on-one conversations, focus groups, or large-scale quantitative surveys." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "...if you go and ask someone, how much should I charge for this product? You're actually going to get garbage back. That's your job. No one is supposed to tell you how much to charge, and that's the worst way to have the conversation. There are some really interesting and nuanced ways of having the conversation where you still tease out what people are willing to pay for without directly confronting someone as to what you should be charging."
- "The simplest way is to ask direct questions about the value of your product and its features, for example:  
"What do you think could be an acceptable price?"  
"What do you think would be an expensive price?"  
"What do you think would be a prohibitively expensive price?"  
"Would you buy this product at \$XYZ?"  
Then follow each question with the most powerful question of all: "Why?"  
What your customers will tell you will be worth its weight in gold. Direct questioning is very useful for getting to a quick ballpark range. More fundamentally, it provides a fast way to see if customers value your product and if they will pay for it—before you sink a lot of money into it." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "More sophisticated methods for getting at pricing include simulating purchase scenarios that ask customers to pick an option. For instance, you could show a product lineup with different price points and feature combinations and then ask which ones they would choose (including not choosing any option). Again, ask "why?" Then you change the scenario (for example, the feature and price combination) and ask them to choose again. With this technique, you are tapping into the mental models and rules people use to make choices." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

### How-to Collect Data: (position as a "value discussion")

- "Position customer discussions as the "value talk." Don't position the talk as "pricing" or "willingness to pay." Rather, frame the talk as "we want to talk about our latest innovation ideas and how we can continue to add value for you." This positioning is essential to get customers in the right mindset." - Monetizing Innovation: How Smart



Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

- “Start by asking customers about their pain points, and pitch your product's features and the value they would bring. Ask questions like “Do you value these products/ features?” and then ask why. Then switch gears to ask questions like “What would you consider an acceptable price?” Switching from value to price is an easier transition to make in determining customer willingness to pay. If your product is totally new and you cannot articulate its value to customers, they really won't be able to respond well to your willingness to pay questions. Hence, you need to focus on talking value with customers before you ask them about pricing.” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- “...the key here is to not just ask the question, “What would you pay?” But have that sales and marketing conversation. Tell people where they actually might get the benefits. Basically, exactly everything you would do after launching the product to create awareness and showcase the benefits, do it, and then ask these questions, so that you're priming them to the value that your product gets and you're not just having a random conversation.”

Frame the Question in a Relative Way (Use Comparisons)

- “So the first one is, what we say is frame. The first one is, what we say is, “Frame the question in a more relative manner”, because, and sometimes I say tongue in cheek, that, “People are absolutely meaningless, relatively super smart.” What I mean by that is, if you go and ask someone, “How much should I charge?” You'll get a meaningless answer. But if you actually ask it in a relative way, people actually give responses that are meaningful. So for instance, if you're a B2B SaaS company, and you're trying to see if your product actually has willingness to pay, one way to have that conversation is to say, “Okay. Hey, do your customers, do you use products like Salesforce in your install base?” “Yeah, I do use.” “Okay, Salesforce was indexed at 100 in value. Where do you think we are in terms of the value that we bring to your, let's say, day to day business operations?” That people can answer all day long. They might say, “80”, they might say, “120”, depending on whether you're more or less compared to, let's say, what a Salesforce can do, which is an established [inaudible 00:25:56]. And then if you say, “Okay, if Salesforce was indexed at a 100 in pricing, where do you think we should be?” That also people can say, okay, if they say 110, what they're saying is, you can be more premium than that and we would still pay for it. At least you've gotten some information that is meaningful at a very basic level. So this is some relative ways of asking these questions are the most basic ways of actually doing it.”

Surface Psychological Thresholds / Budgets of Customers

- “Then we have questions where there's some methods where we actually want to understand, are there some psychological thresholds or budgets when it comes to willingness to pay? So the way to do this is let's take your product that you're going to launch, pitch the value to your customers, have that exact sales and marketing conversation that you'd have after you launch the product, but before. And then you ask them, “What do you think is an acceptable price for this innovation?” Look, everyone would like to low ball, they'll negotiate with themselves. Let them give an answer, clock it, then ask them, “What do you think is an expensive price?” And then follow that with,

["What do you think is a prohibitively expensive price?"](#) And across thousands of projects that we have done, what we have come to realize is, acceptable price is the price where people not only love the product, but they also love the price. If you're in true growth mode, maybe you can put it there as a no-brainer price, no friction, et cetera. The expensive price tends to be the price that is value priced, as in, they don't love you, they don't hate you, they would pay you, but that's a neutral reaction. Prohibitively expensive tends to be the price that they'll laugh you out the room. And if you do this at scale, what you'll start seeing is that there are some cliffs in these demand curves, where suddenly, when you cross from let's say 99 to 101, 20 or 30% might say, "It is expensive," or, "Hey, it's prohibitively expensive." And that's what we look for to see if there are some psychological thresholds that if you actually cross, you have a perception of being expensive."

- "Rahul Vohra from Superhuman actually read the book, and he talked about this in an a16z podcast. He actually used this method to come up with his \$30 price point for the Superhuman app. And I think [that's a quick and dirty way to actually get to, what is a willingness to pay, and what's a psychological threshold?"](#)

Asking "Why" for EVERY response

- "As simple as it sounds, the "why" question is the most powerful one. [If someone says, "I would pay \\$20," ask them, "Why do you say that?" If someone says, "I don't see value in a particular feature and won't pay for it," ask them, "Why is that, and what would the product need to make it more valuable?"](#) You may get tips that improve your product significantly. Asking why also helps create a culture that's hungry for information." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Avoiding Averages

- "Avoid the "average trap: "When you analyze the answers to your willingness to pay questions, look at the distribution, not just the average response. The average response can be misleading. For instance, [for two groups of customers, one willing to pay \\$20 and another willing to pay \\$100, if you calculated the average price they would pay, it would be \\$60. But that would leave money on the high side \(the group that would pay \\$100\) and make your product unaffordable to the low side \(they'll only pay \\$20\). You might be better off building the product to a \\$100 price point or—even better—making two versions, one at \\$20 \(with different features or materials\) and the other at \\$100.](#) Either way, you must look at the distribution to arrive at the right insight, not just the averages." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Ways to Collect Data

"Value [Validation Methodologies](#)" + "Willingness to Pay Questions"

One-on-One Interviews or Many-to-Many (Sales Team) Pitches

- "If you're very early stage, let's say just an idea, [just have the conversation. Just even asking, would you pay for it, is a good question because if someone says no, then ask why. Then you'll hear a lot of good information.](#) If someone says yes, ask them, why would you pay for it, they would articulate back the value that they understood, and that should be in your value messaging. So that's just the simple questions."
- "It's usually either [a one-on-one conversation with a customer, much early stage, you're a founder and you're having a conversation.](#) It's basically, you're pitching the idea and trying to understand not just product market fit, but a product market pricing fit... usually,

it's a one-on-one with, one-on-one as in with the company, it could be more multiple decision makers. Increasingly, in B2B SaaS for instance, it's not just one person deciding on a software budget, it's a team."

- "...if you're a bit more late stage and you have a cross-functional team, [this could be a conversation that the sales teams could actually be having along with the product teams to actually understand this](#). That's also what happens in companies like LinkedIn for instance, when they launch a new innovation. The team has to book in a credit card or lock in a budget from a customer for pilot POCs and everything else, and if they don't, they don't necessarily go down the route of productizing it because there was no final verdict on whether people would actually pay for these innovations."

#### Focus Groups

- "Focus groups provide customer feedback on potential behavioral tactics. They serve as small, controlled tests for understanding the thought processes driving product selection. [You can watch how customers react as price anchors, deals, and other factors change](#). The results can steer you toward or away from some behavioral pricing tactics." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "In one focus group test we conducted, [we gauged the impact of premium product anchors on a four-product lineup. Customers told us they would get very confused and leave a store display with the four products](#). This tactic just didn't work in the tests. The number of choices made the decision too complicated. Had we blindly assumed the tactic would work as well as it did with the Internet start-up company mentioned earlier in this chapter, we would have led this company down the wrong path." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "It can also be done in terms of [focus groups where you bring in a set of customers and then you mediate and moderate answers and trying to get to what is the right thing to do](#)."

#### Survey (Generic)

- "...for example:  
["What do you think could be an acceptable price?"](#)  
["What do you think would be an expensive price?"](#)  
["What do you think would be a prohibitively expensive price?"](#)  
["Would you buy this product at \\$XYZ?"](#)  
[Then follow each question with the most powerful question of all: "Why?"](#)" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "And often, we also do a quantitative version of this where we are doing more test and learn through either AB testing or, most importantly, through [controlled surveys that we would actually have, invite participants to actually participate and then they would give their opinions on these various concepts that we are actually testing](#). And then we try to understand what is the willingness to pay in the market based on those responses."
- "Porsche's surveys confirmed what the company hoped they would: Customers would view a Porsche SUV and family sedan to be in keeping with the brand's image, and they wouldn't detract from its reputation for building leading sports cars. Just as important, the customer surveys provided detailed input that Porsche used to fine-tune each concept. For example, the Panamera's potential customers wanted a full-size sedan with plenty of trunk space, but with 100 percent Porsche (sportiness) DNA. The [customer surveys also](#)

[helped Porsche find the proper price positioning for the two cars—that is, the price range, not the exact price point. For the Cayenne, the survey told Porsche it could charge a significant premium over other SUVs. For the Panamera, Porsche learned it could position the car at the upper luxury segment level \(e.g. Mercedes S-Class\) and thus significantly above the Mercedes CLS level \(a four-door Mercedes coupe about the size of the Panamera, but with a 15 percent lower price than the S-Class\).](#) This was welcome news. Finally, each survey gave Porsche important initial insights into both cars' market potentials and key segments. For example, many people liked the Porsche brand and would love owning a 911 sports car, but they couldn't afford it as an additional, just-for-fun car. But with the Cayenne or Panamera, a Porsche fan's everyday family car could be a Porsche. Moreover, Porsche 911 owners would not have to drive another brand's cars for family errands; they could make every vehicle in their garage a Porsche. But Porsche is also a brand that polarizes consumers. From its surveys, Porsche found it had a customer segment that would never buy an SUV or sedan from Porsche, no matter how great the vehicle. With this information, Porsche had an initial quantitative sense of the market potential for Cayenne and Panamera. The survey data became crucial inputs to each vehicle's first business case." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Telephone Surveys

- "About four years before introducing the Cayenne and Panamera, Porsche [conducted initial research, including high-level telephone surveys with potential customers in its most important markets.](#)" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Survey: Van Westendorp “Price Sensitivity Meter”

- “And one of the best books on this is a book called Monetizing Innovation by Madhavan Ramanujam. And Madhavan covers a lot of ways to develop pricing. [We used one of the easiest methods, which is the Van Westendorp price sensitivity meter. And in the early years, we asked, I think it was around 100 of our earliest users, the following four questions.](#) Number one, at what price would you consider superhuman to be so expensive that you would not consider buying it? Number two, at what price would you consider superhuman to be priced so low that you'd be worried about its quality and you wouldn't buy it? At number three, what price would you consider superhuman to be starting to get expensive so that it's not out of the question, but you'd have to give some thought to buying it? And number four, at what price would you consider superhuman to be a bargain, a great buy for the money?”
- “Then we have questions where there's some methods where we actually want to understand, are there some psychological thresholds or budgets when it comes to willingness to pay? So the way to do this is let's take your product that you're going to launch, pitch the value to your customers, have that exact sales and marketing conversation that you'd have after you launch the product, but before. And then [you ask them, "What do you think is an acceptable price for this innovation?" Look, everyone would like to low ball, they'll negotiate with themselves. Let them give an answer, clock it, then ask them, "What do you think is an expensive price?" And then follow that with, "What do you think is a prohibitively expensive price?"](#) And across thousands of projects that we have done, what we have come to realize is, acceptable price is the price where people not only love the product, but they also love the price. If you're in true growth mode, maybe you can put it there as a no-brainer price, no friction, et cetera. The

expensive price tends to be the price that is value priced, as in, they don't love you, they don't hate you, they would pay you, but that's a neutral reaction. Prohibitively expensive tends to be the price that they'll laugh you out the room. And if you do this at scale, what you'll start seeing is that there are some cliffs in these demand curves, where suddenly, when you cross from let's say 99 to 101, 20 or 30% might say, "It is expensive," or, "Hey, it's prohibitively expensive." And that's what we look for to see if there are some psychological thresholds that if you actually cross, you have a perception of being expensive."

1: At what price would you consider {product} to be so expensive that you would not consider buying it?

- "Then we have questions where there's some methods where we actually want to understand, are there some psychological thresholds or budgets when it comes to willingness to pay? So the way to do this is let's take your product that you're going to launch, pitch the value to your customers, have that exact sales and marketing conversation that you'd have after you launch the product, but before. And then you ask them, "What do you think is an acceptable price for this innovation?" Look, everyone would like to low ball, they'll negotiate with themselves. Let them give an answer, clock it, then ask them, "What do you think is an expensive price?" And then follow that with, "What do you think is a prohibitively expensive price?" And across thousands of projects that we have done, what we have come to realize is, acceptable price is the price where people not only love the product, but they also love the price. If you're in true growth mode, maybe you can put it there as a no-brainer price, no friction, et cetera. The expensive price tends to be the price that is value priced, as in, they don't love you, they don't hate you, they would pay you, but that's a neutral reaction. Prohibitively expensive tends to be the price that they'll laugh you out the room. And if you do this at scale, what you'll start seeing is that there are some cliffs in these demand curves, where suddenly, when you cross from let's say 99 to 101, 20 or 30% might say, "It is expensive," or, "Hey, it's prohibitively expensive." And that's what we look for to see if there are some psychological thresholds that if you actually cross, you have a perception of being expensive."

2: At what price would you consider {product} to be priced so low that you'd be worried about its quality and you wouldn't buy it?

3: At what price would you consider {product} to be starting to get expensive so that it's not out of the question?

- "...the price point that supports our best-in-class, best-in-category position is actually the third one. It starts to feel expensive, but then you sit down and you think about the time that you spend an email, the ROI, and you still buy it anyway. And it turns out that the median answer for the third question was \$30 per month, and that's how we picked our price."
- "Then we have questions where there's some methods where we actually want to understand, are there some psychological thresholds or budgets when it comes to willingness to pay? So the way to do this is let's take your product that you're going to launch, pitch the value to your customers, have that exact sales and marketing conversation that you'd have after you launch the product, but before. And then you ask them, "What do you think is an acceptable price for this innovation?" Look, everyone would like to low ball, they'll negotiate with themselves. Let them give an answer, clock it, then ask them, "What do you think is an expensive price?" And then follow that with,



"What do you think is a prohibitively expensive price?" And across thousands of projects that we have done, what we have come to realize is, acceptable price is the price where people not only love the product, but they also love the price. If you're in true growth mode, maybe you can put it there as a no-brainer price, no friction, et cetera. [The expensive price tends to be the price that is value priced, as in, they don't love you, they don't hate you, they would pay you, but that's a neutral reaction](#). Prohibitively expensive tends to be the price that they'll laugh you out the room. And if you do this at scale, what you'll start seeing is that there are some cliffs in these demand curves, where suddenly, when you cross from let's say 99 to 101, 20 or 30% might say, "It is expensive," or, "Hey, it's prohibitively expensive." And that's what we look for to see if there are some psychological thresholds that if you actually cross, you have a perception of being expensive."

4: At what price would you consider {product} to be a bargain, a great buy for the money?

- "And number four, at what price would you consider superhuman to be a bargain, a great buy for the money? Now, [most startups orient around price point number four. This is especially true for greenfield opportunities, marketplaces. You've got to set the transaction value around price point four, basically when you want as many people to sign up as humanly possible at the top of the funnel](#)."
- "Then we have questions where there's some methods where we actually want to understand, are there some psychological thresholds or budgets when it comes to willingness to pay? So the way to do this is let's take your product that you're going to launch, pitch the value to your customers, have that exact sales and marketing conversation that you'd have after you launch the product, but before. And then you ask them, "What do you think is an acceptable price for this innovation?" Look, everyone would like to low ball, they'll negotiate with themselves. Let them give an answer, clock it, then ask them, "What do you think is an expensive price?" And then follow that with, "What do you think is a prohibitively expensive price?" And across thousands of projects that we have done, what we have come to realize is, [acceptable price is the price where people not only love the product, but they also love the price](#). If you're in true growth mode, maybe you can put it there as a no-brainer price, no friction, et cetera. The expensive price tends to be the price that is value priced, as in, they don't love you, they don't hate you, they would pay you, but that's a neutral reaction. Prohibitively expensive tends to be the price that they'll laugh you out the room. And if you do this at scale, what you'll start seeing is that there are some cliffs in these demand curves, where suddenly, when you cross from let's say 99 to 101, 20 or 30% might say, "It is expensive," or, "Hey, it's prohibitively expensive." And that's what we look for to see if there are some psychological thresholds that if you actually cross, you have a perception of being expensive."

A/B Test (for Statistically Significant Data)

- "For online offers, [controlled A/B tests let you assess click-through and conversion rates on different behavioral pricing tactics. They give you statistically significant data on the options with the best outcomes](#). But you must set up these tests correctly, which includes clearly defining your control and test cases. You must also divide the sample in each group so the customer populations are similar." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "And often, [we also do a quantitative version of this where we are doing more test and](#)

[learn through either AB testing](#) or, most importantly, through controlled surveys that we would actually have, invite participants to actually participate and then they would give their opinions on these various concepts that we are actually testing. And then we try to understand what is the willingness to pay in the market based on those responses.”

- “The first product I created was a PDF that [I sold at first for \\$50, no one bought it, then I dropped it to \\$40, no one bought that, \\$30 some people bought it, \\$29 more people bought it, \\$24 a lot of people bought it, and I was like okay I found the price point](#), it took me years.”

## 2) Market Sizing

- “And once we picked our price, we then do a quick gut check on market size. For example, we're a venture-scale company. But at the time, [the question that we had to ask is, could we grow into a billion-dollar valuation? Well, let's assume that at that point, our valuation is 10 times our ARR. So our ARR would have to be \\$100 million. Well, that would be 300,000 subscribers at \\$30 per month](#). And that is conservatively assuming no other ways to increase ARPU. You mentioned the price increase. You can also go at market. You can sell new products and so on. We asked ourselves, without those tricks, Do we think we can get to hundreds of thousands of subscribers? And we answered emphatically, yes. And so we went ahead with that price.”

## Monetization Models

- ["Before implementing any of the models, you should have extensive conversations with customers and then test them](#). Whichever model you choose, it should not only play to your organization's strengths, but also benefit your customers. It should also take into account future trends for your product, company, and industry. Here are five questions to consider when assessing which monetization model is right for you." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

## Pay As You Go

- "Some of the world's most successful companies have made the biggest leaps by revolutionizing their monetization models. For example, take the [“pay as you go”](#) model. It's a model that has helped companies that provide hosting and cloud computing services, telecommunications, transportation services, construction machines, and aircraft engines (yes, you read that right!) achieve game-changing results." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Instead of selling or leasing a CAT scan machine or a jet engine, [GE charges customers by the hours of usage for a medical practice or the miles flown for an airline. As such, customers pay when they use or benefit from the product](#). If GE reduces its customers' downtime, that goes into GE's pockets. It has monetized 100 percent of the value of its offering, exactly as Michelin has been doing with tires." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Software companies have also successfully employed alternative pricing metrics. [A software company that produces lab reports increased revenue by 20 percent just by changing its pricing metric from fixed perpetual license to charging per lab report](#). It considered this alternate metric model to be much more aligned with the perceived value. The model also minimized customers' upfront investment commitments. Of course, this was also beneficial to the software firm since it could now charge a higher price for a lab

report (compared with breaking even on the perpetual fee)." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

- "An alternate pricing model can be very successful when you can align the metric directly to how customers perceive value. For example, let's assume you are a manufacturer of robotic surgery equipment that can be installed in hospitals. If a hospital is small to medium in size, they typically don't have the capital to invest in machinery you provide. The traditional way is to price by the upfront cost for the instrument. What if you price by surgery? This alternative is totally aligned with the value delivered to the hospital as compared to them paying a really high upfront cost. In other words, you are participating in the revenue your customers generate by using your product and services. Ultimately you can showcase your intentions as a win-win situation for you and your customers." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Subscription

- "The customer provides periodic and automatic payment for continued delivery of (or access to) a company's offering. For example, customers may opt to subscribe to the Wall Street Journal rather than buying it on a newsstand. Netflix customers today choose among several subscription rate plans to receive video via digital streaming." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "The subscription model lifts lifetime revenue overall, and customer lifetime revenue specifically. A customer who buys the Wall Street Journal intermittently generally spends less money than a customer committed to a year of delivery. Obviously, this generates more revenue for the WSJ. A customer on subscription is also likely to stay for a longer time without churning (since you increase switching costs after getting the customer more familiar with your offering). The WSJ loves subscription revenue models for their recurring revenue." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "While selling a long-term subscription is generally harder, it limits the number of buying decisions customers must make and locks them in. With a subscription, a newspaper buyer doesn't have to decide Monday whether to buy that day's edition. Add automatic renewal to the equation, and the company is in even better shape." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Last, the relationships between subscribers and brands also prove stronger and stickier than transactional ones. While the company gets to know the consumer, the consumer becomes more intimate with the brand and perhaps even emerges as an unofficial ambassador for the product or service, thereby increasing the brand's value." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "In the early 1990s I read an article in which someone said that software was a subscription business. At first this seemed a very cynical statement. But later I realized that it reflects reality: software development is an ongoing process. I think it's cleaner if you openly charge subscription fees, instead of forcing people to keep buying and installing new versions so that they'll keep paying you. And fortunately, subscriptions are the natural way to bill for Web-based applications."

## Dynamic Pricing

- "A dynamic pricing monetization model is [one in which a given product's or service's price fluctuates based on factors such as season, time of day, weather conditions, or other considerations](#) that could impact willingness-to-pay, demand, and supply." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "For decades, [the airline industry pioneered dynamic pricing, changing ticket prices based on the time of booking, class of service, and other factors](#). As one of the pioneers of dynamic pricing, American Airlines' former CEO Robert Crandall, eloquently put it, "If I have 2,000 customers on a given route and 400 different prices, I am obviously short 1,600 prices.'" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "With rapid advancements in data collection and analytics technologies, companies in other industries can now use more complex algorithms to adjust prices more frequently. Uber is a prime example. The firm, launched in 2010, has disrupted the taxi business with a dynamic pricing monetization model that ties price to the real-time demand and supply of taxis. The benefits go both ways: to Uber's drivers and to the consumer. [An increase in price during peak hours attracts more Uber drivers to meet the demand](#). Consequently, consumers don't have to fight for a taxi or wait in the rain trying to flag one down, and they're willing to pay more for that benefit." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

## Auctions (Market Based Pricing)

- "[Auctions set prices based on competition for goods or services](#). They've been around for centuries. In fact, the first auctions date back as far as 500 BC. Today, thanks to networking technology, it seems as if everything can be auctioned, from securities to artwork." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "With auction-based pricing, you can withdraw from the act of price setting and let the market figure out what it wants to pay. In other words, [even though you are the seller, the market perceives you as the neutral party; customers outbid each other to buy and raise prices for you](#). In addition, when you use an auction model, you can influence the price without being too explicit about it. For example, you can set a minimum price for the auction and dictate how long the auction takes and the process of bidding." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

## Ad Competitions

- "Auctioning is a primary way Google makes oodles of money. Google AdWords, which drives the advertising displayed alongside search results, is powered by an auction. [Advertisers outbid one another for the most prominent placement based on keywords](#). During the first half of 2015, that auction-based ad business accounted for 70 percent of Google's \$35 billion in revenue, according to company earnings reports." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

## 2-Sided Marketplaces

- "[Two-sided marketplaces \(those that connect sellers and buyers\) have also embraced auctions](#). The most prominent is eBay, which has built an \$18 billion-a-year business

helping people sell household items through auction pricing. In a similar vein, Manheim, an automobile auction company (which we will explore in more detail in Chapter 9), is the world's largest auction provider for buying and selling used cars." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Tiered Pricing (aka "Freemium"); *number of free customers who convert to premium is typically below 10 percent in software companies*

- "With the freemium model, [a company offers two or more tiers of pricing for its products and services, one of which is free](#). The goal of a freemium monetization model is to attract a huge customer base to the free version and later convert a significant percentage to paid subscriptions. This model is also called "land and expand." You try to land with a freemium offer and expand with paid offers." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "The Internet has greatly expanded freemium possibilities by reducing the cost of distributing many services to zero. In fact, [freemium is now the dominant business model for many Internet start-ups, online service providers, software companies, and smartphone apps](#)." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "[Because freemium services lower the cost of customer entry to zero, they spur rapid adoption](#). The free offering becomes, in effect, a marketing tool for the premium offering. That helps companies reduce their cost of customer acquisition compared with more expensive traditional marketing and sales methods." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "The freemium model is definitely not right for everyone. [It only works if you have a very low cost of production \(preferably no production costs at all\) and minimal fixed costs that can and will be offset by the generally smaller percentage of paying customers](#)." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "What's more, companies often struggle to turn the freemium model into long-term monetization. The land-and-expand approach fails for 90 percent of companies. In fact, [the number of free customers who convert to premium is typically below 10 percent in software companies](#). In video games, freemium games have an average life span of less than a year, losing 75 percent of free users after just one day and retaining just 2 percent after a month of play." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "If you decide to offer a freemium service, you must double down on your efforts to convert customers to the premium version. [It is extraordinarily difficult to get consumers to buy something they previously received for free](#)." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "To have a chance at converting free customers to paid customers, you need to test what benefits they will pay for and ensure a functional free experience. You also need to know exactly how many customers will actually be willing to pay. What's more, [you must avoid giving the farm away for free because it will leave your premium offering with very little value](#)." - Monetizing Innovation: How Smart Companies Design the Product Around the



Price by Madhavan Ramanujam and Georg Tacke

Free Tier: How a Free Tier leads to Sales

- “Freemium business models attract customers by introducing them to basic, limited-scope products. Then, with the client using their service, the company attempts to [convert them to a more premium, advance product that requires payment](#). Although a customer may theoretically stay on freemium forever, a company tries to show the benefit of becoming an upgraded member.”
- “Offer [basic services for free](#), charge for premium service.”
- “We have a free tier and then we have a pro tier, and then we have our org tier. And [the free tier includes this free starter team](#). And so you can just do that, go to figma.com, and go do that... most of our marketing qualified leads that are sales leads likely come from pro or from free. And so it's the decisions that we think about are like, okay, what do you want to sell on? And to go from free to pro, it has to be pretty natural because you don't have any people involved. And so it's like they have to just do that on their own. And then when you go from pro to org or enterprise, it's more about the organization and the scale. And that's where that design systems conversation comes in that we could talk about. But that was the thing that we really indexed on for org and enterprise of why you would want to upgrade from pro to org. So it is this multi-step process, but it's also nice because you can increase your investment in the product as you're building your own confidence in the tool.”
- “But then the second thing was, once we did have a sales team, and even up until now, so much of our revenue and our sales and our MQLs, [our marketing qualified leads come from our free tier](#). So it's people, they're using it, maybe they use it for free. We have a very robust free tier. Maybe they use it for pro, which is on your credit card. And then once it's widespread and they've gained the confidence, then they're ready to bring in sales work with procurement. And they actually come to us and they're like, “Hey, I work at this company. I really want to get my whole company to use it, but security's not letting me. Can you help me unblock it with them?” We didn't spend that much money, any money really programmatically on paid or programmatic marketing because all of our leads for sales would come in through a form on our website, which was current users either free or pro wanting to upgrade. And at that point, it's a very different sales conversation to unblock someone or to just help them implement Figma when they've already have an internal champion who's bought in, and they're really the one leading and driving the sale within their organization. So I think that that's made us really efficient as like this is a really efficient model and has really powered so much of our growth over time.”
- “And so I'll just give you one example. We had one channel after we made a lot of these changes and had already driven a ton of improvement in the LogMeIn onboarding. We found a demand generation channel that was really cheap and the economics looked great, but at just the download step we had a 90% drop off rate. And so we A/B tested a bunch of different things there to try to improve that conversion rate, and then finally 10 plus tests, not able to improve it. Finally, someone said, “When these people are registering. Why don't we just ask them why they signed up and didn't download the software?” And so we didn't want to do it in too kind of a creepy way. So we made it look like a note coming from customer service. This channel was sending 200,000 people a day, so 20,000 people were converting to registering. So we had essentially 20,000 people we could email and then 18,000 of them who didn't download. And so we just

asked, "Hey, notice you haven't had a chance to use the product yet. What happened?" It looked like it was coming from customer support. And the answer we got back and not a formal survey was, "Oh, this seemed too good to be true. I didn't believe this was free." I mentioned to you [we were one of the first freemium SaaS products out there](#). And so people were skeptical, especially in a demand gen channel where they hadn't seen a radio or a TV advertisement from our competitor who was a premium only product."

- "How a platform is sold can also matter a great deal to how well adopted it becomes by both sides. For instance, Microsoft has an army of salespeople who sell their platform to large corporate clients, and [they often give the platform away for free to universities so graduates learn to standardize on that platform](#)."
- "To have a chance at converting free customers to paid customers, [you need to test what benefits they will pay for and ensure a functional free experience. You also need to know exactly how many customers will actually be willing to pay](#). What's more, you must avoid giving the farm away for free because it will leave your premium offering with very little value." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Easy to Try and Share

- "So the first one's [making it, the product, easy to try and share](#). So we talked about this a little bit, but if you go to figma.com today, it's very easy to sign up for a free account. I have a free account myself on my personal side for designing my house, which is a thing I used to before, but you just go and you can try the tool. And I think that's so important for us to allow someone to use it over time for a long time until they have confidence enough to be able to want to spread it within their organizations. But then it's also pretty easy to create a free team and share stuff with your organization. In the early days, you could just share a link and that was it, and you could use the tool and everything was free."
- "The other really important nuance in the way that you structured pricing, it's unlimited viewers, but it's just editors that you charge for. Yes. So true. So many people, especially if you're a designer and you're working with our product manager, you can comment and so much of this is to yes, you can spread it and you can use Figma for free for a really long time because you can just comment on the tool. And it also gets us through many more places with the organization and helps us be more useful to more people because yeah, [viewers are free](#)."

#### Insert enough Friction to make the Cost worth the Value

- "By the way, I recently upgraded to the non-free pack because I hit that limit of three with the designer that I work with. Yeah, it's also just kind of annoying because you have to keep moving things in and out drafts. That's exactly what it is. It's like, oh, [this is worth my \\$12 a month or whatever, just to not have to bother with it](#). Yeah. Once you realize, okay, yeah, it's not that much in the scheme of things, I'm just going to, but it's interesting how it's not that much, but I still like, nah, I don't really want to pay that if I don't have to. Oh, for sure. We all do that. Right? Especially because so much of pro, so many people have individual pro accounts, right? Because not necessarily a business or maybe it's a small business or you're an individual and it's very different from an organization where someone else is paying for it. Yeah. So funny. Okay, step two is around designer advocates. Talk about that."
- "To maximize the monetization potential of new products, companies should curb their instincts to please customers by giving away value-added functionality— unless those

customers will pay for it. These firms must [get comfortable with the idea of giving their low-price segment only basic quality and service levels, rather than giving them everything.](#)" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

- "To have a chance at converting free customers to paid customers, you need to test what benefits they will pay for and ensure a functional free experience. You also need to know exactly how many customers will actually be willing to pay. What's more, [you must avoid giving the farm away for free because it will leave your premium offering with very little value.](#)" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

Pro Tier (Premium); start w/ a Free Trial that transfers to monthly payments after 1 month

- "We have a free tier and [then we have a pro tier](#), and then we have our org tier. And the free tier, free tier includes this free starter team. And so you can just do that, go to figma.com, and go do that. Pro is all enter credit card, and then org is you talk to sales. Org and enterprise, you talk to sales. And so I think the other key thing here is we get a lot of upsells to org from pro. And so it's also a thought of what you put in org versus pro. So that's the other decision because pro is also relatively inexpensive, so that grows a lot too really quickly and it's still very important to us, but still most of our marketing qualified leads that are sales leads likely come from pro or from free. And so it's the decisions that we think about are like, okay, what do you want to sell on? And to go from free to pro, it has to be pretty natural because you don't have any people involved. And so it's like they have to just do that on their own. And then when you go from pro to org or enterprise, it's more about the organization and the scale. And that's where that design systems conversation comes in that we could talk about. But that was the thing that we really indexed on for org and enterprise of why you would want to upgrade from pro to org. So it is this multi-step process, but it's also nice because you can increase your investment in the product as you're building your own confidence in the tool."
- "[We gave them a choice, download a trial of the paid version or download the free version](#), put a big graphical check mark next to the free version. But when they saw we had a business model and a trial of a paid version, the free version was credible. And so that essentially made that channel work for us."

Pay for Monthly Credits

Enterprise Tier

- "We have a free tier and then we have a pro tier, and then we have our org tier. And the free tier, free tier includes this free starter team. And so you can just do that, go to figma.com, and go do that. Pro is all enter credit card, and [then org is you talk to sales.](#) Org and enterprise, you talk to sales. And so I think the other key thing here is we get a lot of upsells to org from pro. And so it's also a thought of what you put in org versus pro. So that's the other decision because pro is also relatively inexpensive, so that grows a lot too really quickly and it's still very important to us, but still most of our marketing qualified leads that are sales leads likely come from pro or from free. And so it's the decisions that we think about are like, okay, what do you want to sell on? And to go from free to pro, it has to be pretty natural because you don't have any people involved. And so it's like they have to just do that on their own. And then when you go from pro to org or enterprise, it's more about the organization and the scale. And that's where that design systems conversation comes in that we could talk about. But that was the thing that we really indexed on for org and enterprise of why you would want to upgrade from pro to

org. So it is this multi-step process, but it's also nice because you can increase your investment in the product as you're building your own confidence in the tool.”

- “How a platform is sold can also matter a great deal to how well adopted it becomes by both sides. For instance, [Microsoft has an army of salespeople who sell their platform to large corporate clients](#), and they often give the platform away for free to universities so graduates learn to standardize on that platform.”

#### Pricing Strategies

- “The good news is [only three types of pricing strategies matter: maximization, penetration, and skimming](#).” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Maximization

- “This strategy maximizes your goal (such as profit or revenue) in the short term. Most companies choose this strategy for new offerings. You determine the optimal price—the point on the price elasticity curve at which the profit or revenue curve reaches its maximum.” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- “Companies typically choose a maximization strategy when their customer segments don't have early adopters with disproportionately more WTP. Or they choose this strategy because gaining a huge market share rapidly is not worth the expense of lower revenue or profit. In other words, these companies see little difference between the optimal short-term price and the optimal long-term price.” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Penetration

- “With this pricing strategy, you intentionally price your product lower than in a maximization strategy to rapidly gain market share. This is also known as a land-and-expand strategy. When should you choose it? In some markets you must gain share quickly, especially in those dominated by network effects or where customers are highly loyal to the first brand they choose. If you gain customers early in such markets, you are better positioned to maximize customers' lifetime value from future sales and upsells. With a penetration pricing strategy, you make a grab for market share and then expand. This has been Samsung's pricing strategy in the smartphone market; cloud software companies have used this strategy after introducing freemium models. E-commerce market maker Ariba provides a great example. When the firm opened its online doors, it made all its money from buyers, not sellers. The service was free for sellers, and sellers typically brought buyers to the system. Over time, though, the company started monetizing its offerings to sellers. Today, Ariba generates as much revenue from sellers as it does from buyers.” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- “Facebook is another great example of a hugely successful penetration pricing strategy. Most advertisers couldn't be bothered with the social network in its early days—until the free-to-users service had amassed hundreds of millions of eyeballs. But by 2014, with more than 1 billion Facebook members, advertisers were spending \$12 billion annually on Facebook ads. That's huge revenue. Facebook has become immensely profitable as well, generating \$7 billion in profits in aggregate from 2009 to the first half of 2015.” - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

- "A penetration strategy might be right if you also plan to hike prices in the future. For example, Toyota's luxury car brand Lexus raised prices in the U.S. market more than 40 percent five years after it entered the market with a penetration strategy." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "A penetration strategy might also be the right strategy for you if you are in a position to rapidly gain share, bring down unit costs, and purposefully price low to create barriers to entry. In such a case, even if you operate at a laser-thin margin, you might still make up for it because of your very high volume of sales. Think Amazon. Think Uber." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "But a word of caution: A penetration strategy is the riskiest from a profit and revenue standpoint. You must focus as much on expanding revenue from customers as you do on landing them in the first place. Or you need to gain huge market share rapidly. And you'd better be able to follow through on those future price increases if you had planned them while deciding on this strategy. We have seen many companies, especially in Silicon Valley, incessantly talk about future revenues as a justification for picking this strategy but hardly come close to achieving it, even years after they launched! One such firm is LivingSocial, which had raised more than \$900 million in venture capital to create a business that sent e-mail coupons to consumers to shop local businesses (similar to Groupon, taking a cut of the transactions). But by 2015, LivingSocial was struggling. Four years of losses had piled up to more than \$1 billion. Said a New York Times story: "No one paid much attention to how the company would ultimately make money.'" - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

#### Skimming

- "Here you first cater to customers with a higher WTP—the early adopters. Then, you systematically decrease price in order to reach other customer segments with lower willingness to pay. Your initial price needs to be higher than the price you would have charged had you chosen a maximization strategy. A skimming strategy is especially appropriate if you have a significant number of customers who are willing to pay a higher price than others for your product. Put another way, your customers' WTP varies greatly between early adopters and late followers. Some prime examples are buyers of movies, music, online games, high-definition TVs, gaming consoles (such as Microsoft's Xbox video game console), smartphones (Apple iPhone, for example), and some automobiles. These customers won't wait for a product to become mainstream. It gives them bragging rights; they want to show it off to their peers." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "Two other scenarios make skimming the right choice. One is when the product represents a breakthrough—an offering that delivers far superior value. The other scenario is when you have production capacity constraints in the initial launch periods but must mass produce in the future." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke
- "A classic way to implement skimming is by combining product and pricing actions. Here's how this works: You launch the higher-end product first, skim the market, and then launch lower-end products. A great example of this is when Porsche launched its four-



door car, the Panamera. It first debuted the eight-cylinder model to skim the market, then released the lower-priced six-cylinder model a year later." - Monetizing Innovation: How Smart Companies Design the Product Around the Price by Madhavan Ramanujam and Georg Tacke

## Getting 1st Users

### Getting Your 1st 10-20 Users

- “The most common unscalable thing founders have to do at the start is to recruit users manually. Nearly all startups have to. You can't wait for users to come to you. [You have to go out and get them.](#)”
- “...find 10 people who love your product and do that in a way that doesn't scale, so you should be thinking that [your first 10 customers don't have to come from some elaborate advertising scheme or some viral growth mechanism, you should probably be hand recruiting them...](#)”
- “Founder led sales is really that first milestone that a startup goes through on the commercial side, which is, [how do I go out and get my first few customers? Some people might say zero to one, which is, how do I get my first million? Others might say, how do I go out and get my first 10 customers?](#) It's all kind of in the same vein.”
- “...the next thing to keep in mind is that [there is no benefit to you to make those first customers hard to get customers, so you should be looking for customers who intensely have the problem that you're looking to solve](#), willing to work with an early stage startup, and generally are willing to pay to solve the problem that they have...”
- “...one thing that a lot of founders make a mistake about is that they target customers early who are too hard, who don't want to pay, who aren't interested in working with early stage companies, who don't actually have the problem they just kind of think that they might have the problem, might have the problem in the future, you actually get no benefit from targeting customers who don't intensely have the problem, [you're trying to solve or targeting customers who honestly are not going to be the initial folks who love your product...](#)”
- “But there has to be some initial group of hackers using the language for others even to hear about it. I wonder how large this group has to be; how many users make a critical mass? Off the top of my head, I'd say twenty. [If a language had twenty separate users, meaning twenty users who decided on their own to use it, I'd consider it to be real. Getting there can't be easy. I would not be surprised if it is harder to get from zero to twenty than from twenty to a thousand.](#) The best way to get those initial twenty users is probably to use a trojan horse: to give people an application they want, which happens to be written in the new language.”

### Be your own 1st Customer

- “When we started Recall.ai , we didn't launch with a beautiful product. We launched with docs. Just an API and some bare-bones reference docs. And [we were the first customer. We used our own API for every meeting. Every bug, every broken edge case, we hit first.](#) That was the point. We were building something that wasn't ready. We were trying to answer one question: Is this even worth fixing? When a few early customers asked to use it anyway, despite the friction, we knew we were onto something. Only then did we start building out real features. A real MVP isn't built to impress. It's built to test. If your MVP looks polished and “just works,” ask yourself: Are you validating the idea or avoiding the answer?”

## Who to Target?

### Friends; and Friends of Friends

- "...hopefully you're solving a problem that either you have or someone that you know has, so [your first customer, your first couple of customers should be folks that you know](#), that's what's ideal..."
- "Most startups that use the contained fire strategy do it unconsciously. [They build something for themselves and their friends, who happen to be the early adopters, and only realize later that they could offer it to a broader market](#). The strategy works just as well if you do it unconsciously. The biggest danger of not being consciously aware of this pattern is for those who naively discard part of it. E.g. if you don't build something for yourself and your friends, or even if you do, but you come from the corporate world and your friends are not early adopters, you'll no longer have a perfect initial market handed to you on a platter."
- "The easiest and fastest way to find your early users, and a large driver of early growth for about 20% of startups, is to reach out to your friends and former colleagues."
- "When you first start a startup, you don't need to get the word out. You need to get the word \*in\*. You do not, in the very beginning, need the whole world to know about it. [What you need is to find the initial group of early adopters, which you can probably find among your peers.](#)"
- "[Inviting people from our network \(mostly former coworkers from PayPal\) drove our initial users. We asked all our network to invite their friends](#), and being startup people who wanted to help us, they obliged, so two degrees out, we probably got to 1K or so users. The takeaway is not to underestimate the power of one's personal referral network and to think deeply about the incentive and mechanics."
- "Before we launched the Lyft waitlist, [we first sent personal email invites to our friends.](#)"
- "[Zuckerberg's friends made up most of the 10 first Facebook sign-ups](#), after which the social network expanded to friends of friends across campus. Eventually it swept all Ivy League colleges, the nation, and then the world."
- "[We started with friends and asked them to invite a few friends. We got to about 100 with direct friends](#), and then it spread to about 1,000 by the end of the first 12 months by word of mouth."
- "Reid [Hoffman] and the rest of the founding team all [sent invites to our professional contacts on launch day. We asked all those folks to try the v1 product and invite their professional contacts](#). In total that was maybe a couple thousand individuals. During the first seven days, most of the 12,000-odd people who signed up were either 1st degree (e.g. directly knew someone on the founding team) or 2nd degree ('friend of a friend' of someone on the founding team) connections. So virtually all of the people who signed up in the first week were part of the startup ecosystem (so, predisposed to try out new products) and had a direct or indirect connection to the LinkedIn team (therefore more willing to check out a colleague/friend's new project)."
- "It all started with Bill Bishop, author of Sinocism, who I knew from my days as a reporter in Hong Kong (and later, a visiting reporter in China). He had been publishing Sinocism as a free newsletter for five years, and I was a reader. In 2017 he started telling his readers he was going to put up a paywall. This was around the time that Chris [Best] and I were talking about starting Substack. [I asked Bill if he'd be interested in being Substack's first publisher, and he said 'Sure!' So we built the first version of the product to suit his needs and iterated from there.](#) Through suggestions from friends, and friends of

friends, I also recruited Kelly Dwyer, formerly of Yahoo Sports and now author of *The Second Arrangement*, and Daniel Lavery, one of the founders of *The Toast* and now author of *The Shatner Chatner*. They were the first three publishers on Substack. And from there, I kept asking smart friends, many of whom worked in media, for writer recommendations, and then in each call or meeting with a writer, I'd ask that writer for more recommendations."

- "Quora launched in January 2010 with [a user base largely composed of \[Adam\] D'Angelo's and \[Charlie\] Cheever's college and high-school friends](#), meaning there was a lot of early Quora information on the best places to eat in Pittsburgh, Pennsylvania, where Cheever was raised. But they also built a feature into the site whereby users could invite people, and soon their friends from Facebook were summoning people from other startups, and other entrepreneurs."

#### Targeted Strangers

- "The second most common way to acquire your first 1,000 users, important for the early growth of 30% of consumer startups, is to [go recruit them directly, either through email, DMs, phone calls, or door to door](#). Interestingly, this tactic was almost exclusively used by marketplace startups to bootstrap the supply side and rarely used by non-marketplaces. I imagine this is because one unit of supply is worth a lot to a new marketplace, and so the ROI on this manual cold outreach is high enough."
- "After we manually created some successful courses, we had proven the value of teaching a course in the first place. We then [went to some experts in programming, technology, and entrepreneurship and convinced them to teach courses](#). These are the same people we talked to six months prior, but this time we had proof that you could be successful on Udemy. It was enough to convince two more instructors to join—Zed Shaw and Bess Ho. They were more successful than our previous instructors, so we convinced 5 to 10 more to join that summer."
- "Back then, the founding team knew that it would only work if they could find a neighborhood to embrace the idea of a social network for neighborhoods, as well as test it along the way. Choosing the right neighborhood was essential. That neighborhood is known as Lorelei. Nestled close to the Bay on streets shaded by trees, the neighborhood was close-knit and small yet vibrant, with the longest-standing homeowner's association in the state of California. The community already had some ways to communicate with each other, which was a promising sign. We [reached out to board members of the homeowners association, and they were more than willing to hear us out](#). After an initial conversation, they invited us to present the concept to more residents at their next board meeting."
- "[We began by serving immigrant communities in the Bay Area—allowing them to easily share extremely authentic dishes that couldn't be found at local restaurants](#). What we didn't realize at the time was the enormous value in targeting these tight-knit communities, who share many cultural traditions, including food. We found our first shefs by asking where our friends were purchasing their authentic dishes, then onboarded those shefs. They had their favorite neighborhood cooks who they were already ordering from (usually using WhatsApp or WeChat), and many of these folks were also on FB Groups (of that specific immigrant community). We asked for intros, and joined these groups."
- "To get the first users [Jan Koum] [reached the Russian immigrant community in San Jose](#) through his friend Alex Fishman. That community became WhatsApp early adopters."

#### Target Users

- “Airbnb is a classic example of this technique. Marketplaces are so hard to get rolling that you should expect to take heroic measures at first. In Airbnb's case, these consisted of going door to door in New York, recruiting new users and helping existing ones improve their listings. When I remember the Airbnbs during YC, I picture them with rolly bags, because when they showed up for tuesday dinners they'd always just flown back from somewhere.”

Founders (who have recently Raised Capital) / Startups

- “If they recently raised the seed or series A, where they are in that journey.”
- “Among companies, the best early adopters are usually other startups. They're more open to new things both by nature and because, having just been started, they haven't made all their choices yet. Plus when they succeed they grow fast, and you with them. It was one of many unforeseen advantages of the YC model (and specifically of making YC big) that B2B startups now have an instant market of hundreds of other startups ready at hand.”

Heads of Procurement

- “The other is Zip, which just raised a \$2.3 billion valuation, a procurement company that I was lucky to be an investor in. And their first founder led sales motion was they just reached out on LinkedIn to heads of procurement, and just leaned into what you're saving more, which is we just want your advice on this product that we're building. Just tell us what problems you have. It was very advice oriented versus we want to sell you this thing.”

ICs (Individual Contributors)

- “We were talking about the go-to-market motion that you executed and modeled at Figma. There's two steps, right? Step one is get ICs to love you, and then step two is help it spread from that person, right? ... So, let's start with step one... Yeah. It's really interesting when you think about the early days too, because you're like, "All right. We don't exist." How do you get them to love you when literally, they've never heard of you before? Also, like you were saying, in your situation, "Oh, I used Sketch. I was maybe in Photoshop before that, something else. I just made the switch over to this new tool. We finally got it working. I really don't want to move tools again." You have that inherent thing against it there... I think there are four main areas that we focused on to make this start, to get it going, and then we kind of still do this stuff today.”
- “To reach technology enthusiasts, you need to place your message in one of their various haunts — on the Web, of course. Direct response advertising works well with this group, as they are the segment most likely to send for literature, or a free demo, a webinar, or whatever else of substance you offer. Just don't waste your money on a lot of fancy image advertising — they read all that as marketing hype. Direct email will reach them — and provided it is factual and new information, they read cover to cover.” - Geoffrey Moore (Crossing the Chasm)

Do things that don't scale

- “One of the most common types of advice we give at Y Combinator is to do things that don't scale... startups take off because the founders make them take off... usually it takes some sort of push to get them going. A good metaphor would be the cranks that car engines had before they got electric starters. Once the engine was going, it would keep going, but there was a separate and laborious process to get it going.”

Manual Onboarding: Set it up for them (one-on-one onboarding)

- “Stripe is one of the most successful startups we've funded, and the problem they solved was an urgent one. If anyone could have sat back and waited for users, it was Stripe. But

in fact they're famous within YC for aggressive early user acquisition. Startups building things for other startups have a big pool of potential users in the other companies we've funded, and none took better advantage of it than Stripe. At YC we use the term "Collison installation" for the technique they invented. More diffident founders ask "Will you try our beta?" and if the answer is yes, they say "Great, we'll send you a link." But the Collison brothers weren't going to wait. When anyone agreed to try Stripe they'd say "Right then, give me your laptop" and set them up on the spot."

- "Another consulting-like technique for recruiting initially lukewarm users is to use your software yourselves on their behalf. We did that at Viaweb. When we approached merchants asking if they wanted to use our software to make online stores, some said no, but they'd let us make one for them. Since we would do anything to get users, we did. We felt pretty lame at the time. Instead of organizing big strategic e-commerce partnerships, we were trying to sell luggage and pens and men's shirts. But in retrospect it was exactly the right thing to do, because it taught us how it would feel to merchants to use our software. Sometimes the feedback loop was near instantaneous: in the middle of building some merchant's site I'd find I needed a feature we didn't have, so I'd spend a couple hours implementing it and then resume building the site."
- "Yeah, so for folks that don't know, in those early days, we insisted on one-to-one concierge onboarding, and it was absolutely the right thing to do. You couldn't use Superhuman unless you went through the onboarding experience. And now it's almost the reverse. Almost every new Superhuman customer goes through self-service. The onboarding experience is still there. But again, it is absolutely the right thing to do. To answer your question, at Peak, we had about 20 people doing manual onboarding."

Handwritten Thank You Notes - and ask for feedback

- "You should take extraordinary measures not just to acquire users, but also to make them happy. For as long as they could (which turned out to be surprisingly long), Wufoo sent each new user a hand-written thank you note. Your first users should feel that signing up with you was one of the best choices they ever made. And you in turn should be racking your brains to think of new ways to delight them."

Do it Yourself

- "I remember very specifically some of our classmates planning their exotic vacations to Europe or other interesting areas for the summer and when they asked me what I would be doing I said I'd be delivering hummus from my Honda. It was a very different type of answer, but we had a lot of fun, I mean the earliest days all four of us did all the deliveries. It was called Palo Alto Delivery previously, a name we were able to get for less than \$10... it was a static HTML page with 8 PDF menus and these were menus of restaurants in Palo Alto that we frequented often as students, it had a Google voice number you can call, that's how you would place the orders, there were no other ways in which you can order, once you call that number it would ring the cell phones of all four of the founders cell phones and whoever picked up first would be the one to take care of that order."

Aim to Grow 10% Each Week

- "The other reason founders ignore this path is that the absolute numbers seem so small at first. This can't be how the big, famous startups got started, they think. The mistake they make is to underestimate the power of compound growth. We encourage every startup to measure their progress by weekly growth rate. If you have 100 users, you need to get 10 more next week to grow 10% a week. And while 110 may not seem much better than 100,



if you keep growing at 10% a week you'll be surprised how big the numbers get. After a year you'll have 14,000 users, and after 2 years you'll have 2 million. You'll be doing different things when you're acquiring users a thousand at a time, and growth has to slow down eventually. But if the market exists you can usually start by recruiting users manually and then gradually switch to less manual methods.”

## **Getting Enterprise (B2B) Customers**

### Enterprise Sales Cycle

- “I always say it can range anywhere. I've seen enterprise deals close in 90 days, believe it or not. Rare, but I've seen it. I've also seen enterprise deals typically take anywhere between six and 12 months.”
- “I think a nice framework for how we can go through this is basically first let's talk about the sales cycle, the steps, the key steps of a sales cycle. And then we'll just go through each step and help people learn some tactics to get through each of those conversations... So what's the simplest way to think about the steps of a sales cycle? The traditional sales stages that most CRMs are even set up as is you have your intro call. You have your second call, which sometimes could be the demo depending on the stage of market you're selling to. Then you have your third call, which is going to be more about walking through a proposal, a scope of work, maybe going deeper into the demo to contextualize it to everything you've learned. The fourth call is going to be getting their feedback and kind of co-authoring that scope of work even further. The fifth call is going to be around probably an introduction to procurement. And then selling into procurement in itself, it's its own little sales cycle, but we could talk about that in a sec. And then post-procurement, it's going to be obviously getting that signature and knowing who the actual signatory is. Sometimes it's not even the business unit, it's sometimes legal, CFO, procurement themselves. So just understanding who that is.”
- “One thing to caveat is you do not get paid until you are approved by finance, and procurement has a signature on the contract. Meaning don't start any work. Or if you do start work, know that there is no payment. The business unit can't just pay you. It's paid through a purchase order, which is paid through by finance. So don't rely on that money unless it's finally, unless the signature's on the paper.”

Outreach: ALWAYS Start w/ Free Outreach (DMs, Email, Phone Calls) before Paid Services

(Ads, Booths); start with at least 30 prospects;

Outreach uses the same process as Positioning

- “So I think before you even overthink about the tools right now, can you manually find 30 people that you want to spend 15 to 20 minutes writing a rock solid note to? Are there 30 people that you are deeply excited to learn from, that you are willing to invest 15 to 20 minutes to write a really thoughtful note? Let's just start there. So some questions. One, are they even discoverable? How hard is it to find 30 people? What have you noticed across those 30 people? Are there any interesting insights? Maybe it's the size of the team they work on, maybe it's the industry they're in, maybe it's the length of time they've been in their role, maybe it's their previous roles in their career. Are there some commonalities? There's always some level of a commonality usually in most cases. Okay, so now you're starting to collect some parameters. Just by doing this exercise, you're starting to collect some parameters around who you want to learn from and sell to. Now if you send out those 30 notes and you wrote them specifically, and you spend good quality of time on it. And you've hit them on email, you've hit them on LinkedIn, maybe

even tried to call them, maybe you've sent them a Twitter DM, pulled out all the stops. How many people respond? 1, 5, 0? If it's zero, it begs the question, do you now want to do another 30 in a very similar fashion? Do you want to change the messaging a little bit? Now it forces these natural experiments. Or do you want to maybe go after a different role? So it forces you to answer these questions in a very manual way before you even think about integrating and spending time on tools. And then you get to a point where it's like, okay, now I'm starting to get some learnings and now I've realized, okay, it's this group of people, I've spoken to maybe two or three, now I want to go out and actually build a campaign to now talk to the next 10 to 15 people in that group. Truncate this as much as you can because I think people focus so much on volume in the beginning. Even if you're selling down market, mid market, enterprise, volume comes once you've identified it and know the parameters.”

- “So maybe we start there of just like how do you get someone to even want to talk to you and be open to learning about what you're doing? And this is why that founder led sales piece is so important. One is when it's coming from the founder, it's an entirely different weight. You're like, oh, interesting. This founder is reaching out to me. Okay, I'm going to seek to go a layer deeper, knowing who is sending me this note. The second piece is this is why that novel insight, that technical insight, that business model insight that you've uncovered needs to lead here. People are inspired by a new way of thinking, usually something counterintuitive, something that's really different. I really try and stay away from better, because that's really hard to define, and better means something different to everyone. So if you can focus the messaging in a way that speaks to something that has a bit of shock value, or is counterintuitive, you'll get them to continue reading.”
- “So those are the four main components. Just to reiterate, [relevancy, bring some level of counterintuitive or really different approach to the conversation, focusing in on a problem that's predicated to them, and really concise.](#)”
- “Actually our first three years were built on cold email before we actually had clients, before we got word of mouth from the founders we worked with, [I cold emailed the first 20 customers we had at Jellyfish](#). And the line I used in there was zero to one sales talent doesn't exist. That's why I want to have a conversation with you. So that was kind of that leading, wait, what? What does that even mean? And what I would do is tie that to them in some respects. If they recently raised the seed or series A, where they are in that journey. But I would lead with that and then tie it into like, hey, I noticed you're looking to target X, Y, and Z based off of what your website. I'd love to have a conversation with you. And that first piece is the relevance. Here's why this is relevant to you. And then I say, our belief at Jellyfish is zero to one sales talent doesn't exist. That's why we built this model. And you kept it really short... make sure it's concise so that you don't have to scroll on mobile phone.”
- “So if you're just trying to figure out who to reach out to, make a list of 30 potential prospects that you think are good fits, that would be excited about what you're building. Spend 15 to 30 minutes writing them each an email... I would say the shorter the better, but would you respond to that? If you got this email, would you respond it? One of a great little tactical test is on Gmail, you can highlight the message and then have it replay it back to you from an audio perspective. You'd be shocked how many notes I've changed when it replays it back and I'm like, oh, that sounds really passive-aggressive... So start with something, [here's why this is relevant to you... Here's something that's unexpected or surprised... Keep it short... Focus on the problem. You don't even need to talk about the](#)

solution.”

Short & Concise: if it's received on a mobile device there is NO scrolling allowed

- “And the most important piece is getting this done where, if they get it on their mobile phone, which everyone is looking at their mobile phone and on email, they don't have to scroll. So usually three to four sentences max. That also, that's how a founder writes. That's how an executive writes if you're selling top down.”
- “...so I just never sent an email unless the email was "you have matched this amount of money, you have this to go claim", the open rate was through the roof, just everyone wanted to always open these emails if they got one, and then what I just did is I decided one day every single airdrop from now on is going to be pay walled, so you'll see: "you have \$793,000.”

Talk about the Problem, NOT the Solution (Talk about the *Benefit* of the *SOLVED Problem*)

- “But most importantly, leave them wanting more. Don't say everything, don't even talk about the solution. Talk about the problem that you want to solve, and why it needs to be solved or why it's not good enough today.”
- “...if you get any sales email... It's usually like here's what we do. But I bet if someone reached out to you with a novel insight and said, I'm really passionate about solving this problem, if it's something you're focused on, you'd probably reply. If it's a big problem. If it's like, oh yeah, you're so right, I need this.”

Relevant to the receiver of the message

- “So first and foremost, I usually like to open it with: why is this relevant for me in my role? Why are you reaching out to me? So first and foremost is relevancy. I think that matters even more so than personalization right now. I think it's so easy to personalize anything, and it can also come across as really stressed when you're like, hey, I noticed you were on such and such podcast, and that was when they were previously two roles behind. So I always say relevancy. If you can get to relevancy, that's the most important piece.”

Differentiation: make the receiver say “I've never thought about it that way”

- “The second most important piece is really getting to that level of differentiation or counterintuitive nature. So say something that would literally make them say what? Or how could that be? Or I've never thought about it that way. Or I actually don't fully understand what they're saying, but there's something there that's interesting. Get them to pause for a minute.”
- “Different. Here's something shocking about what we're doing. Here's something that'll surprise you. Yeah, or counterintuitive.”

Avoid “this is better”

- “A note that I just looked at, that I wrote down, that I think is very important is avoid using "this is better" as your pitch.”
- “I spoke to a good friend that leads procurement at a massive organization. And he said to me, he goes, "One of the worst things someone can say to me is we're better than X product. Then I ask them to define that. And then I ask them, okay, how do we measure that? And then I say, okay, should we give this company another year to give them this feedback before we make this huge transition and disrupt momentum?" Yeah, better is a dangerous place.”

1st Call: See if there is interest in your product (and if the problem is real)

- “So the first is when you're engaging, you're talking to the prospect and company ABC. Your advice is be very honest and vulnerable about your stage. Tell them you're early

stage. You're building this thing. You're deeply passionate about this problem. Here's what we're trying to do, here's our priority problem perspective, and where we're focusing, and kind of get their feedback on your approach."

- "...what I've really come down to is if you can just get on a call, tell someone how you actually are going to help them, and be honest, and be a human, most people will actually vibe with that, and if they don't vibe with that then you probably don't want to work with them anyway."

(if applicable) Be Vulnerable (You're a Startup and they know it)

- "...you're on the phone with them trying to convince them to actually care. What do you do there? How do you get them to engage further? One is you need to be vulnerable. You're an early stage startup, okay. The market, we're at a point now where the market is smart. I always assume that the buyer I'm speaking to is highly educated and knows way more than I do. So just have that perception because what I've learned is a lot of the market will play dumb, and you can get yourself caught pretty quickly. So when you speak to them, I would be very open and honest with where you are. Hey, I'm an early stage startup. We are deeply passionate about solving this specific problem. We have a lot to learn. Here's how we are thinking about it from a problem priority perspective. Can we gain your insight into how this problem is manifesting on your side? And then let them open up. Now you have them one, talking about the problem. Now you're getting the intel about their perception of the problem, and is it even a problem? When you say you're early stage and there's still a lot to be done, it is easier to be honest."

(if applicable) Say the Product isn't Fully Built (even if it is) to get Honest Feedback

- "If you tell them you have a fully baked, ready to go product, they're not going to give you honest feedback. It's very hard to say to a founder and look them in the eyes and say, hey, we built this product, can I show you what it is? You're just going to get someone that's going to say, oh, this is great, this is wonderful. But when you're vulnerable and when you tell them it's not fully built yet, even if it is, you will get more raw and honest feedback. Because it is easier to tell someone, hey, before you make this mistake, I actually don't care about that. If you've already built it, they're not going to give you that feedback. So the further you suggest you are, you're actually going to hamstring a lot of the intel, hamstringing yourself on gaining a lot of the intel."

Reiterate their Problems & Respond w/ a Solution

- "One is to learn how to ask questions so that the person tells you their pain points, you want the person to tell you their problems. When that's happening I just write down what the person says, I write down the problem and I respond with a solution to that problem."

Book the 2nd Call at the end of the 1st Call

- "Get the second call booked on the first call. Pull up calendars. Look at calendars. Who else should be invited? It's just a natural evolution to ending the call."

Learn if they're not interested

- "And if they say, ah, I'll email you... If they won't give you time on the calendar, you could say, listen, great. Feel free to email me. Maybe they're just being honest and they don't have their calendar available, but 9 times out of 10, it's usually I don't have the heart to tell you I'm not interested."

2nd, 3rd Calls: Close the Deal

- "For example, I'll say, let's have our second or third call in two weeks. Two weeks? Do a week. Why are you elongating this? Keep your calls as tight as possible because that shortens your sales cycle."

Get Pricing Out of the Way: Learn if they are serious at the beginning

- “The second most important thing is to get the the price out of the way in the very beginning, because what always happens is you go through this whole pitch and then people say okay I'll call you back, let me think about it, and that's the worst thing that can happen, so I always start a conversation by saying "hey, look, just do me a favor and let me know if you're serious about this" that way you get a commitment and you actually get the deal closed.”

Avoid Demos on the 1st Call: leave them wanting more

- “On the first call, my fundamental belief is that the demo is a bit of the only carry you control in the sales process, right? Once they see it, it's kind of like pitching an investor. Once they take a look under the hood, that dreaminess in their eyes, they're like, oh, I saw it. So leave them wanting more. And the demo is that, leave them wanting more. Even when you do a demo, don't demo everything. Leave it for a second call. Let them invest a lot of time in you. Again, if it's qualified. Preface that, if it's qualified. But everyone races through the sales process like let's do a demo call as quickly as humanly possible. Yes, that is important down market. That is important if you're selling a \$3,000 tool, you absolutely want to be demoing as fast as humanly possible because it's a high-volume game. Upmarket, when you're talking about hundreds of thousands of dollars, you want to slow that down as fast as possible. Because you want to, one, make sure all of the right people are in the room. As soon as there's one lead on this, and if it requires other people involved, it doesn't feel like anyone else's baby. So you want it to make it feel like the group's baby versus this one individual's baby because it's very quick. Someone can easily say, I'd rather use this tool. And then there's this stalemate of nothing happens.”

Ask for the Deal

- “The last and absolutely most important thing is ask for the deal, here's my line for this, it's the best line, it's: "are you ready to get started?", that's all you got to say you say, "are you ready to get started?" and the trick is you shut up, so what I do is I say "are you ready to get started?" and then I mute my phone and I put it in front of me and I just sit there and that's where you close the deal.”

Getting through Procurement

- “Procurement is a very interesting function. They are very smart, very, very smart. They do this for a living. They are professional buyers. So there's a couple things that you need to be aware of. You need to sell them as well. You need to really make this sound... Don't over complicate it. Don't add in jargon. Make it feel like, okay, I can wrap my head around this.”

You are NOT a preferred vendor

- “...it's got to feel different from anything else out there. Because the professional buyer, it's much easier to say, wait a second, we have these 17 other preferred vendors that do similar ish work. Why don't you just go use one of them? Because, oh, by the time this gets through procurement, it could be another three to four months. I've seen deals die on the vine because procurement actually suggested they go use another vendor in the system, that this buyer wasn't even aware of, because they didn't differentiate. It didn't feel different. It just felt slightly better. That's how it was positioned.”

Explain what you DO and what you DON'T DO

- “Another piece that's important with procurement is explaining exactly what you do and don't do. Because if you say you do a bunch of things and they can't really place you, they're going to send you to the kitchen sink of contracting an MSA, which is going to



ask you for \$5 million in an insurance policy and all sorts of other things. And the ability to look at your book at any point in time. And the reason they did that is because they can't classify you. So the easiest thing to do is classify you as high risk. So make it easy for them, make it simplified."

Do procurement's job for them (make it easy for them to work with you)

- "...when you get to procurement, you're going to have to do all the work. Make their job easy. You are probably a very small piece into the very large deals that a lot of these people buy. So you can get easily sidelined just because you're just a small buy. So do the work for them. Literally say, I want to make this as easy as possible for you. Give me the forms that you need to fill out. I'll fill them out for you, and you can do it yourself. You can edit them. Do the lift for them. If you don't, it's so easy for it to just go there and die."

Getting through IT Due Diligence

- "You can also truncate your contracts, meaning let's say IT is maybe, and you want to ask this, how long does it take to get through IT due diligence? They might say, oh, it's a 90-day backup, it's a 60-day backup, it's a 30-day backup. There's no backup. If there's a backup, you also don't want it to die and you want it to give an incentive. So this is when you want to truncate contracts to a technology contract and a service contract. Service contract allows you to onboard them, get them prepped, come in and educate all of the users about what they're about to go through. So that then there's an incentive to get that technology piece through."
- "A big company that uses Web-based applications is to that extent outsourcing IT. Drastic as it sounds, I think this is generally a good idea. Companies are likely to get better service this way than they would from in-house system administrators. System administrators can become cranky and unresponsive because they're not directly exposed to competitive pressure: a salesman has to deal with customers, and a developer has to deal with competitors' software, but a system administrator, like an old bachelor, has few external forces to keep him in line. At Viaweb we had external forces in plenty to keep us in line. The people calling us were customers, not just co-workers. If a server got wedged, we jumped; just thinking about it gives me a jolt of adrenaline, years later. So Web-based applications will ordinarily be the right answer for big companies too. They will be the last to realize it, however, just as they were with desktop computers. And partly for the same reason: it will be worth a lot of money to convince big companies that they need something more expensive."

Support for Enterprise Management (e.g: Mobile App Management Controls)

- "Yeah, Outlook users are also used to certain safeguards, like if you've used Outlook in an enterprise, warnings when a recipient is external to your domain or what Outlook users might know as sensitivity labels. And as a result, we've built support for external recipient indicators and sensitivity labels. But in some ways, it's very different to selling to prosumers because there are other stakeholders involved. For example, we've built support for enterprise mobile management by implementing Microsoft Intune. We recently sold one of the big three strategy consulting firms, which is super exciting. I can't say which one, but they love Superhuman and they have thousands of people internally using Superhuman. They've been piloting for a year and then accelerating over the last few months. We only just got them the mobile app, believe it or not, because at an enterprise like that, there are significant controls on what a allowed compliant mobile app can and cannot do. For example, IT needs to be able to control which apps can save attachments or which apps you can copy and paste text into from email. And for many

[enterprises, those controls are super important.”](#)

#### Security

- “Web-based applications will often be the best thing for big companies too (though they'll be slow to realize it). The best intranet is the Internet. If a company uses true Web-based applications, the software will work better, the servers will be better administered, and employees will have access to the system from anywhere. [The argument against this approach usually hinges on security: if access is easier for employees, it will be for bad guys too. Some larger merchants were reluctant to use Viaweb because they thought customers' credit card information would be safer on their own servers. It was not easy to make this point diplomatically, but in fact the data was almost certainly safer in our hands than theirs.](#) Who can hire better people to manage security, a technology startup whose whole business is running servers, or a clothing retailer? Not only did we have better people worrying about security, we worried more about it. If someone broke into the clothing retailer's servers, it would affect at most one merchant, could probably be hushed up, and in the worst case might get one person fired. If someone broke into ours, it could affect thousands of merchants, would probably end up as news on CNet, and could put us out of business. If you want to keep your money safe, do you keep it under your mattress at home, or put it in a bank? This argument applies to every aspect of server administration: not just security, but uptime, bandwidth, load management, backups, etc. Our existence depended on doing these things right. Server problems were the big no-no for us, like a dangerous toy would be for a toy maker, or a salmonella outbreak for a food processor.”

#### Know who is the one signing the deal (CFO, CLO, etc)

- “So as you enter procurement, okay, you want to know before you get to the next stage, [who is signing this deal?](#) Here are some examples of signers I've seen. Chief financial officer, chief legal officer, the business unit head themselves, the head of procurement. You want to know who that person is so that you can literally say to the head of procurement, hey, listen, I want to make sure this person has everything they need when they review this, to know what they're signing. Who is it and how can I give you a few bullets to share that you can maybe respond to, that we get tight so that they know exactly what they're looking at? This was two or three years ago, I was involved in getting a deal over procurement that was just truly, it was a pharmaceutical company and it was very, very long process. And we got to the finish line and the CFO was the signature. And this is when I made the mistake. CFO responds back to the procurement lead who sent it to the business unit, who sent it to me and was like, what am I signing? I don't actually understand what these people are doing and why are we doing this? So then she quickly said to me, hey, listen, we need to defend this. Can you put together some bullets? And I'm like, well, what kind of bullets do I need? What does this person care about? And again, it created so much anxiety and now I'm back in the bottom of the queue. Probably he or she's looking at the things that come in in an order of priority. So now I've elongated this by another month simply because I didn't plan. So this is just to say I'm learning from my own mistake of know who the signature is, because if they don't know what they're looking at, they're going to kick it out and you're going to lose your queue spot.”

## **Pitching & Funding**

### Pitching & Fundraising

## Fundraising

### Pitching

- “You got up and went, “So our product lets restaurant owners know where their customers had been before, where they go afterwards. Here's our beautiful slide deck. We have a working prototype. And oh, by the way, we sold it to three companies.” Ben and Ray and Ian and I went, “Yeah, they're probably in.” ...”

### Pitch Deck

- “Now, I would say always start with the problem, right? Because guess what? Investors are also users. If they don't think that they're going to use it, so it's relevant for them, and they don't think that they're going to use it? They will basically dismiss that. They will basically say the market is not there.”
- “...if this is the case and you're looking to raise capital, start with the strongest point at the beginning. Whatever it is, and I don't care if this is the size of the problem. This is the faction that you have. This is the team that you have built. I don't care what it is, start with that, because by the time you'll get there, they might be already setting up their mind. Then start with the strongest point at the beginning. And by the way, finish with that as well.”
- “I spoke with early stage investors, those that invest the first money in. So the company has a story to tell. That's about it, right? No traction, nothing yet is built and so forth, and I asked him, “Why did you decide to invest in this company and this company and this company?” And I spoke with many investors, and what I heard was actually pretty consistent. I like the CEO. I like the story. That's it. I like the CEO. I like the story.”
- “The other part is that they need to tell a good story, and a good story is not about facts. It's about creating emotional engagement. It's about creating the sense that the listener would like to be part of this story. And for investors, it's two things. Number one is that they want to believe that this is usable, and number two, they want to believe that you can build it and this is the story that you need to tell.”
- “In investors, it's 1%. Not one third, 1%. So you're going to hear 100 times no until you hear 1 yes. And that a hundred times no is something that you need to understand from the beginning because that's really discouraging, right? You go and speak with investors and they tell you... I call that they open up the big book of excuses why not. But in general, they are not going to invest, right? Now you look at it from the other side, a venture capital partner is likely to see between a hundred and 200 companies a year and invest in one or two. 1%. That's it. So if this is the case, then it's going to be the same case for you. One out of a hundred. If you want to increase the likelihood, learn how to tell a good story, start at the strongest point at the beginning, remember that they are users, too, so their emotional engagement is going to come through the usage, the use case, and not through how big the business is.”
- “Most people are missing the most important slide of their presentation. The most important slide of your presentation is the first slide, not the one that you think about it. The first slide. The one that says Company XYZ intro. This slide is going to be presented for the longest period of time. The longest period of time in the presentation, this slide is going to be presented on the screen and you didn't say anything there. This is the place that you're going to put your strongest point... Maybe size of the market. Maybe description of the problem. Whatever it is, right, the strongest point is there. Now the second most important slide is the last one. Not the summary. The one that says thank

you. That's the time to repeat that. So most of their presentations will end up with thank you and my email, right, and this is going to be the last slide, right? Which makes sense. You just missed the opportunity. This is going to be the second-longest displayed slide of the presentation. Maybe the first."

- "So many startups I see the first slide is like, "We're Acme AI software. We're located in San Francisco, we're funded by X and Y VCs." That's not storytelling because you're talking about yourself, right? And if you're trying to make the person in the audience the hero, they don't care about you yet. They care about how you're going to make them a hero. And so when you kind of say, 'Okay, if I'm pitching VCs, what I really need to do is help them understand why they'll be a hero if they invest in my company according to what makes them feel heroic.' What you present is different, but what a lot of startup presentations do is they take their sales pitch and they rehost it for every other audience. They rehost it for the press, for investors and for employees and all that. And that's wrong because what you're doing is you're talking about yourself to different people, but what you want to do is describe the world that could be, the stakes that are involved, and then each of those individual audiences, you want to [meet them where they live in the world that is, and show them how they can engage in a transformational journey to the world it could be.](#)"
- "I've found that investors are the same. Investors, ultimately they believe or they don't believe. A lot of times, this is the other thing I see happen, is the poor founder will get advice from 20 different people about their pitch deck. And a lot of the people giving them advice are not believers in that different future. They're giving generic startup advice or they'll go pitch a bunch of firms and they didn't consider who's prepared to possibly believe, who isn't. And so then they get objections to their pitch from people who aren't going to believe anyway, and then they try to have a slide to meet that objection. And before you know it, you have what I call a Franken deck. And so you have this huge, gigantic presentation trying to anticipate every objection, and the person who was ready to believe you in the first place doesn't know what you were trying to say because you obscured it with all this other stuff. And so I find that just like with an insight, it's okay if most investors don't like your idea, what you want to find is the ones who are prepared to move with you and make sure they absolutely know why they should. To me, [that's the ideal pitch deck.](#)"

Slide 1: the "What" (as if the audience literally knows nothing)

- "Slide one, [you say what you do as if I literally know nothing](#). So it's not, "We're Airbnb, we're a marketplace for unused residential housing space." Bad. But you'll get advice that says to do that because VCs think marketplaces are hot, residential real estate's big. What you should instead say is something like, "We're Airbnb, we let you rent an extra room in your house." Because now as the VC, I'm like, ah, I know what you do. And there are a lot of pitches, I'm 10, 15 minutes in and I'm trying to understand what they do, but I don't know. So you just say, "Here's what we do."

Slide 2: [Inflection + Insight + Movement](#) == [Counter-Positioning](#)

- "I think your second slide ought to be, [here's the thing we know that's not obvious](#). So when I was raising funds for Floodgate, I would go to an LP and say, "We believe that there's a gap between Angels and VCs. VCs are writing \$5 million checks. Angels \$250,000 checks. We believe that 500,000 is the new 5 million because of Lean Startups. We believe that there will be a new type of category funds called seed funds. Now, if you don't believe that, nothing else I'm about to say is going to make any sense to you, I can

just give you your time back." But then once, if they did believe that or they were in a position to lean forward, now when they start mentioning my competitors, I say, "Okay, well, recall Peter Fenton works at Benchmark, he's not going to compete with me because why would Peter Fenton leave Benchmark to start Seed Fund doesn't make sense. The only people who are going to try to compete with me from the big funds are the people who aren't performing." But if you set the context of what your insight is, you can always come back to it. When they bring up competitors, you can always come back to it when they bring up objections and you can say, "Hey, remember I'm just telling you we need to agree on this insight for this to have a chance of being great."

Slide 3: [Validation](#) (Proof)

- “And then slide three is [what, if any, proof points do we have](#)? We have any customers? Do we have great founders? Is there something happened already that should cause you to believe that my insight is valid?”

## **Understanding Revenue**

Understanding Revenue

MRR (Monthly Recurring Revenue)

- “To calculate MRR, multiply the total number of paying customers by the average revenue per user (ARPU) per month. For example, [if a company has 100 customers paying \\$100 per month, their MRR would be \\$10,000.](#)”
- “The formula for MRR looks like this: [MRR = \(number of customers\) x \(average monthly revenue per customer\)](#)”
- “Alternatively, you can calculate MRR by summing up the revenue generated by each subscription plan or product offered by your business. For example, suppose a business has three subscription plans: Plan A costs \$10/month, Plan B costs \$20/month, and Plan C costs \$30/month. In a given month, the business has 100 customers subscribed to Plan A, 50 customers subscribed to Plan B, and 30 customers subscribed to Plan C. The MRR for the business in that month would be \$2,900. [MRR = \(100 x \\$10\) + \(50 x \\$20\) + \(30 x \\$30\) = \\$2,900](#)”

ARR (Annual Recurring Revenue)

Estimating Annual Revenue

- “...Duolingo is making \$33 million a month, multiply that by 12 and we get like \$400 million per year, [if you capture 1% of that market then you have a \\$4 million annual application on your hands...](#)”

## **Bootstrapping**

Bootstrapping

- “The bootstrapping stage is known as the pre-funding stage, or as the “I just started a company and need to tell everyone on social media about it” stage. Bootstrapping occurs when a business owner starts a company with little to no assets. [Bootstrapping involves no external sources of funding and is so early that the company may be nothing more than a name and an idea.](#)”
- “For most startups, [bootstrapping is a temporary state until they raise a first round of external funding.](#) Building up a solid founding team, a minimum viable product (MVP), and gathering insights from potential users are typical objectives of the bootstrapping



phase.”

- “...a [few startups manage to avoid any funding rounds and proceed to eventually have an exit, allowing the founders to retain full ownership and have a major payday.](#)”
- “It's worth noting that the advent of cloud, no-code, and online distribution have [lowered the startup costs to an extent that founders increasingly maximize the time they spent bootstrapping in order to skip one or two rounds of funding, therefore retaining more equity in the company.](#)”
- “[Not every company can bootstrap their way to success, though. In fact, most don't.](#) External investors are often needed to scale, grow, and hopefully have an exit. This brings us to the pre-seed stage.”

Requirements: Founders, MVP, (no users needed)

- “As this is the earliest stage of the company, [there are no real requirements as no external investors will be involved yet.](#) You may even postpone incorporating the company since you usually don't have substantial sales or intellectual property.”
- “For most startups, bootstrapping is a temporary state until they raise a first round of external funding. [Building up a solid founding team, a minimum viable product \(MVP\), and gathering insights from potential users are typical objectives](#) of the bootstrapping phase.”

Investors: N/A

- “By definition, [there's no investor when bootstrapping.](#)”
- “[Any funds at this stage come from the founders, relying on their own personal resources.](#) Sources of funding at this stage include: Personal debt (founders put expenses on their personal credit cards). Utilizing savings from personal bank accounts (checking and savings accounts that were once meant for paying bills are now a source of capital for the startup). Any other sources of personal funds (time to cash in that Bar Mitzvah savings bond the founder may have received twenty years ago).”
- “[It is not uncommon for the founding team to be working their day jobs in order to fund their startup.](#) Some founders may be driving Uber while others may be doing consulting work on the side. It doesn't matter so long as there is a source of capital that can be used to fund the business. In some cases, the company may be generating revenue and the entirety of this revenue is used to grow the company (an example would be pre-orders of a product and then using the funds received to fulfill those orders).”

Valuations: N/A

- “Again, [since there's no external investor at this stage, there's usually no valuation until the startup raises a pre-seed or a seed round.](#)”

## **Pre-Seed Funding (Angel Investing)**

Pre-Seed Funding (Angel Investing)

- “[At pre-seed, the risk is you:](#) Can you build? Can you sell? Will you quit? Show it with: A scrappy MVP built in a weekend. 3 early design partners who don't know you. A track record of doing hard things.”
- “The pre-seed stage is also referred to as the Angel round stage or as the “hey mom and dad, this is the opportunity to get in on the ground floor of my company stage (A.K.A. the friends and family round)”. [This is the earliest stage of a startup seeking external funding](#)

and any funds raised usually come from the founders themselves as well as the "3F (friends, families, and fools) and angel investors."

- “Startups at this stage are still building the product, ideating the concept, determining the product-market fit, and often have a limited user base. All legal documentations, patents, trademarks, and partnership agreements should also be created in this stage (if they haven’t been done at the bootstrap stage). Essentially, the pre-seed stage is the idea funding stage.”
- “Once you have raised your pre-seed round, you're engaged in a race to get to product-market fit and raise the next round (the Seed round) before you run out of money.”
- “These funds are often used for hiring a team, getting an office up and running, setting up the infrastructure, building the business model, marketing and market testing, research, and importantly, preparing for the product launch. Pre-seed funding is often needed more for companies with a high startup cost.”
- “Also, keep in mind that not all startups need to raise a pre-seed round. Some manage to skip that phase and bootstrap straight to seed or Series A - or even to an exit! But in many cases, a pre-seed round is the way to go.”

#### Goal of Pre-Seed Funding

- “Pre-seed funding helps founders develop an idea, build a prototype, and validate the market. It’s often small amounts from friends, family, or angel investors.”

#### Requirements

- “What determines if a pre-seed startup can successfully raise a round of funding? A sound idea, an MVP (minimum viable product), a great and experienced founding team, and early signs of traction and the potential for revenue. As this is the riskiest stage of a company, the founding team is the center of any investor valuation. It is far easier to raise a pre-seed round if the founders were successful in their last entrepreneurial venture.”

#### Founders

- “A proven, complementary founding team. The founders or founding team should have all the core skills needed to execute on the plan. For example, it would be expected that a software startup has a founder who can code the MVP. Besides the skills, investors will look at your track record. How much experience do you have in the industry you're going after? What level of responsibility have you achieved so far?”

#### MVP or Prototype

- “A working prototype. Unless you have a proven track record, you will need more than a simple idea and a deck filled with some charts and infographics showcasing the size of the market. Avoid the rookie mistakes and bootstrap your way to a working prototype that showcases the features of the product or service. Additional capital is required to continue to the next level.”

Legal Entity: incorporation certificates, partnership agreements, IP assignment agreements, operating agreements, bylaws, shareholder agreements

- “A legal entity. There are only two reasons to incorporate a company - taking money from customers or taking money from investors. Before seeking a pre-seed round, make sure you have all paperwork and legal documents ready: incorporation certificates, partnership agreements, IP assignment agreements, operating agreements, bylaws, and shareholder agreements.”

#### 1st Users (Market Validation, but does NOT need to be PMF)

- “Some sort of market validation. At pre-seed, having reached product-market fit is rare, so investors will satisfy themselves with early signs of market validation: waitlist, free

[users, letters of intent, etc.](#) If you already have paying customers and are growing revenue month after month, you possess an advantage over the vast amount of pre-seed startups which are pre-revenue.”

Pitch Deck: problem, solution, market size (projections), market validation, founders

- “A pitch deck that tells a story. Investors expect [a pitch deck that highlights the problem you’re solving, your product, market size, early traction, and your team](#). Keep it simple and engaging—you’re not just presenting data, you’re selling your vision. A well-designed deck also shows that you understand how to communicate and engage with investors.”
- “It is also important to note that at this stage, [founders should attempt to have realistic financial projections. Every deck has projections that go from thousands to hundreds of millions but only a miniscule amount are actually realistic. Founders should work on providing financial projections that are both realistic and exciting to possible pre-seed investors](#). Having said that, few investors will actually ask for financial projections at pre-seed - it's just too early for that.”

How to Raise Money

- “[Funds raised during the pre-seed round average between \\$100k-\\$1 million](#) (depending on whom you ask, this could vary wildly).”
- “It should also be noted that the pre-seed round has no set time limit. It may happen quickly or could drag out for months. It depends on the founders, their personal experiences and professional networks, as well as the nature of the company. This is largely due to the fact that [pre-seed often comes from non-professional investors who don’t have a time horizon for the exit](#).”
- “You should [anticipate 12-18 months as a timeframe for fundraising](#) for the pre-seed round.”
- “[It should be noted that founders who continue to do additional rounds of funding face the risk of diluting themselves further and further](#).”
- “During this fundraising stage, [it isn’t uncommon for founders to take in small checks](#).”

SAFE Notes (Simple Agreement for Future Equity): allows investor to purchase N shares for an agreed-upon price in the future

- “Because valuing a business at this stage is difficult, founders often use SAFE notes. [SAFE stands for Simple Agreement for Future Equity. A SAFE note is a promise to allow an investor to purchase a specified number of shares for an agreed-upon price at some point in the future and after specific milestones are hit](#). Simply put, SAFE note allows the founders to postpone the valuation of the company to the next round.”
- “As the [pre-seed round is often raised via SAFE Notes, there is no need to raise all the money at once](#). Smart founders can and should utilize Paul Graham’s high-resolution fundraising.”
- “[SAFE notes are dangerous for unsophisticated founders who don’t understand how they work and continue to raise carelessly](#). As a founder, it is important to know when to stop as well.”
- “First of all, it is worth mentioning that SAFEs are not suitable for all deals or companies. Particularly, companies not expecting significant funding rounds in the future might find that SAFEs do not align with their long-term capital raising strategy. This is because [SAFES are inherently designed to convert into equity during such funding events](#). Moreover, certain investors may prefer more traditional securities instruments that offer more defined terms and timelines.”

## Types of SAFE Notes

### Pre-Money SAFE

- “[In a pre-money SAFE, the investor’s ownership is calculated based on the company’s valuation before the SAFE investment is considered](#). This structure does not include the SAFE investment in the company’s valuation, which can create more dilution for founders and existing shareholders because future rounds don’t account for the SAFE funds in the valuation.”
- “For example, [if a company is valued at \\$10 million \(pre-money\) and an investor puts in \\$1 million using a pre-money SAFE, the investor’s ownership percentage will be calculated based on the original \\$10 million valuation](#). However, when the SAFE converts, the dilution caused by the SAFE itself can sometimes surprise founders, especially when multiple SAFEs are outstanding.”

### Post-Money SAFE

- “[A post-money SAFE... calculates the investor’s ownership based on the company’s valuation after the SAFE investment](#). This approach provides more clarity to both founders and investors about dilution and future ownership because it considers the SAFE investment as part of the company’s total valuation.”
- “Using the same example, [with a post-money SAFE, the \\$1 million investment would be factored into the company’s new post-money valuation of \\$11 million, giving the investor a clearer and fixed percentage of ownership relative to the total valuation \(including all SAFE investments\)](#). This structure allows founders to better predict their dilution and is now the more commonly used form, especially after Y Combinator introduced post-money SAFEs to help founders manage ownership expectations.”

### No Valuation Needed

- “That being said, [SAFEs can be advantageous as they enable a company to raise funds without pinning down a valuation and by extension, a price per share](#). The formula universally recognized is: Price per Share = Valuation / Fully-Diluted Capitalization. Determining a valuation can be a difficult and time-consuming process, especially for companies that are pre-revenue and other early-stage companies.”
- “A [SAFE lets both parties defer the moment of the valuation determination until a later date, which is expected to be when the company and a future lead investor agree on a valuation and resulting share price for preferred stock](#). Valuation disputes can be a common source of tension between early-stage companies and their investors and using a SAFE instrument can help to avoid such disputes and maintain a positive relationship between the company and its investors.”

### Not Loans (No Interest)

- “Unlike convertible notes, [SAFEs are not loans. They do not accrue interest nor have a maturity date \(this also means that if a startup fails, SAFE holders do not have the same claim to assets that debt holders might\)](#). Further, while the SAFE is a convertible instrument that might convert into preferred stock, at the time of the SAFE round, a corporation’s certificate of incorporation does not have to be amended to authorize the issuance and set forth the rights of such preferred stock. So, occasionally, entrepreneurs argue that SAFE financings involve minimal negotiation because the primary discussions only revolve around two big items: the investment amount and the valuation cap.”

### How to Spend Money

- “What exactly is the capital used for at this stage? [Pre-seed capital is often used for: Hiring a team and/or paying the founder's salary. Getting an office up and running.](#)

[Paying for the legal and incorporation fees. Marketing and market testing.](#)”

Investors: Angel Investors, Incubators, Accelerators, Micro VCs

- “[Few people are willing to gamble significant amounts of money on an idea without a track record or existing customer base.](#) It is an extremely risky endeavor for any investor, whether it be angel or VC, as the idea may never mature into an actual product that is released into the market.”
- “So, [who is investing in this round?](#) The founders themselves. Family (including your weird Uncle). Friends (you helped move a couch, now you’re calling in a favor). Fools who don’t understand the product but want to be involved. Select angel investors. Select VCs who consider pre-seed stage startups. These are often micro-VCs. Crowdfunding platforms. Incubators and accelerators. Some VC scouts.”
- “It should also be noted that the top founders can afford to be picky about whom they want on their cap table and will prefer strategic investors that bring added value. After all, your weird uncle may have a large bank account but may not be able to offer sound business advice or tactical connections that could make a difference. Plus, [the quality of the people on your pre-seed cap table will be a factor for future investors when raising your next round \(seed\).](#)”

Equity to Give: 10-20%

- “[In a pre-seed round, it's common for startups to give away 10-20% equity in exchange for funding.](#) The exact amount depends on how much capital you need, your startup’s valuation, and the level of risk the investor is taking. Since valuations at the pre-seed stage are often low (and based more on potential than hard metrics), founders need to balance raising enough money with keeping enough ownership to attract future investors in later rounds.”

Valuations: \$500k-5MM

- “At this stage, the valuation of the company can be all over the place. [It is not uncommon to see pre-seed valuations between \\$500k-\\$5 million.](#) Founders need to understand that even though it may be a billion dollar idea in their mind, the reality of fundraising as a pre-seed company takes priority.”

## **Seed Funding**

Seed Funding

- “So, you raised enough money from your friends and family to hire a team, demonstrated that your startup is viable, and now you have some early metrics to prove it. Welcome to [the seed stage, where it is hoped that the capital invested \(the seed\) grows into a mighty tree.](#)”
- “[The seed stage is often referred to as the first official fundraising stage.](#) Like the pre-seed round, investors may include friends, family, and angels. However, venture capitalists are a viable option as they are more willing to engage in this round. In fact, some of the biggest VC firms have dedicated seed funds. This includes big names like Khosla Ventures, Greylock, and Andreessen Horowitz.”
- “But before you get too excited, [most companies never make it past the seed stage.](#) These



- “The [seed stage is where most companies come to die. But it is also where companies can grow, mature, and truly shine](#). By making it to the seed stage, you are proving that the opportunity is there. Not only is your team counting on you, but so is your 7th grade lab partner who invested in the earlier round.”

#### Goal of Seed Funding

- “Seed funding... [supporting early product development, hiring, and gaining initial traction](#). Startups at this stage usually have some market validation—like beta users or revenue—and raise larger sums from angel investors, micro-VCs, or accelerators.”
- “[At seed, the risk is nobody really wants your product](#). Are users actually using it? Are they coming back? Show it with: High activation or retention from early users. Feedback loops that feel urgent (“I need this to do my job”).”

#### Requirements: Founders, MVP, Users, Revenue, PMF

- “At the seed stage, the company should not only have their minimum viable product (in beta with actual users, leave the alpha and prototype to the bootstrap and pre-seed stages), but should have also clearly demonstrated that it works and that there is a demand for it. There is revenue, traction, signs of increasing growth (signups, user registration, demand from vendors and/or enterprise clients), and the team and key personnel are in place. More importantly, [the startup should have a compelling argument on why they are the solution to the problem that they are attempting to solve](#).”
- “The [most important factor to raise a successful seed is a proven product-market fit \(PMF\)](#). Brian Balfour has written a great piece on PMF, which is defined by 3 factors: strong user or revenue growth, high retention, and meaningful usage of the product by the users.”

#### How to Raise Money

- “[Seed investors look closely at the quality of the team and the product. On top of that they start to look at basic metrics](#): Retention, which is a function of the churn rate. Monthly revenue, which can be calculated as MRR (for SaaS), GMV (for ecommerce, marketplaces), GTV (for fintech), etc. Growth rate, which is both user growth and revenue growth. A monthly growth rate of 20%. Burn rate and runway: How much money you burn each month and how long you can last with \$X raised.”
- “Smaller seed rounds are typically raised via SAFE notes (like a pre-seed round) while larger seed rounds are classic priced rounds (like a Series A). Although there is no set time limit, [the seed round should take up to 6 months to complete and raise funds](#).”

#### [SAFE](#) Notes

#### How to Spend Money

- “The use of proceeds from a successful seed capital raise will differ depending on the need and nature of the startup. [In most cases, it will be used to make additional key hires, increase marketing, expand market share, further product iteration, extending the runway, lowering costs, obtaining critical facilities or equipment, and ultimately to continue to fuel and grow the business](#).”

#### Investors: VCs, Accelerators, Super Angels, VC Firms

- “But why do investors want to get in at the seed stage of a startup? Simple. [The lead investor of a seed round is usually the first to get a board seat. It allows them to have an influence and a vote in paramount decisions at an early stage of the company. Seed investors may also get pro-rata rights, which gives them the right to invest in the next](#)

[round or rounds next to the new investors](#). If your company is successful, this is a valuable option for investors who like to "double down" on the winners.”

- “Other [sources of seed funding include](#): Angel Investors. Like the pre-seed stage, angel investors continue to play a pivotal role during the seed round, especially the bigger ones dubbed as "super angels". Angel Networks. Platforms such as AngelList allow angel investors to come together in a syndicate or SPV and provide capital as part of a group. For founders who need a small seed round, this may be the perfect solution to help them grow. Accelerators. Accelerators allow early stage startups to grow and provide not only funding, but networking, guidance, mentoring, and even a workspace. They take a small amount of equity in return for their services. Venture Debt. Venture debt is a loan to an early stage company that provides liquidity to a business for the period between equity funding rounds. This allows the company to have cash on hand for growth, hiring, and unforeseen issues. It is not a long term solution as the loan is often repaid within eighteen months (with interest). Banks that work with and understand the complexity of startups are often the right fit for venture debt. Corporate Seed Funds. Large corporations across the world have seed funds that invest in companies within their wheelhouse. For example, Maersk invests in companies with a logistics focus while Airbus Ventures focuses on deep tech companies in the sustainability sector. Anyone with an interest via crowdfunding. There are hundreds of crowdfunding platforms with different qualifications. Some require accredited investors while others allow anyone with an account to invest. They are a popular source of seed funding as founders get exposure and can not only raise funds via equity, but also by providing rewards as an incentive. The founders themselves. If the founders can afford to do so, they can continue to use their own personal savings to fuel their business AKA "skipping the seed rounds". This allows them to maintain control of their equity and avoid taking on any debt. Companies such as Spanx and Mailchimp continued to bootstrap their way to successful exits.”

Valuations: \$4-20MM

- “The valuation of a seed stage startup varies. [Seed valuations of U.S. startups typically range from \\$4-20 million with check sizes varying between \\$1M to \\$5M.](#)”
- “The valuation of a seed stage startup varies. As of 2019, [seed valuations of U.S. based startups range from anywhere from \\$4-11 million with check sizes varying between \\$50,000 to \\$5 million.](#)”

## **Product Market Fit**

PMF (Product Market Fit)

or FPF (Feature Product Fit)

- “...so first we'll go over the stages of a company so obviously you start off with I have an idea and everything is really exciting and you're telling all your friends about the idea this is the very birth of a company let's go through some of the phases so this is roughly all of the phases of a company it starts with idea you get to prototype phase you then get to launch traction monetization and growth I put monetization after traction because oftentimes that's the way it goes and actually getting [going from launch and getting to traction is product market fit](#) monetization is actually a much easier problem than product market fit this these are the this is sort of the initial product market fit search initial product market fit search is between idea and traction so getting from idea to traction is probably the hardest thing and the thing that kills the most companies...”

- “I think as a founder, there are so many things you have to do. You have to pick a market, you have to find a co-founder, you have to hire a team, you have to raise funding, you have to build a product, you have to sell a product. And so sometimes it gets lost that actually, the only thing that matters in the first couple years is finding product-market fit and actually, what we define as extreme product-market fit, and I'll go into that. Because [if you find extreme product-market fit, the momentum just carries you, and the market pulls you along](#). And it's easy to know what to build because you're building the thing that your customers want and it's motivating as a team. It's easy to hire people, everything becomes easier if you find product-market fit, it is the thing that propels the company.”
- “Now, the longest part is usually figuring out product market fit and [product market fit is really simple. That means that you create value to your customers](#). If you do not figure out product market fit, you will die. As simple as that. You never heard of a company that did not figure out product market fit. They simply died. That's it. Now, once they do, and for a second I want you to think of, with all the applications that you're using every day, right? From searching Google, using Waze, WhatsApp, Facebook, Netflix, Uber, whatever it is, and ask yourself what is the difference between any of those today and the first time that you have used that? And the answer is that there is no difference. We are searching Google today the same way that we searched Google for the first time in our life. We're using Waze today the same way that we used Waze for the first time in their life. So once a company figure out product market fit, they don't change their product anymore because this is the value that they created to the customers and you don't want to change that. What we don't know is how long did it take them to get to this point, right? Beforehand we never heard of them and after that they don't change that anymore. It's a matter of years. For Waze, it was 4 years. For Microsoft, it was 5 years. For Netflix, it was 10 years. Now if you'll tell me, "Oh, today is very different. ChatGPT just started a year ago." No, they're seven years old. It took them six years until you heard about them for the first time in your life. So it does take time to create value and this is something that is really significant.”
- “You can always feel when product/market fit is not happening. The customers aren't quite getting value out of the product, word of mouth isn't spreading, usage isn't growing that fast, press reviews are kind of ‘blah,’ the sales cycle takes too long, and lots of deals never close. And [you can always feel product/market fit when it is happening](#). The customers are buying the product just as fast as you can make it — or usage is growing just as fast as you can add more servers. Money from customers is piling up in your company checking account. You're hiring sales and customer support staff as fast as you can. Reporters are calling because they've heard about your hot new thing and they want to talk to you about it. You start getting entrepreneur of the year awards from Harvard Business School. Investment bankers are staking out your house.”

Reaching PMF via the JTBD Timeline (User Phases to Habit Building)

- “Yeah, there's actually, I call them six phases. [First thought, passive looking, active looking, deciding, first use, and then ongoing use](#). How do we build the new habit?”
- “...[there's a timeline and there's a sequence of things that have to happen](#) and the sequence is: there's a first thought where people basically create the space in the brain for something to fall into, they passively look, and then there's an event one that causes them to move to active looking, and then there's another event that caused them to go deciding, and ultimately they end up going to buying and committing, and then they end up consuming and looking at satisfaction...”

1: 1st Thought (Struggling Moment) <-- I can NOT impact this -- - - - - -

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- “...first thought is really about making space in the brain, it's about actually understanding kind of [what are the causes, what are the things that are going on, what's the struggling moment](#); and what I would say is there's four ways that I know of that, I'm sure there's more, but I only know four that you can use to basically create a first thought: one is you ask people a question and don't answer it, number two is you tell somebody a story that is close enough to their story that they actually resonate with it so they can see the possibilities, a third thing is you give them a new metric, number of steps, right there's all these different ways in which you can kind of actually figure out how to actually help them make progress by giving a new metric and them knowing that they can do better the last one is to state the obvious, I always tell my father-in-law why is the TV so loud because it's eventually he's he's got to think about hearing aids because he always says what what so first thought is about actually creating the space...”

2: Passive Looking (User is learning about their own problem) <-- I can NOT impact this -- - - -

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- “... passive looking is really about where they're learning, so now that they've got the space they can actually start to uh, and what I mean by passive is they're not actively engaged, but now that they see it and they go through life, there's things that happen where they now notice, where they didn't notice before, and this is where they're learning about the problem, they're learning about the potential solutions, they're learning about from other people, but they're building language to talk about [is this something I should do something about](#) and if it is then they move to active looking...”

3: Actively Looking for a Solution (User is comparing you to ALL competitors) <--

Differentiation to be the preferred solution (I CAN impact this) -- - - - - -

- “...where active looking is where they invest, but active looking is more like I call it a kid in a candy store, it's about finding all the possibilities, oh could we do this or what does it have this and how about this and how about that and ultimately, at some point in time, [they they line everything up, but ultimately the fact is the hardest part is that they usually can't get everything they want...](#)”

4: Deciding & Tradeoffs (What do I do better than competitors that provide value to the user?)

<-- Differentiation so that you can be the preferred solution (I CAN impact this) -- - - - - -

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- “...and so stage four is about actually [making trade-offs, what are they willing to give up in order to get something](#), and this is where people make the challenge between, well, I don't want to compromise, but the reality is that progress is about time, and point A to point B through time, and the fact is at some point if you want to make that progress in a certain time frame, you're always going to have to make trade-offs, it's not compromising it's more or less saying like “I'm willing to make a half step of progress as opposed to a whole step of progress given where I'm at” and then ultimately they have they buy it...”

Get users to hire your Product (switch from ProductA to ProductB);

Pushes+Pulls > Anxieties+Habits == user switches from ProductA to ProductB

- “...this diagram basically says that [if push + pull > habit + anxiety then a person will switch over to some new behavior](#) and if not then they'll just stick with the same old...”
- “...so we've tried to unpack and describe [the forces that are acting on somebody as they](#)

[switch to a new product](#) so it doesn't work for repeat if you're buying tied laundry detergent every month and you're going through the aisle and you're throwing in your cart there's no energy in that system until something new enters your mind and gets you thinking hey i could make some progress here i could my laundry could be brighter i could do it faster that's when we start down this path so there are four forces that describe that change..."

5: 1st Use / Day 1 Users (Are users making progress in their JTBD? How do you measure whether they've made progress or not?) <-- Making progress in their JTBD (I CAN impact this)

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- "...and they have their first use, and so part of this is [how did they know they're making progress, how does it feel to make progress, what are their metrics for progress...](#)"
- "...one thing that I always do when I come in is I try to [push my teams to really dog food products in their adjacent user state](#), if you will. And what I mean by that is often, a product that you and I use that we've been using for years isn't actually the product that we're building for other people. Like a power user who's using a product has... There's so much history and there's so much informed knowledge on how that product... for that product to actually create a great experience for you that if you were to go and create a new Gmail account and look at YouTube today, I guarantee you it's a completely different and significantly worse experience. And there's a lot of obvious opportunities missed, especially with what is the flywheel and why things are working or not working if you don't actually go and use things in a new state."

6: PMF: Ongoing/Habitual Use (How to improve user retention? How do we make this a habit?)

<-- Making progress in their JTBD (I CAN impact this) -----

- "...and then ultimately [how do we build it into a habit...](#)"

Requirements for achieving PMF or FPF

- "So [you've got to have all three of those things: demand, satisfaction, efficiency](#). But the interesting thing is that you don't go for all three of them at once from the very beginning. And so product-market fit, it happens in the sequence of levels, it happens over multiple years. And for the best enterprise companies, I would say they tend to reach extreme product-market fit in roughly four to six years. There's some variance, but roughly four to six years."
- "And along the way, [you're trading off these three dimensions: satisfaction, demand, and efficiency because they're intertwined](#). You could spend a bunch of money on marketing, and that's going to increase your demand, but you're decreasing your efficiency if you do that. You can invest a bunch in efficiency and automating a whole bunch of stuff, but that actually might harm the customer experience and you're reducing satisfaction. So that's an interesting thing, I think, is you're actually making trade-offs at each level and what you should optimize for at each level is different. And so we talk about all these signs, whether you're getting stuck at a given level, how do you get unstuck and how do you progress along this path."

Satisfaction

- "And along the way, [you're trading off these three dimensions: satisfaction, demand, and efficiency because they're intertwined...](#) You can invest a bunch in efficiency and automating a whole bunch of stuff, but that actually might harm the customer experience and you're reducing satisfaction."

Demand

- "And along the way, [you're trading off these three dimensions: satisfaction, demand, and](#)



[efficiency because they're intertwined](#). You could spend a bunch of money on marketing, and that's going to increase your demand, but you're decreasing your efficiency if you do that.”

#### Efficiency (Scaling)

- “And I think efficiency is worth highlighting because that's what most people would leave out of their definition. You talk about like, "Oh, it's a product, people like it. That's good, that's product-market fit." But if you look, there's products out there. I was a big fan of WeWork, as a customer of WeWork. And I'm a fan of Casper and these other products. [Those products managed to achieve customer satisfaction and demand, but they never got the efficiency right, and so the whole business just never worked at scale.](#)”
- And then this other aspect that I like, which is we have this concept that we call the marginal customer, and the next incremental customer you're going to get for your company, for your product. And if you have product-market fit, and as you are progressing along this journey, the marginal customer should be getting easier and easier and easier to get, easier to acquire them, easier to give them good service with a good product. And [that means your efficiency is increasing along the way and your product-market fit is strengthening.](#)”
- “And my partner, Brett Berson, at First Round, he gives this example of the \$100 vending machine, and I really like this example, which is imagine I built a vending machine and I stuck it in the middle of San Francisco. And you walk up to this vending machine and you put a dollar in and \$100 bill comes out. And that's the product. That would have insane demand. There would be a line at that vending machine. I think people would be extremely satisfied. They'd be like, "This is awesome." The retention would be very good. I'm sure they would come back tomorrow. But the whole thing is it's ridiculous. The whole metaphor is ridiculous because it's just not viable to do something like that. And yet you see a lot of startups kind of do this. They're basically with their products, giving away \$2 for \$1 and it gets them pretty far. But that's not real product-market fit. And so [that's one of the reasons that we think efficiency and how you think about the economic model of what you're doing is very important.](#)”

#### Measure if PMF is reached

- “And I eventually started to wonder: what if you could measure product/market fit? Because if you could measure product/market fit, then maybe you could optimize it. And [then maybe you could systematically increase product/market fit until you achieved it.](#)”

#### Everything Breaking or Crashing because there is too much Demand

- “We were just talking about this customer support system that we had. The first system broke after three days. The next one broke seven days later, we had to replace it with a different one that could scale even better. And if you think about that on every dimension of the company, it is absolute chaos to keep the thing online as it scales up. And so you have to be ruthless with prioritization as something scales up and put out the largest fires first, because that was something that I didn't really fully understand, is how many things go wrong. And if we didn't geofence the app, there would be no way we would've been able to keep that thing online because that gave us some slack to control growth. This is a good example of [when people ask like, "Hey, does my app have product-market fit?" I think this is an example of this is what it looks like when things are breaking every three days when you have to geofence it to keep it from crashing.](#) A lot of people ask me like, "What's the benchmark for product-market fit?" And this founder that I'm friends with, his name's Roger Dickey, he told me this one time, "If your product's working, you'll

know. And if there's any uncertainty, it's not working." And it really is a binary when it comes to consumer products. People are going to be fighting to get into it and you'll find new measures that you've never heard of like, "Our metric was hourly actives per day." Not daily active users, hourly active users. So you'll start seeing that and it'll be abundantly obvious what product-market fit is. You'll know it when you see it is the bottom line."

#### Customer Support Tickets Increasing (Unhappy Customers during a Bug)

- "I am convinced the best sign of product market fit [is the volume and grumpy-level of support tickets when your app has a bug](#). If you have cranky, impatient customers: you have something they want."
- "...then there was this moment one day where we had maybe a couple 100 customers and we had an error where we basically by accidentally shut down the service and it was bricked for 10 or 20 minutes. And at the time we were hustling in our little dinky office to get the application back online. And we really were proud of ourselves about how reasonably quickly we did and people went back to using it. It wasn't a super long outage and we didn't lose any data. We were just high-fiving each other. And we went about our day and about a year later I realized that that was a... I missed a huge moment that I should have pounced on, which is that [during those 20 minutes, our customers weren't furious](#). They weren't emailing us like crazy, they weren't texting us, they weren't trying to find us on Google Maps and knock on our door and say, "Hey, I need this thing back online immediately." We heard a couple comments from them, it was little murmurs. And I didn't realize at the time that was the signal that we did not have product market fit. And I ended up wasting many more years on that project. And wasting is a big word. We built amazing software, people liked it, we were able to sell the company. It helped many of us learn how to really build software. But I'm really trying to avoid that situation again."

#### Retention = 3 month retention of 30-50% (if you create value then they will come back)

- "Now, at the end of the day, [product market fit has one metric](#). One metric. That's it. Retention. That's really simple. If you create value, they will come back. If they're not coming back, that means that you are not creating value. Now think about your episodes, right, of this podcast, right? Most of your listeners are returning, right? Because you create value for them and they are coming back. That's it."
- "...generally speaking, if you look at something that has high frequency of use, then you will be looking at 3-month retention of 30, 40, 50% is actually a pretty good indication. But usually what would happen is that you would know when they convert and that's going to be after the third or the fourth time, and [if they're not getting to the fourth time, then they are basically saying, "Okay. We gave it a try. We really like this story. We gave it another try, and it's not good enough."](#)

#### Retention Cohorts

- "[The lightning indicator \(of PMF\) is, do they actually keep using it?](#) So probably retention cohorts are more accurate, but the problem is, like your time at Airbnb, how long do you have to look at a retention cohort before you know that you've actually long-term retained someone? And so with this question, you can kind of find out day one, you don't need a good analytics system in place to be able to see if product market fit exists. And so yeah, the 40% was not something I originally had in there."

#### [Sean Ellis Test](#)

##### Levels of PMF (by customer growth)

- "And so [we label these four levels](#). We say level one product-market fit is nascent

product-market fit. Level two is developing, level three is strong, and level four is extreme. And that's where you want to get.”

#### 1: Nascent PMF (3-5 Customers)

- “Yeah. Okay, level one, nascent. So at this point, you're probably like a pre-seed or seed stage company. You've got less than 10 people on your team. And at level one, [your job is to find three to five customers that have a particular problem that is worth solving and to deliver them a satisfying solution](#). And you got to pick a problem that is both important and urgent to them. And the solution that you deliver needs to satisfy some kind of promise that they care deeply about.”

#### Focus on Satisfaction

- “So of the three dimensions that you just recapped, Lenny, [it's satisfaction first, demand second, efficiency last when you're at level one](#). It's actually okay to be inefficient at this stage if it helps you uncover something that delivers an insanely good customer satisfaction.”

#### 2: Developing PMF (5-25 Customers)

- “Yeah. So level two is developing product-market fit, and your job at level two is now [you've got to go from five satisfied customers to 25 satisfied customers](#).”

#### Focus on Demand and Satisfaction

- “So again, the way to think about this phase, [this is when you're starting to scale a way to drive demand](#). You're not just grinding sales, cold outreach. There's a way you're starting to bring in customers that are more efficient.”
- “And so now you've got to [start thinking about demand in addition to satisfaction](#). Because it is very hard to just grind your way all the way to 25 customers with sheer willpower, but you can do that to five, maybe 10. And we see some founders who just have phenomenal willpower and grit and grind their way to five or 10 customers. To get to 25 and to get beyond 25, the product has to be doing a lot of the heavy lifting for you. And so that is the essence of this level.”
- “So if you're at this level, now you're seed or Series A style company, maybe you've got up to 20 people at the company. And [you're starting to work on this demand source](#) where you have the early signs of a scalable channel, and it's not just warm intros from your VCs or from your friends. You're maybe investing in cold outreach and getting that tuned and humming. You might be investing in content, you might be doing community events, but the whole idea is you're trying to scale the demand source.”

#### 3: Strong PMF (25-100 Customers)

- “Yeah. So level three is strong product-market fit. This is where I think it starts to get fun. This is where all the product-market fit adages come in, “The fish are jumping into the boat. The rock is rolling down the hill and I'm trying to chase it instead of pushing it up the hill.” And keep in mind, for most enterprise founders, we're now three, four or five years into the company, so it's not easy to get here. And to get to L3 here, [you are looking for repeatability](#). The marginal customer has become much easier.”
- “I'd say where you want to get to with [level three is 100 customers](#).”

#### Focus on Satisfaction, Demand, and Efficiency

- “And you're actually [starting now to think about some of these efficiency metrics](#). Remember, we've been punting efficiency. We were saying it shouldn't be worse than a certain number, but it's not a focus. Now, it's got to come into focus. Because the way that we get to level four is we keep ripping on the satisfaction and the demand, and we tune this thing to get very efficient.”

#### 4: Extreme PMF (+100 Customers)

- “And for B2B companies, specifically, it does tend to follow a repeatable pattern. And so we start with defining the ultimate goal. The ultimate goal is to get to extreme product-market fit. And we have a precise definition for this. Let me read it to you. So extreme product-market fit is a state of widespread demand for a product that satisfies a critical need and crucially can be delivered repeatably and efficiently to each customer. And so there's three key ideas in there: demand, satisfaction and efficiency.”
- “...after product Market fit, well you know it's a lot of other things: growth hacking and optimization and stuff like that, my view is uh there is a very big difference in many companies between product Market fit and not, but not for the reason we're talking about...”
- “So first of all, congrats. If you get to level four, you have a valuable company. You are probably already a unicorn, and you're starting to think about, "Can I become a decacorn?" And so you've reached the highest levels of satisfaction, demand, and efficiency.”
- “You've got more than 100 customers and you're starting to figure out, 'How do I get to 200, 300, eventually 1,000 customers?’”

#### Focus on Optimization and Growth

- “...the way I frame it is different than pre pmf and post pmf, I frame it as are you doing product discovery or are you just doing product optimization, because that's what I think is really going on, if you're not doing real discovery during product Market fit good luck you know good luck...”
- “Because if you have high frequency of use, you will end up with growth coming by itself, right, for word-of-mouth, and therefore you should do that at the beginning. If you don't have high frequency of use, you are sentenced to acquire users or customers all of your lifetime.”
- “...in most companies product management is pretty worthless whether it's pre-product Market fit or post-product Market fit, and in good companies there really isn't much of a difference because it is good during product Market fit and it continues to be good, in fact in good companies there really isn't so much of a line between before product Market fit and after, because what's the first thing you do when you achieve product Market fit: you go after an adjacent market and then you do new products and you so you're always doing product Market fit...”

## **Series A Funding**

#### Series A Funding

- “The seed has been planted and has started to grow. You have a product, a brand, a loyal customer base, and significant monthly revenue with a potential to expand tenfold...no, a hundredfold! This is the time to scale up but significant investment is required. Welcome to the big leagues. Welcome to the Series A stage. No longer are you bound to friends and family for capital. Series A is strictly for venture capital firms and super angels (sorry grandma, you missed your chance).”
- “At earlier stages, one of the most common phrases that founders hear from investors is that the company is too early for them. There isn't enough metrics, traction, customers, or revenue to justify an investment. This phrase tends to evaporate as startups reach the Series A round.”

#### Goal of Series A Funding

- “Series A is the first major round led by institutional investors, [focusing on scaling the business](#). Companies at this stage have product-market fit and revenue growth, and they need capital to expand their market presence, optimize operations, and hire extensively. In short, pre-seed is about building, seed is about proving, and Series A is about scaling.”
- “[At Series A, the risk is you can’t scale it](#). Are you still the engine? Can the team execute without you? Address this with: Early hires closing deals. Usage growth without your daily involvement.”

Requirements: Series A Valuation (company metrics, size, track record, management, risk, potential for growth)

- “[Series A funding requires a Series A valuation. The startup has to be properly valued and priced. To reach this valuation, the startup will be scrutinized more than ever before. Analysts will examine](#) the company metrics, size, track record, management, risk and most importantly, the potential for growth. Here is a sample chart for an Enterprise SaaS to help you determine your metrics at this stage. A big thank you to Alda Dennis at Initialized for this.”

How to Raise Series A

- “When you reach Series A, you're dealing with professional investors only. [The round is a priced round, the terms become more technical and sophisticated. The metrics become a key part of the analysis - get familiar with acronyms like ACV, LTV, CAC, etc.](#)”
- “Some founders still raise Series A themselves while others outsource that task to professional fundraising advisors. [It still takes 6 months on average to raise your round.](#)”

Investors: Top VC Firms

- “[Series A investors include some of the top venture capital firms in the world](#). This includes Lightspeed, First Round Capital, Sequoia, Andreessen Horowitz, Accel Partners, Bessemer Venture Partners, Benchmark Capital, and many others.”

Valuations: \$10-30MM

- “[Typical valuations at this stage vary between \\$10 million to \\$30 million and the median check size is around the \\$10 million mark](#). Investors at this stage expect a significant return on their investment. Funds are used for additional hiring, scaling up the business, purchasing equipment and inventory, as well as other long-term business goals.”

## **Series B Funding**

Series B Funding

- “[Your startup has grown into a real company with a higher valuation to prove it! Your story and idea have been validated. Hitting milestones was so last year and now you are exceeding them](#). Revenue is being generated and your friends and family who missed out on the pre-seed opportunity are now asking if you are hiring. More importantly, you have survived the doubt, setbacks, burn rate, loss of your social life, constant investor pressures, market conditions, and still have a huge potential for growth. Congratulations, you have arrived at the Series B/late stage of your entrepreneurial journey.”
- “The Series B/late stage is for mature companies who are looking to raise additional funds to reach the next level and meet the demands of a growing customer base. [The purpose of raising capital at this late stage is to expand into new markets, develop new products, and even acquire other companies](#). Current and prospective investors can



review metrics and determine how the management team has performed. At this stage, the investment risk is much lower than at previous stages of the company. As a result, any investors that come in at the Series B/late stage pay a much higher share price.”

Requirements: Established Brand, Stable Revenue, Solid Customer Base, Room to Grow

- “Investors at this stage of the fundraising process want a strong company that is not only widely known and established, but has a strong operating history. Companies that qualify for Series B/late stages have [stable revenue, a positive future outlook, profit, a solid customer base, and most importantly, room to grow and expand further.](#)”

How to Raise Series B: your CFO will handle this

- “When you're at this stage, you don't ask yourself this question anymore. The [CEO has a CFO, legal counsels, bankers, advisors to help with the process and set up these more complex financing rounds](#), which may now include some level of debt as well.”

Investors: Investment Banks, Hedge Funds, Private Equity Firms

- “Series B/late stage funding comes from [late stage VC funds, investment banks, hedge funds, and private equity firms](#). Sometimes it may be the same investors who originally invested in the Series A round. At this stage, the risk for investors is much lower than at earlier stages of the company. In fact, the company may not even be referred to as a startup as the company is established. The Series B/late stage is the last stop in the fundraising journey and this is often the pre-IPO fundraising round.”

Valuations: \$100MM-1B+

- “[Series B/late stage companies have hundreds of employees with valuations that could be in the hundreds of millions to over a billion.](#) The valuation at the Series B/late stage not only takes into account the future possible performance, but current company performance as well. For example, Vanta raised a \$110 million Series B round at a valuation of \$1.6 billion while Mutiny raised a \$50 million Series B at a \$600 million valuation (a big thanks to Top Startups for the latest valuation and funding). An example of a recent Series C investment is fintech company Trade Republic (Europe’s first commission-free mobile broker). Trade Republic raised a \$900 million Series C at a \$5.3 billion valuation. The funds will be used to expand throughout Europe.”

## **Pivoting**

Pivoting

- “Based on my research, one in three B2B startups, and one in five consumer startups, [pivot before finding their big idea](#). That’s a lot!”
- “[Pivoting] gets more shots on goal to try to find this elusive thing [called product-market fit]. If you made something and you launched it and it’s like, ‘Meh, not really working,’ [a dang good reason to pivot is you get another roll of the dice](#). I’ve seen people use these opportunities really well. It’s much easier to be lucky when you get half a dozen shots on goal than one.”
- “[...the thing about pivots is they feel like fuckups, actually.](#) People talk about pivoting like “Oh, you know, yeah, maybe you'll pivot.” It's not fun at all to go through that, to go through those kind of experiences, because the the lived reality of going through a pivot

is that you've just spent some amount of time pouring your heart into building some product and it's not working and coming to the realization of that and then thinking about it now, it emotionally was very hard..."

#### Why to Pivot

##### Lukewarm Interest

- "If you see [very low retention, a consistent growth plateau, and largely lukewarm interest in your idea](#), and you don't have any more good ideas to drive growth, it's probably time to pivot. It's hard to put a super-strict time frame on this, but I'd say give it two to three months during the ideation phase, and six or more months if you have a live product with meaningful traction. But be sure to read this whole post before making the decision, since there are also good reasons to keep going."

##### Growth Does NOT Meet Expectations

- "For many founders, it wasn't so much seeing hard data as [it was just realizing they were mistaken about the potential of the idea](#). With time and the additional experience of building the thing, it's not at all surprising that you may realize your idea is simply not good enough."
- "Is there an example of a pivot that you maybe went through where you realized the problem was not as big as you thought or you realized there's a bigger problem? So actually there are many, right? So Overseer deals with maybe biggest secret in travel industry. What happened to airfare after you booked your flight? Now you have no idea because you never compare prices after you met the reservation. But you know that airfare is going up and down all the time. It's going up and down before you are making the reservation and keep on going up and down after you're making the reservation. So if this is the price that you paid and this is cancellation fees, if the price drops here, you can rebook the same flight at the cheaper price. Genius. If you would only keep on comparing prices after that, right? So we started this company that is actually monitoring your own itinerary and we realized that this is going to be huge benefits to travelers and we started that as a B2C company, direct to consumers, and we realized that [even though the people really care, they are not willing to take the action that is required](#), and we ended up with doing that for corporates, and in corporates there are very simple ways for them to engage that automatically, so automatic rebooking and so forth, and we can save corporates about 10% of the travel budget that goes directly to bottom line. So we started that as a B2C and then we realized that this is way harder than we think it is, and we ended up with converting that into B2B, which turns out to be very successful for us. And so occasionally there are companies that you start your journey with one perception and you change that and that will happen multiple times."

##### Types of Pivots

- "Occasionally a pivot is a mix of the two (i.e. you're pivoting multiple times over 1+ years), but generally, when you're following the advice below, [make sure you're clear on which category you're in](#)."
- "My takeaway is that you should have a hard conversation with your co-founder around the three-month mark, and [depending on how it's going, either re-commit or change the idea](#). Then schedule a yearly check-in. If things are clicking, full speed ahead. If things feel meh, at least spend a few days talking about other potential directions."

##### Ideation Pivots

- "This is [when an early-stage startup changes its idea before having a fully formed product or meaningful traction](#). These pivots are easy to make, normally happen quickly after

launch, and the new idea is often completely unrelated to the previous one. For example, Brex went from VR headsets to business banking, Retool went from Venmo for the U.K. to a no-code internal tools app, and Okta went from reliability monitoring to identity management all in under three months. YouTube changed direction from a dating site to a video streaming platform in less than a week.”

- “Ideation pivots [generally happen within three months of launching your original idea](#). Note, a launch at this stage is typically just telling a bunch of your friends and colleagues about it.”

#### Hard Pivots

- “This is [when a company with a live product and real users/customers changes direction](#). In these cases, you are truly “pivoting”—keeping one element of the previous idea and doubling down on it. For example, Instagram stripped down its check-in app and went all in on its photo-sharing feature, Slack on its internal chat tool, and Loom on its screen recording feature.”
- “Hard pivots [generally happen within two years after launch, and most around the one-year mark](#). I suspect the small number of companies that took longer regret not changing course earlier.”

#### How to Pivot?

4 P’s [you need to change at least one {1}]: {product} has to deliver {promise} that solves {problem} of {persona}

- “He kept the persona, but he changed the problem that he was solving and the promise he was delivering through the product. And we do a whole section on pivots and [when to pivot and how to pivot](#). And I think this is actually the best framework for this, is the four Ps.”
- “So [these four Ps is essentially what you should try to change if you're stuck in this level or any level](#). And just to summarize, you can change who you're targeting, the persona, you can change the problem you're solving, you could change the way you're pitching it, which is the promise is how you describe it, basically positioning. And then you could also just change your product.”
- “This is our version of the four Ps. You've got the persona, the problem, the promise, and the product. And all four of these things have to line up. [Your product has to deliver a promise that solves the problem of your persona](#).”
- “I think it's better to talk to a bunch of customers, know that, “Hey, if I had this thing, if I could build this thing, I know it would sell. I know these people want this thing.” So I tend to approach it from that point of view and therefore, [I focus on the persona and the problem and the promise](#). What is the promise that is really going to click for that buyer, for that persona? And then the product's job is to satisfy those first three Ps really. And obviously, those are much easier to change and play with versus rebuilding your product. So if nothing else, you should probably start there.”

Change the Product

Change the Promise (pitch, positioning)

Change the Problem

Change the Persona

## **Product Development**

Product Development Process // Execution Phase:

- “...the most critical stage for people like me who work as Business Analysts. Till this

stage, we have selected our opportunities at a high level and created a roadmap; [now it is the time to start building it.](#)”

- “...I mean there are different taxonomies out there, the one I use is it's got to be valuable, usable, feasible, viable, but most products fit, those are the risks, you can call them different things, but those are the risks, and the product manager is responsible for making sure that the solution is valuable and viable and that is hard, that is hard, that takes real work and [that's part of the how, that's a pretty damn integral part of the how as well](#), now you don't tell the engineers how to code, you don't tell the designer how to design, but you do have a big part, all of us together are coming out with that how, so the how is how it all works and obviously how you monetize privacy issues, security issues, how it's going to go to market, these are all how, but their product responsibilities, product management responsibilities, they're not more or less important than what the designer or engineer does because all four of those risks if any one of them fails you've got a failure of a product so those are table stakes...”

#### The Murder Board

- “On my team at Palantir, one process that we followed, I could talk about this more if it's interesting, is when you started a new project, you basically had to organize what they called a murder board for it. I think this is originally an army type. So, [the idea is, basically, you write up a two-page plan for the project. You invite three or four smart folks who don't know anything about the project and their job is just to tear apart your plan.](#)”

Project Kickoff (Design or Model is ready and the Tech or Team Lead has everything they need to break user stories into tasks)

- “A Project Kick-Off meeting is an essential milestone before any development work begins. Before this meeting, [the partner teams and project lead roles are usually already defined](#). It is held between all stakeholders, such as Engineering Managers (EM), Engineer(s), Product Managers (PMs), Data Science, and/or Product Marketing Managers (PMMs). This meeting generally happens around six weeks before TDD starts. This meeting allows all parties to discuss the project goals and a high-level timeline and establish expectations and objectives. In addition, this meeting helps ensure that all stakeholders can agree on a high-level scope before a product spec or TDDs are written. Additionally, it fosters an environment of collaboration and cohesion. A successful kick-off meeting ensures that all parties understand their roles and responsibilities and are on the same page regarding the project. This meeting generally converts to a periodic sync-up between all stakeholders.”
- “For us, there may or may not be a formal kickoff, but if there is, it [comes after the aforementioned conversation with product leadership to get their buy-in on the proposed project](#). Sometimes people just start writing user stories in JIRA at that point, and away we go. Design continues to iterate, requirements and scope get refined, etc. Engineering writes code. I could definitely see a scenario where a kickoff would be important to:”
- “Project kick-off: [at this stage, designs are ready and it's ready to be handed to eng for implementation](#). The goal is to clarify the details of what needs to be built, and to get an estimate around when it can be shipped.”
- “[Before a topic is queued up for dev work](#), there is a lot of research and design iteration. Market studies, technology research, collaboration with UX, client visits, problem definition, 'how might we' sessions for brainstorming, writing the actual requirements, etc (not in any particular order), iterations on all of those steps.”

- “Once design is done and the feature is prioritized, [the PRD is shared with the engineering team](#). They can now begin to identify how to build this and provide overall estimates (using individual stories).”
- “Otherwise known as Backlog Grooming or Feature Review, this is a periodic session with the focus on the team reviewing the upcoming new product features to prepare them for being worked on. This involves the Product Manager discussing the feature, highlighting the goal of the feature and how it is intended to work. [The team then has opportunity to ask questions, raise concerns, suggest approaches](#), and it is also an opportunity to put an effort estimate on the feature (in time, story points, or t-shirt sizes depending on your preference). From a PM perspective, your job is to get across the purpose of the feature so that the team can understand what it is that they would be delivering with this work. You will be responding to questions and adjusting the feature description / user story as feedback dictates. By the end of the session you’ll have better formed features, with a clear indication of how long it ‘might’ take to deliver, which will support prioritization and planning.”

### Project Scoping

#### User Stories Broken into Tasks - Project Scoping (Usually done by EMs or Engineering Team)

- “An alternate approach — start with a smaller group who work on refining the backlog, and at a later time share the outcome with the rest of the team to build alignment. This smaller group can analyse requirements from different perspectives, create user stories, add details to them such as a description, test scenarios and acceptance criteria. The [refined user stories can then be shared with the rest of the team, and the sizing and prioritisation activity happens with the rest of the team](#) to build alignment with everyone else.”
- “The Three Amigos is this smaller group that includes the 3 core capabilities i.e. product ownership (or business analysis), development and testing who collaborate to exchange different perspectives of business, engineering and testing that [ensures the team builds the right thing](#) and builds the thing right. The product owner (or business analyst) discusses the user needs and clarifies using examples. The developer and tester understand the user stories which are further sliced to make them more consumable. High level scenarios on how to test the user stories are discussed. Missing scenarios are identified and acceptance criteria are added for each testing scenario. All of this, before a story is developed.”
- “Involve the entire team in the refining activity. There are several benefits of refining the backlog collaboratively, involving the whole team. It dissolves the boundaries between roles and brings business and tech capabilities closer. Gives an opportunity for the Product Owner to build alignment with the rest of the team. The [team fleshes out the user stories together which leads to a shared understanding and ownership from the start of the process](#). This approach reduces handovers and the risk of information barriers in the team.”
- “[Each user story should have a technical list of subtasks](#) ready for the developer to work off. Here you can use technical terminology.”
- “If your ACs are irrelevant to someone non-technical they are not ACs, they are probably sub-tasks. Sub-tasks are the [actions that the development team needs to do to get a backlog item done](#). These are often technical and resemble step-by-step instructions”
- “A simple rule of thumb is: [Does it describe the work?](#) Probably a subtask. Does it describe the result? Probably an acceptance criterion.”
- “On a rolling basis, [the top ideas and initiatives are broken down into User Stories and/or](#)



[Epics](#). Those Epics and User Stories are then refined with corresponding details captured in user stories, acceptance criterias, wiki pages, use cases, detailed requirements, UI/UX designs, etc. These time-consuming activities must keep at pace with the engineering constraints and the business needs to allow the engineering team to deliver product increments that deliver real and relevant business value. Internal reviews and ideas backlog prioritization must provide a certain amount of confidence that the product team is always working on refining the high value items to enable the engineering team to build them.”

- “...the Instant Messaging Service becomes our initiative, and [in order to achieve the goal of giving our users](#) with the Instant Messaging Service we need to develop the service, and finalize the features/functionality we will include in our service. The initiative may have been originated based on the visions and goals of the company... The features or the functionalities that we finalize to build becomes our Epics. In one feature or functionality (Epic) the user will have multiple scenarios. For eg, in the epic of sharing photos and videos, the user will have to upload or attach a video, look at the preview and send the video. The user would may be like to come back to the video they have sent, so on and so forth, these are our User Stories. All the scenarios will then need development in multiple areas that will complete the user scenarios like upload button in the text field of keyboard, resizing the images, resizing the videos, supporting formats etc. those are the task & sub tasks.”
- “Tech Lead [splits the feature into developer-oriented tasks, and passes them over to team members](#). Implementation details of each module/component are less relevant than the high-level decomposition and modularization. Given Tech Lead contributed to a clear modularization solution, and established interfaces, further work can be passed over and managed by other team members.”
- “TL is comfortable in [scoping complex tasks and projects, and break them down into smaller tangible tasks](#) that can be easily taken up by others on the team.”
- “e.g. breaking down a complex idea into smaller, tangible tasks might require a TL to invest a lot of time into [deeper thinking, design, POC, research](#) etc.”

#### Test Cases (QA)

- “While handing over the PRD to engineering for development, involve the QA team as well. QA team generally [comes up with the scenarios which you haven’t thought of](#). Expected behaviour in these scenarios should be added to the PRD (Acceptance Criteria section).”
- “[Test cases sheet to be created and provide by QA](#) in advance before the feature is completed by the developer.”

#### Edge Case Checklist

- “Refresh: What happens if the user refreshes midway through the feature workflow? Does anything need to be saved? Does their state change?  
Internet Disconnection: What happens if the internet is disconnected midway through the feature workflow? What is the message shown?  
User Roles: Is the feature visible to all user roles? Will the UI change according to different user roles?  
Screen layouts and sizes: How do changes related to the screen layout affect the look and functioning of the feature?  
Effect on existing features: How does the feature affect other existing features of the platform? (I keep a list of 4–5 core features handy on which the impact of a new feature

is always considered)

Product/Platform specific use cases — Certain scenarios would be unique to the product you are working on. Make sure to incorporate them in your checklist. For example, for every new feature I need to check whether slow internet speed would need special handling.” ~ [source](#)

#### PMM Sets Pre-Launch Marketing Plan

- “...starts with the [timelines of when and how many features we will launch, positioning the product in the customer’s mind](#), Launching content. The product launching plan also comes with a lot of creativity in differentiating our product from others.”

#### Avoid Scope Creep

- “The scope for what was planned continues to increase [even after development has started](#).”
- “[Changing the project scope midway](#) because — the PM and their boss were not on the same page about the solution.”

#### Dogfooding (QA)

- “It means [using your products and services in a real-world environment](#) for the same purpose and in the same way your end users would do.”
- “From the very start, [our product development process was really about dogfooding, and using the tool intensely every day. And we never wanted to ship anything that wasn't useful to us, and we had the benefit of doing that because we were the end users part of our product](#).”

#### Development Environment:

- “For developers, the development (“dev”) environment is [a sandbox where they can try almost anything they want without the pressure of it needing to work right away](#). It’s like doing exam questions at home in our earlier analogy.”
- “In the dev environment, [a developer can code something, see how it works in real time, and quickly make changes to get it working how they want](#). All this without the pressure of a QA, PM or, most importantly, a customer to judge their work.”

#### Staging Environment (QA Environment):

- “The staging environment (also known as “staging”, “test”, “QA” or “UAT”) is designed to mirror production as closely as possible. So [if your feature works correctly on staging, you know it’ll work correctly on production](#).”
- “The QA tester and the Product Manager are the teachers marking the mock exam. The [QA puts the new feature through its paces, trying to root out any bugs or performance issues](#). They have an arsenal of tools at their disposal, including end to end tests, regression tests and performance tests. Additionally, the Product Manager checks that the feature behaves as it should for the user.”

#### Production Environment:

- “When the QA and Product Manager are happy that the feature is ready to go, the developers release it to the production environment (“prod”) so that [it can be used by customers](#). Releasing to prod is exam day. If the necessary prep has been done in dev and staging, there’s no reason why it shouldn’t go smoothly.”

#### Jira

##### Initiative

- “Initiatives are [collections of epics that drive toward a common goal](#).”
- “Hence, the Instant Messaging Service becomes our initiative, and in order to achieve the goal of giving our users with the Instant Messaging Service we need to develop the

service, and finalize the features/functionality we will include in our service. The initiative may have been originated based on the visions and goals of the company, but we will skip that part for now and try to understand in depth about Epics & User Stories.”

## Epic

- “...sometimes epic can be a major feature which needs lots of [components in form of user stories](#) to be complete in order for the feature to work and sometimes it can be a major component which will include number of building blocks in forms of user stories to be complete.”
- “When a feature has multiple scenarios, multiple implementation that Feature becomes an epic. When a component is [bigger than one building block and needs to built in multiple building blocks](#) that component becomes your epic.”
- “Epics are [large bodies of work that can be broken down](#) into a number of smaller tasks (called stories).”
- “After this, Requirements specification occurs where tasks are picked, or if we are working in agile, then [epics and user stories are created, Sprint planning happens](#). Designing, development, and testing happen in sprints followed by the review. Post this stage, our product is ready to launch.”
- “In their simplest form, themes represent high-level groups of work (like epics). In an agile product roadmap, these [themes should be customer-focused](#) unlike traditional waterfall roadmaps where themes tend to be focused on business objectives.”
- “By grouping work into themes, [teams are able to tell a story about where they are headed](#), and the goals, objectives and outcomes that will get them there. This high level visualization allows teams to easily answer the following questions: What are we doing? Why are we doing it? How does this link back to our OKRs?”
- “...[The features or the functionalities that we finalize to build becomes our Epics](#). In one feature or functionality (Epic) the user will have multiple scenarios. For eg, in the epic of sharing photos and videos, the user will have to upload or attach a video, look at the preview and send the video. The user would may be like to come back to the video they have sent, so on and so forth, these are our User Stories. All the scenarios will then need development in multiple areas that will complete the user scenarios like upload button in the text field of keyboard, resizing the images, resizing the videos, supporting formats etc. those are the task & sub tasks.”

## User Story

- “...[The features or the functionalities that we finalize to build becomes our Epics](#). In one feature or functionality (Epic) the user will have multiple scenarios. For eg, in the epic of sharing photos and videos, the user will have to upload or attach a video, look at the preview and send the video. The user would may be like to come back to the video they have sent, so on and so forth, [these are our User Stories](#). All the scenarios will then need development in multiple areas that will complete the user scenarios like upload button in the text field of keyboard, resizing the images, resizing the videos, supporting formats etc. those are the task & sub tasks.”
- “Stories, also called “user stories,” are [short requirements or requests written from the perspective of an end user](#).”
- “What stories are not meant to be is a way of capturing detailed requirements. They [should never be written in a way that determines how a problem is going to be solved. Equally they’re not tasks that need completed by the team](#). As George Krasadakis has stated previously user stories are about the definition of the problem. Tasks are how you

implement a solution.”

- “User stories provide an excellent way to define your product with clarity. A set of well-defined, prioritized user stories can help you [articulate the functionality of your product using ‘plain English’ — with no technicalities and implementation details.](#)”
- “The ‘user story’ approach empowers meaningful product discussions, both within the product development team and with external stakeholders. Properly written user stories provide a solid basis for communication and collaboration — [focusing on what matters most to the user.](#)”
- “User stories are basically the break down of an epic in a more user-focused way for the engineering team to understand the product requirement. In agile methodologies, everything that we build should be focused around users and hence the main purpose of the user story should be to shift the focus around a feature in a more human conversation manner. The point of the user story is to clearly state the feature desired [from the point of view of the user.](#)”

User Stories != Tasks

- “Tasks are similar to user stories, but here’s the difference: tasks usually describe only what needs to be done without providing any context, and are more about implementation. In other words, [tasks describe what needs to be done in order to implement the user story](#): design a screen, start a background job, make a clickable button, etc. Stories, on the other hand, are high-level and simple. They provide a definition and reasoning for the tasks.”
- “Conversation: before implementing a solution, [developers take the card and discuss it](#) with the end-user to understand the needs.”

Test; Productionalize (trying it)

[50/50] A/B Testing (User Testing)

- “We conduct live traffic experiments to see how real people interact with a feature, before launching it to everyone. We enable the feature in question to just a small percentage of people, usually starting at 0.1%. We then [compare the experiment group to a control group that did not have the feature enabled](#). We look at a very long list of metrics, such as what people click on, how many queries were done, whether queries were abandoned, how long it took for people to click on a result, and so on. We use these results to measure whether engagement with the new feature is positive, to ensure that the changes we make are increasing the relevance and usefulness of our results for everyone.”
- “You’ll [create experiments to validate hypotheses](#). This is the place to prioritize experiments and give them a narrative.”

Test Segmentation (controlling for noise)

- “A/B tests for search randomly assign users to treatment groups and compare the performance of the groups. But A/B tests for search have an important nuance: [not all search queries are affected by the test](#). As we just discussed, some of the highest-ROI work on improving search succeeds by targeting only a small fraction of search queries.”
- “To make this nuance concrete, let’s consider an A/B test that [targets 10% of search queries with the goal of achieving a 5% conversion lift for those queries](#). That would translate into an overall 0.5% conversion lift for the site. A 0.5% conversion lift may not sound like a lot, but for a major retailer that translates into millions of dollars a year.”
- “As we discussed earlier, the size of the improvement target determines how long the test has to run before you can evaluate its success with statistical significance. In our example, [establishing whether a test achieves a 5% conversion lift on 10% of queries](#)

[takes far less time than establishing whether the test achieves a 0.5% conversion lift on 100% of queries](#) — days as opposed to months. You can explore these numbers yourself using a nifty online A/B testing calculator.”

- “In particular, you should [scope a search A/B test in terms of search sessions](#) rather than search queries. Otherwise, you’ll often find that the improvements on search queries affected by your test often come at the expense of performance on other queries in those same search sessions. You don’t want to rob Peter to pay Paul. In general, you need to consider the ways that your test may affect queries outside the test’s intended scope. A/B tests can affect behavior within a search session and can even have long-term effects on searcher behavior. But don’t let theoretical objections paralyze you. Keep the scope of your A/B tests as narrow as possible, so you can deliver rapid, targeted improvements.”
- “Most experiments you run on websites will focus on things like “conversion rates” or other user/session level metrics. However, with search, every query is a new trial, a new chance to succeed or fail. There are different types of queries, too, so you might succeed with some and fail with others. The first question you have to ask yourself about your queries is “are they different?” For our analysis, [we only care about queries that would have been different in control than in the treatment](#). For that we need counterfactual logging — a way of understanding what would have been different in the other branch of the experiment. This is not super easy, but it is very useful.”

#### Counterfactual Logging

- “To fight against dilution, we have to log the counterfactual. [We have to understand that this query would have gotten different search results if it had been in the other treatment](#). There are a few ways to do this. We could run the queries offline and examine the results. This is time consuming, and there are potential errors. We can also run queries against both algorithms at run time and only show the results of one algo to the user, that is quite accurate, but it doubles the load on the search infrastructure. The third approach, which we take at LexisNexis is to drop a “handled” flag when the query traverses certain nodes of the search algorithm “tree”. How this works is if we have an algorithm that looks for a natural language query with 4 or more words, a query like “dog bite” is natural language, but does not have 4 words. A query like “foo /s bar” is Boolean, so it’s not handled. A query like “contract renewal service specification” is natural language and has 4 or more terms. It doesn’t guarantee that we are only getting changed queries, but it’s efficient and accurate enough to make good decisions.”

#### Test Results

##### Negative or Neutral Results

- “We shouldn’t expect all A/B tests to show positive results — if they did, that would mean we’re being too conservative in what we choose to test. Still, an A/B test that shows [a negative or neutral result should make us ask ourselves](#): could we have anticipated this result through an analysis that would have cost us less than we invested in product development and experimentation? If so, why didn’t we?”

#### Launch Review Meeting

- “Much like the Query Triage meeting, it’s important that the [Launch Review](#) have a cross-functional group. You want product, data science, and engineering in the room. However, unlike query triage, you want to keep the meeting size reasonably small. It should be decision-makers only in the room, along with the experiment owner. Everyone else can provide feedback to the decision makers, and be informed after the decision is made.”



- “The approach I like to take for the meeting is to have the experiment owner present the results and/or [walk the stakeholders through the document](#), the results, and the implications. What were we trying to achieve, what were the results, and were we successful? Based on that, the stakeholders can weigh in — does this help us achieve strategic objectives, is it aligned with our brand, does it align with our values as an organization, will it help the company long term? These are all important questions that need to be addressed. It’s important for the experiment owner to have that data ready, where possible.”

#### Post Mortem (Retro for Projects & Retro for Incidents)

- “A post mortem is [a structured follow-up on a completed project](#), a retrospective, or debrief in other words. They’re essential for growth and for avoiding repeated mistakes. A way to keep the good, and get rid of the bad ways of going about different tasks.”
- “A post mortem is a [structured follow-up on a completed project, a retrospective, or debrief in other words](#). They’re essential for growth and for avoiding repeated mistakes. A way to keep the good, and get rid of the bad ways of going about different tasks.”
- “Post mortems aren’t something you should do every now and then. They should be an essential part of every project. Plan for the post mortem and [add it to your project timeline just as if it were any other task on your list](#).”
- “What is an Incident Postmortem? A postmortem is [a process where a team comes together to reflect on the details of an incident](#) — for example, an unexpected service interruption — to understand: why it happened, the impact, what actions were taken to resolve the event, and what must change to prevent it from happening again.”

#### Post Mortem Template / Example

- “What went right? What aspects, steps, or tasks went well? Knowing what was a successful attempt can help you see what you can do next time as well.  
What went wrong? Just as important is to figure out what didn’t go well. Which parts would you have wanted to do differently if you had a do-over?  
How can you replicate the positives in a future project? What can you do to have the best chance of repeating the positives in your next project? Now that you’ve made notes of what has gone well, it’s time to make sure you grab hold of that and take it with you. Is there anything that you can turn into standard procedures?  
How can you avoid the negatives in a future project? You’ve identified things that went wrong or could’ve gone better, now it’s time to decide how you can try to avoid repeating those mistakes next time around.” ~ [source](#)

#### Product Development Frameworks

##### Frameworks

##### Agile Product Management

- “Agile development is a software methodology that emphasizes the importance of delivering high-value features first. This is achieved by [working in short iterations and getting feedback from users at each point](#). Agile can be used for any type of product development, not just software development. In software engineering, agile methods may be applied at all phases of development: requirements analysis and specification; design; prototyping; construction; testing; deployment — or any other phrases you can think of (like marketing).”

##### Waterfall Product Development

- “The waterfall model is a traditional approach to software development. Under this framework, [all phases of the project are sequential and must be completed in order](#). This

can make it difficult to adapt when problems arise, or if you need to add features after the process has begun. However, it's an excellent choice for smaller projects with fewer variables than a more complex endeavor would have."

## Sprint Planning

### Sprint Goals

- "Think of the solution that you are trying to build — Sprint goal is [a smaller goal for the sprint which is a part of your big product goal](#). This is the ideal way to break down your big goals into smaller chunks that are delivered in every sprint."
- "You might think that the Product Owner determines the Sprint Goal. This is not the case. During Sprint Planning the Product Owner suggests the objective of the upcoming Sprint and proposes which Product Backlog Items will help achieve this objective. But the suggested objective is NOT the same as the Sprint Goal. The Scrum Master is a servant leader who helps the self-organizing Development Team. The Scrum Master certainly does not determine the Sprint Goal. The Development Team should determine how it aims to achieve the Sprint Goal and create the increment. They do not determine the Sprint Goal on their own. The [Sprint Goal is determined by the Scrum Team. Product Owner, Development Team and Scrum Master together](#)... It is the result of a discussion with -at least- the following input: Suggested objective (by the Product Owner); Product Backlog, including Suggested Product Backlog Items for the Sprint (by the Product Owner); The latest Product Increment; Projected capacity of the Development Team; Past performance of the Development Team"
- "Use the Scrum Team as your early adopters / users of your Product. Together with Dev Team you're one team working on the success of the product. [By creating together Sprint Goal](#) you can get the initial feedback on your ideas, you're improving Dev Team engagement and reduce the risks of any misunderstanding that could happen during Planning Session."

### Sprint Goal Templates / Examples

- "In the end of the Sprint, a <PERSONA> would be able to <ACTIVITY> so that <BUSINESS IMPACT>." ~ [source](#)
- "Set up deployment pipeline & release an empty site to production" ~ [source](#)
- "Show top-selling products on the homepage" ~ [source](#)
- "A visitor can order a product" ~ [source](#)
- "Extend product catalog to more products" ~ [source](#)

### Types of Tickets

#### User Story = Clear Solution to a Problem

- "Part of the Agile methodology is the idea that user feedback should aid in the process of software development. Customer feedback should, therefore, inform much of the work an Agile team undertakes, from tracking and fixing bugs to improving the user experience. A user story, therefore, [is a small unit of work in an Agile workflow that was prompted by user feedback](#)."

#### Spike = Unclear Solution to a Problem [DISCO]

- "...what happens when the solution to a user story isn't immediately clear? Teams might need to spend a period of time researching or breaking the story into smaller parts. That [time spent preparing to work on the story is called a spike story](#), and the time is allocated by the product owner ahead of the sprint."
- "A [spike is a user story for which the team cannot estimate the effort needed](#). In such a case, it is better to run time-boxed research, exploration to learn about the issue or the

possible solutions. As a result of the spike, the team can break down the features into stories and estimate them.”

- “When considering how to write a spike story, it’s important to remember that [spike stories should seek to answer a single, specific question](#), rather than multiple questions or a vague piece of information. If you need to find out more information about multiple questions, you should split the spikes to address each of these individually.”
- “The goal of a spike story in Agile is... [to determine an estimate for how long the original story will take to complete](#). Spike stories might require team members to spend time splitting a story into smaller stories if the original user story is too large or complex, or it might require a team member to build an experiment to gather more information for the estimate.”

#### Timeboxed Investigations

- “A spike story in Agile is a user story that needs more information so the team can estimate how long the story will take to complete. Agile teams typically have a set amount of time outlined for spikes, which is why [spike stories are often referred to as timeboxed investigations](#). Sometimes spike stories in Agile can be investigated in less time than the timebox, and sometimes spikes need more time than has been allotted. In this case, team members need to report the outcome of their investigation to the rest of the team, even if they will need more time to finish the investigation.”

#### Backlog Management

##### Definition of Done (DoD)

- “The definition of done is [defined for the entire backlog](#) instead of per item. It consists of general criteria any backlog item should fulfill to be considered done from the product team’s perspective.”

##### DoD Template / Examples

- passes all tests
- passes all linting rules
- code has been reviewed by at least one other person or pair programmed
- the feature has been reviewed by one other person in the staging environment

#### Bugs

- “Work With A Framework: Product teams usually have frameworks that they use to prioritize the way they work, it can be MOSCOW, RICE, Kano, etc. [It would be convenient if your bugs were prioritized in the same way you prioritize your features](#), doing that enables you to tie the impact of a bug directly to a feature and the usability issues that arise from not fixing the bug.”
- “Plan For Bugs: Be intentional about including bugs in your sprint planning and [plan for the discovery, documentation, reproduction and fix of these bugs](#). Please involve the product team in this process especially the engineers unless you will be writing the code to fix the bug.”
- “[Follow These Steps to Manage Bugs vs Features in Your Roadmap](#) Like a Boss: 1, Define the problem — write it down. 2, Understand the Impact first, then tap on a developer for the effort guesstimate. 3, Decide if you want to fix it now or later based on priority (P1, P2, P3, P4). 4, Pick one of the options depending on your product lifecycle: Prioritize against with other features, or 2) Dedicate a % of the time in your sprint for Bugs. 5, Communicate back to the business give an update on the issue, high-level root cause, the workaround (if any), and the decision on now or later.”
- “[Speak with a developer immediately if it’s a P1](#). Otherwise, set up a quick 30 min and

- get a guesstimate.”
- “Lastly, Communicate Issue, Impact, Workaround & Next steps. Provide an update back into your business as this will help your stakeholders do their jobs better. You need to give an update on the issue, high-level root cause, the workaround (if any), and the decision on now or later. [Depending on the severity of the bug, you might want to give updates every few hours on progress.](#)”

Bug or Feature?

([source](#))

Bug Priority

P0: Drop everything, Fix immediately

- “The P0 label indicates top-priority issues such as build breaks or severe performance regressions that [must be addressed immediately](#).”

P1: Fix in current sprint

- “[Speak with a developer immediately if it’s a P1](#). Otherwise, set up a quick 30 min and get a guesstimate.”
- “The P1 label [indicates that the issue requires timely attention, such as breakage in a major feature used by the majority of our users](#), or an issue blocking a strategic partner. We aim to fix or remediate P1 bugs within the current milestone.”

P2: Fix in next available slot

- “The P2 label [indicates major features or issues that affect a significant subset of our users](#). Like P1 issues, we aim to fix or remediate these within the current milestone.”

P3: Fix in next sprint / Fix next milestone

- “The P3 label [indicates an issue currently on our timeline for an upcoming release that is at the top](#) of our work list. Many issues we are actively working on bear this label, and most should have a milestone indicating when we think they’ll land.”

P4 (Default for Bugs): Prioritize with other items in the backlog

- “The P4 label [indicates issues that we agree are important to work on, but not at the top](#) of the work list. This is the default level for bugs.”

P5: Non-critical

- “The P5 label [indicates issues we think are valid but not critical](#). This is the default level for new feature requests.”

P6: Unlikely to be worked on

- “The P6 label [indicates valid issues that are unlikely to ever be worked on](#), but kept open in the event that a contributor might want to tackle it.”

Tech Debt (CTO Strategy)

- “One of the things that can frustrate engineers is when there is a lot of technical debt in a product, and even bug fixing will be very painful. The [Product Manager can periodically make items that fall into this technical debt category for installments](#). It’s also crucial to your engineers’ sanity and your relationship with them to do so regularly.”
- “Product managers and engineers must sometimes agree to make tradeoffs. The team may sacrifice quality of code in order to deliver faster. The code delivered comes with limitations. It may be hard to maintain or not scalable. [It will require additional work](#). This work is what engineers refer to as tech debt or refactoring.”
- “Completely separately [there may be tech related tasks that do NOT roll up to a user story but are things developers want to do for the health of the code base, to move faster, to scale a system, etc](#). We call these enablers, I’ve heard different names for them though.

These should be prioritized with user stories and other customer facing work and the team and leads should have some agreement and visibility as to how much effort per sprint, month, quarter is going into customer facing user stories vs tech enablers.”

#### Search Applications

- “[Legacy rules systems](#). I think all systems need rules, but If you can't tell me when the rule was written, the author, how often it has been applied and other metadata, you are asking for a steaming pile of garbage in your search in no time. Same goes for your queries (effectiveness), your #machinelearning models and your field mappings/data modeling. Ver. Ctrl FTW!”
- “Old versions of the engine, clients, etc. Trickier, but effective [patch mgmt and upgrades](#) are a must these days for both performance and security.”
- “[Outdated training data and gold standards](#). Seriously, when was the last time you reviewed your train, test and validation data for things like bias? Outdated configurations and system settings related to indexing, searching, sharding, performance, etc.”
- “[Lack of docs, runbooks, backup plans, disaster recovery](#) etc. Not sure if these are tech debt per se in the traditional sense, but they sure feel like it to me when you consider tech debt is often incurred when one takes a shortcut.”
- “Ofc, the worst tech debt is the [mental tech debt](#) I see many folks carry around, esp. as they spend longer and longer with their system. It tends to sound like "this is how we've always done it" or "but this works" (does it though?) or "that's too hard to change". I get it, you're tired of the hype of new tech or you've misunderstood what "boring tech" actually means, but srsly, you're a technologist! Just like you invented new ways of doing things "back in the day", so have other people TODAY. Maybe it's time to upgrade your thinking?”

#### Unit Testing // Programmer Test (Engineers)

- “Only [programmers do unit testing](#), which is no concern to software testers (QA team).”
- “Unit testing is a type of white box testing performed by programmers [at the source code level](#). Software testers (QA team) should have no concern about it. A more correct term for ‘Unit Testing’ would be “Programmer Test” (I didn’t invent this term, I read it from a book. Pitifully, I forgot the name of that book).”
- “A software product that passes comprehensive programmer tests (i.e. unit tests) can still fail on many functional tests. That’s because unit tests are from a programmer’s perspective, and functional tests are from a user’s perspective. [A unit test is a type of automated test](#). You must have heard of the xUnit framework. JUnit, created by Kent Beck and Erich Gamma, kickstarted the unit testing revolution in 1998.”
- “[A test is not a unit test if](#):  
It talks to the database  
It communicates across the network  
It touches the file system  
It can’t run at the same time as any of your other unit tests  
You have to do special things to your environment (such as editing config files) to run it.”
- “A programmer shall always [run and pass all the unit tests before he checks in the code](#). It is possible as the execution of good unit tests is fast. I remember that in 2006, my team created ~1800 JUnit tests (mostly done by me) which took about 6 minutes to run. There was room for improvement ( Computers at that time were quite slow).”

#### Regression Testing (QAs)

- “The use of regression testing usually arises when there is a need to change the code and



[we need to test whether the altered code impacts the other parts of the software application](#) or not. Besides that, regression testing is required when a new feature is introduced to a software application, as well as for deficiency and productivity issue resolution.”

- “Regression testing needs to be automated and [run in a Continuous Testing server multiple times a day.](#)”
- “Regression Testing in software means “re-running functional and non-functional tests to ensure that previously developed and tested software [still performs after a change](#)””

Selenium (Automated Regression Testing)

- ““Facebook is released twice a day, and keeping up this pace is at the heart of our culture. With this release pace, [automated testing with Selenium is crucial to making sure everything works before being released.](#)” — from the presentation of Damien Sereni (engineering director at Facebook) at Selenium 2013 Conference”

Refactoring

Refactoring is a process of improving your codebase without creating new functionality. It helps you clean up your code and simplify design. Refactoring is a way of removing or decreasing technical debt.

Code Quality

Code Cohesion

Churn

Product Planning

Yearly Planning

- “...now, [once a year, Tobi \[Shopify’s founder and CEO\] sets themes for the year.](#) This year there were six that reflect top-level priorities. They’re always written from the point of view of the merchant. We try to imagine a Shopify merchant writing an email to a friend where they say, “Here’s why I love Shopify, and here’s why I’m going to keep using it for my business.”... So that’s kind of the lay of the land in terms of planning. Themes once a year, which gets translated into a six-month plan, and then there are four six-week cycles inside each half.”

H1+H2 Planning (6 months)

- “Once we have Tobi’s themes, one level lower within each top-level team (e.g. Core), we think about the ways we could measure our impact against those themes. We come up with what would end up being called an objective or something that smells a bit like an OKR (though we would never say that here). That [turns into a rough six-month roadmap.](#) This aligns with our twice-yearly releases, Shopify Editions, which are our big releases with hundreds of improvements, features, and products.”

Quarterly Planning (align with your North Star)

- “Quarterly and shorter term planning [I always refer back to our north star in our strategy to make sure it's aligned.](#)”

Sprint Planning

## **Ceremonies**

Meeting Blueprint (Running Effective Meetings)

Is a meeting needed?

- “My first rule of meetings is; [if you don’t need to have it, don’t have it!](#) Or if you don’t need to be there, simply decline. I do two things to eliminate meetings as much as possible: I plan the night before. I look through the next day, and decline meetings where

I have no clear role or where I am not going to learn something crucial. When in doubt, decline! Why is that? That is because if you really are needed, the organizer will reach out and ask you if you can attend. Yes, this involves putting more burden on the meeting organizer, but organizing meetings should carry this burden. An alternative (especially applicable for 1:1s) is that you ping the other person you are meeting with and ask if you really need to attend. Take a second pass in the morning. Ask yourself a question; if you lost half your day to some personal emergency, which meetings will you cancel? Then see which ones came up as candidates and use your judgment”

Define Meeting Owner

Involve the Right People

Define & Follow Agenda

- “[“When you begin your meeting, display your agenda](#) on screen and verbally run through the agenda with all attendees, and ensure that folks are ready to tackle what you’d like them to tackle.”

Set an Objective (Define Success)

- “In general, there are [four main purposes that meetings can have](#): Make a decision; To get to common understanding; To get various perspectives to solve a problem; To get buy-in”
- “If you are organizing a meeting, you define what success looks like. Complete this sentence: [“I would love it if by the end of this meeting we are able to....”](#) State that upfront. Put it in the agenda. Yes, there is a good chance that nobody would have read the agenda, but for the people that do, they can make a more informed decision on whether to attend or not.”

Make a Decision

Get Common Understanding

Get Various Perspectives to Solve a Problem

Get Buy-In

Document Meeting

- “Write up your meeting notes as soon as you possibly can, to minimize the information that you forget. Ideally, you’ve been [taking notes throughout the meeting and can simply flesh out your outline](#).”

Email Meeting Notes / Outline (if applicable)

- “Once your notes are complete, [send out an email to your attendees with only the action items, owners, and deadlines in the body](#) — this keeps your email crisp, memorable, and actionable.”
- “Note that [the email is short and sweet](#), even though the meeting likely lasted many hours as we held multiple debates on pricing strategies and downstream impacts.”
- “[Here’s an example email](#): *Hi all, Thanks for discussing our proposed pricing model today. We decided to raise prices by X%. Next steps: Betty to run financial model by next Friday to confirm findings; Janet to provide updated marketing collateral with new prices by Sept 15; Annie to mock up new product plan option selector by Sept 8; Full meeting notes are here: [notes.org.com/notes-08-12-2018](#); Thanks, Clement”*

Action Items (Takeaways)

- “First, [summarize the key takeaways from the major discussions that happened](#). For example, why did you collectively decide to set a particular price point? Why wasn’t it at a higher price or a lower price? By summarizing these key takeaways within the meeting, you ensure that all participants are on the same page. Be sure to ask the room, “am I missing something from this summary?””

- “Oftentimes, you’ll find that various stakeholders wound up with incompatible conclusions at the end of the meeting, and that you need some additional time to bring them back to the same conclusion. That’s why [asking “am I missing something?”](#) is incredibly valuable.”
- “Once you’ve summarized the meeting verbally, [talk through action items and note each one down on paper or on a whiteboard](#). Once every action item is covered, ask “am I missing something?” You don’t want to call another meeting later just to figure out a missing action item!”
- “[Capture and assign action items](#). Clearly state what still needs to be done, who needs to do it, and by when will it have to be done. Consider distributing the action items in a follow-up email.”

#### Gather Feedback

- “Collect feedback. [Ask people how valuable and enjoyable the meeting was and if there is anything that could be improved](#). You might invite every attendee to briefly share their views with the group, or you might collect the data via an online feedback form. Don’t forget to evaluate the feedback to make the next meeting even better.”

#### Feedback Form

#### Group Sharing (Public)

### 0: Product Strategy 3-Day Session (*do all the above as a team*)

#### Product Strategy Planning Meetings (3 Days)

- “[I usually have strategy sessions of three days](#). I’ve tried to do it in two days. That is the absolute limit because I think you need to create white space for just the magic to happen. But I usually use a framework that it’s literally what I call the narrative structure. So when we get into the conviction part, the clarity is the problems to solve. The conviction is the narrative. The framing of that conviction is insights, strategy, big rocks.”

#### Who Attends?

- “I always have four folks. So it would be depending on the level of the strategy, it usually be product, my engineering partner, my design partner, and research. Got it. So it’s the leaders of the team. [The leaders of the team](#). And depending on the org, I’ll bring in data science because at Google we have a more shared data science resource. So I’ll usually invite them as one of the partners.”

#### Day 1 - Insights (Surface the Problems)

- “So [the insights day is just focused on understand work](#), these five problems, actually using the app, doing teardowns of other apps. It’s just like a day of understanding. So the Google design, they ask the experts. In a way I’ve given the experts a template, that’s what I’m doing basically.”

#### Day 2 - Strategy (Prioritize the Problems)

- “And then the second day is where we now go into the strategy [of all the problems we’ve seen, the 10, which are the ones we want to focus on in which order?](#)”

#### Day 3 - Big Rocks (What are the biggest problems we’ve discovered?)

- “And the big rocks are not a laundry list of 20 things because if I asked you to make me a cocktail, you would put ice in first. Then you would pour the drink. You would not put the drink and then put the ice or it will splash and it’s messy and that’s how an endless roadmap looks to me. So [it’s like 3, 4, 5 things that anyone can remember that are the biggest things that if we land, this gets us closer to solving the problems](#). Then every

other little thing is around. You can fill that around. That's the sand around the big rocks.”

#### Common Meetings (Essential Meetings)

##### Daily Standup (Huddles, Daily Scrum, Morning Roll Call)

- “As the name indicates, these are daily meetings and are chance for the team to get together and for individuals to [highlight their progress, indicate what they’re going to be working on next, and flag up any issues that might impeded their progress](#). These are sometimes called huddles, daily scrum, or morning roll call. They’re short sessions (maybe only 30–60 seconds per team member) and should stay focused. If something needs a more in depth discussion then it gets discussed outside of the stand-up.”
- “From a [PM perspective, your job is to highlight anything that you’ve been working on that is going to impact the team](#) (for example, you’ve had a conversation with a stakeholder and a requirement has changed and action is needed), and also you can be there to help clear any of the impediments that the team faced (for example, they’re developing a feature and a scenario that hadn’t been considered is found and guidance is needed on how to proceed).”
- “The daily standup is a very short (10–15 mins max) meeting conducted at the start of the day to [share the day’s agenda, priorities \(releases, urgent requirements, setbacks\), bottlenecks](#). Daily stand-ups are usually conducted by the Product team or Project team. Some companies also ask the tech team to be part of this meeting, otherwise, it is mostly product and project managers sharing their daily updates with the rest of their team”
- “The purpose of this meeting is to keep everyone aligned on an everyday basis, address any bottlenecks or crises quickly, do any resource alignment if required, but most importantly this meeting sets the tone for the rest of the day. Many a time [further meetings are branched out with the required team members based on this standup](#). The daily standup is an essential meeting for companies following Agile, but even if your company does not follow Agile, this meeting can be very helpful in managing teams and tasks and staying on top of everyday progress, issues, bottlenecks”

##### Agenda

##### Discovery Updates

- “Give discovery updates in your daily. While this may add five minutes to each daily, [it gives your discovery work the attention it deserves](#). It also allows everyone in the team to contribute with questions and ideas (don’t forget the lessons I outlined in step two of this guide).”

##### Setup Story Splitting (Story Time)

- “This means story splitting should be viewed as a whole-team activity. That doesn’t mean the whole team has to be involved in every split. Rather it means that splitting isn’t delegated to one or two people on the team who do it for every story. Instead two teammates may join with the product owner to split a story or two. Later another team member and I might help the product owner split the next story. My preference is for splitting to be discussed in a daily scrum. The product owner may show up, for example, and announce the need to split 3 stories in the next day or two in preparation for the next sprint. A few developers indicate they’re available to help and [a time is chosen right then during the daily scrum](#).”

##### Sprint Tasks (Ongoing Priorities)

##### Bottlenecks

##### Sprint Planning

- “[Right before the sprint kicks off](#) (eg; assumes design is done): Product Manager defines

scope and priorities; [optional] Engineering Manager assigns the work out (not necessary if the team can self organize)”

- “[Announce upcoming discovery work during sprint planning](#). You’ll want to keep this meeting short and efficient. So, instead of doing the discovery planning in it, have a plan ready and announce it to the team before you get to the detailed delivery planning. Knowing what is coming up, and where certain engineers might be required to help, will put delivery work in perspective.”
- “With our team, I (PM) just make sure that the priority is being followed and [rely on EM and the team to decide on who does what based on their expertise and interests](#). We already discuss scope in refinement so this is just assigning stuff at this point of time.”
- “[Dev team drives the sprint planning](#), primarily led by the scrum master who closes the previous sprint and works with the team to plan tasks for the subsequent sprint. The role of a scrum master should be taken up by one of the dev team members.”

Define Sprint Objectives (set by Engineering Manager or Tech Lead)

- “A sprint should have a [one or two-sentence goal that summarised the key deliverables](#) for the iteration. We can use the sprint goal as a celery test to identify if a task should or should not be included in the sprint. Working towards a goal rather than a backlog leads to more complete solutions removing the “that’s not my job” mentality that can arise if looking at the sprint backlog as an explicit task list. This is especially true if tasks in the backlog are already heavily architected and geared towards implementation.”

Backlog Refinement (Grooming, Feature Review) Story Time // Story Splitting

- “Holding a weekly planning meeting where you throw a bunch of ideas at the engineers — and demand they give you some sort of estimate either in time, story points, or any other unit of effort—is almost certain to go badly. If you put an engineer on the spot, without time to investigate and consider, you are very likely to get a conservative answer, partly designed to make you go away.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “If, however, the engineers have been following along as the team has tried out these ideas with customers (using prototypes) and seen what the issues are and how people feel about these ideas, the engineers have probably already been considering the issues for some time. If it's something you think is worthwhile, then you need to give the engineers some time to investigate and consider it. The question isn't, “Can you do this?” Rather, you are asking them to look into it and answer the question, “What's the best way to do this and how long would it take?” The engineers will sometimes come back and say they need to create a feasibility prototype to answer one or more of these questions.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Otherwise known as Backlog Grooming or Feature Review, this is a periodic session with the [focus on the team reviewing the upcoming new product features to prepare them for being worked on](#).”
- “This involves the Product Manager [discussing the feature, highlighting the goal of the feature and how it is intended to work](#). The team then has opportunity to ask questions, raise concerns, suggest approaches, and it is also an opportunity to put an effort estimate on the feature (in time, story points, or t-shirt sizes depending on your preference).”
- “From a PM perspective, [your job is to get across the purpose of the feature so that the team can understand what it is that they would be delivering with this work](#). You will be responding to questions and adjusting the feature description / user story as feedback dictates. By the end of the session you’ll have better formed features, with a clear



indication of how long it 'might' take to deliver, which will support in prioritization and planning."

- "The refinement stage is where [the whole team gets involved in breaking down the epics created in the discovery phase](#). Ideally, during this meeting, the team should be equipped to take a deep dive into the code and investigate the impact of the integration into the current system. Breaking down a multi sprint task into the smallest functional outcomes that can be delivered independently."
- "The outcome of this session should be: more items in the Product Backlog are understood to a level of understanding which the team can work with them. In other words, the team has [talked, discussed, understood the problem, and know-how to approach it](#), so that it can be forecasted towards the next feasible Sprint. Achieving that is easier said than done. Unfortunately, many Product Backlog refinement sessions are very far from achieving this goal."
- "[Do not bring solutions](#): The Product Backlog refinement aims to get the problems discussed with the Scrum Team, which means the solution is defined together. That is how it should be, but unfortunately, many Product Owners come with the answer already established. From the Development Team's perspective, this is exceptionally demotivating because they don't have a voice on the solution, and they don't even know what problem they are solving. I've done that couple of times. Therefore I learned the hard way what not to do. I heard sentences like "We need to know the problem, otherwise how can we solve something we don't know?" that makes total sense. That's the reason we should always start with why, then we can go the what and how, if we invert this sequence, it will be counterproductive and disengaging."
- "[Do not split User Stories into implementation tasks](#): Breaking User Stories into technical tasks is another problem, unfortunately, which is not understood by many teams. A lot of times, developers want to split the User Story according to the technical boundaries. This approach is a mistake because each User Story must deliver value to the end-user, if you divide it into technical boundaries, then you are misusing it. You will not get the benefits of the User Stories."
- "To help determine a rhythm for this iterative process I find the rule of having [roughly 3 Sprints of work in the backlog ready to be picked up](#) surprisingly valuable. It feels like a rather artificial rule, but it is effective, as it creates a very good balance between having a work buffer and not investing too much time on work that may have to be reviewed due to changing requirements and new insights."
- "Set a goal for each session to tell the team. [Send out a list of stories you want to groom ahead of time](#) and ask the team to review and come prepared with questions, tasks, hours, etc."
- "Mark, you are absolutely correct that the PO has final say on the backlog and execution is owned by the development team. This doesn't mean that the development team doesn't have input or say. They should absolutely advocate for things they think are important. However, the Scrum Guide is very clear that: "[The Product Owner is the sole person responsible for managing the Product Backlog](#)." It also has this to say about the product owner: "The Product Owner is one person, not a committee. The Product Owner may represent the desires of a committee in the Product Backlog, but those wanting to change a Product Backlog item's priority must address the Product Owner.""
- "The backlog grooming which is a continuous process and should take 10% of your sprint's total allotted time, traditionally 10 day sprints are followed, should be driven by a

Product Owner (this role can be taken up by a Product Manager or a Business Analyst) who is a part of the scrum team, [in these meetings the user stories are refined with the team and impact assessment is made by the Engineering leads with the PO](#), the team helps the PO in refining the acceptance criteria and documenting edge cases and scenarios. The stories should have well defined acceptance criteria and definition of done clearly laid out for it to be taken into the planning. While development Product Owner gets the doubts of the dev team clarified in terms of use case, functionality etc.”

- “This means story splitting should be viewed as a whole-team activity. That doesn’t mean the whole team has to be involved in every split. Rather it means that splitting isn’t delegated to one or two people on the team who do it for every story. Instead two teammates may join with the product owner to split a story or two. Later another team member and I might help the product owner split the next story. My preference is for splitting to be discussed in a daily scrum. [The product owner may show up, for example, and announce the need to split 3 stories in the next day or two in preparation for the next sprint](#). A few developers indicate they’re available to help and a time is chosen right then during the daily scrum.”
- “The ultimate [goal of story time is to develop a strategy for solving important user problems through the promotion of shared understanding](#). Story Time is an opportunity to discuss user stories that are coming up. Whether you’re looking at the next sprint, or just picking tickets out of your backlog that are likely to pop up sometime soon, this is a great opportunity to have a focused conversation about some work. our User Story, and your Story Time conversations, should address the following: What Problem you’re trying to solve; Who is experiencing that problem; Why it’s important to solve the problem for that user right now; Any particular Acceptance Criteria that users will have in order to consider the problem solved.”
- “Establish a cadence with design that leads eng discussions. I find that the best Story Time sessions, particularly those for teams that deal in user-facing interfaces, are built around visual cues like wireframes. As such, those [wireframes need to be ready in advance of Story Time](#), which itself happens in advance of the kickoff of development for any given user story. In order to achieve this, you’ll need to be on top of your game and develop a tight partnership with your designer, who’s responsible for developing their own shared understanding before running off to create their deliverables and perform user testing.”
- “- If a team has been stable -- meaning together for a while or long enough to have developed and shipped code a few rounds as a team -- then they can [use their typical velocity as an indicator](#) for skills and effort required for similar undertakings. Then things like time off and other commitments are taken out to form that sprint's capacity. Usually a scrum master can assist with the estimation.”
- “Product Managers need to [assess the contribution time of each stakeholder](#) behind the product and then come up with a feasible timeline.”
- “Estimation [relies on knowing your team well](#). Estimation as a product manager should go beyond the development team and include other teams also affected by a feature release, such as marketing, sales, and support. How do you estimate for so many teams? Well estimation is a ballpark figure. This is why as a PM you’re looking at how various teams might be affected, but each team then can do their own time estimation (or timeboxed estimation) based on the amount of work they already have pending.”

Who Attends?

#### PM (Meeting Owner)

- “The Product Manager leads this discussion. [They’re the one responsible for nominating tickets to be discussed](#). The engineering team may have tickets that they’d like to discuss too, but ultimately it falls on the PM to lead. As the person running the meeting, the PM is responsible for keeping the conversation moving, ensuring that follow-up topics and next steps are identified. The PM is also responsible for their team developing the shared understanding of upcoming work necessary for it to get done the right way. This includes presenting acceptance criteria and its context, answering questions, and following-up to ensure that good ideas are captured and addressed.”

#### Tech Lead & Engineering Team

- “The [developers role in a backlog refinement](#) call are the following:  
Clarify all the doubts regarding the business logic and requirements. Make sure the items being refined are 100% clear to them; Define what will be the implementation strategy of the items being refined; Question the product manager on what is extremely necessary for a first release (must have) and what can be broken in smaller stories and prioritized for future iterations (should have); Map if there is any definition, dependency or blocker that needs to be solved before the story can be considered ready to develop.”
- “The Engineering Team, (hopefully) led by an Engineering Lead (go figure), are [responsible for asking questions which help to develop the shared understanding](#) we were talking about earlier. They’re also responsible for coming up with a technical solution that addresses the user story.”

#### QA

- “QA Testing is [responsible for establishing a testing plan for the work being designed](#). If you have dedicated QA test colleagues, lucky you, make sure they’re invited and are participating in the development of this shared understanding, otherwise make sure that whomever is responsible for testing (usually a combination of the previous three roles), is present. By understanding better who will be using the product, and in what context, your testing partners will be better able to ask critical questions and find edge cases as a result of putting themselves in your users’ heads.”

#### UX Designer

- “The Designer is responsible for ensuring a consistently high quality User Experience through the many iterations that are foundational to software development. This usually includes creating designs that describe the solution to the problem, and testing said solution with users. Designers [should be challenged to present their designs to the team during a story time discussion](#).”

#### Product Marketing

- “Product Marketing is [responsible for making sure that product improvements are communicated out to your customers and users in an accurate and interesting way that aligns with your company’s sales and marketing strategies](#). Keep in mind that not all users are outside of your company, and so it may be a good idea to invite anyone responsible for developing internal documentation related to your product to this conversation as well.”

#### Effort for Rice (T-Shirt Sizing)

- “This involves the Product Manager discussing the feature, highlighting the goal of the feature and how it is intended to work. The team then has opportunity to ask questions, raise concerns, suggest approaches, and it is [also an opportunity to put an effort estimate on the feature](#) (in time, story points, or t-shirt sizes depending on your preference).”

### Story Points

- “The most important part of this phase is [the team’s ability to accurately and consistently estimate the size of tasks](#). As an engineering manager, I would recommend using relative sizing following a fixed scale with an explicit description for each size. High-quality estimates allow you to more accurately determine the velocity of your team, which is a key responsibility of an Engineering manager/Scrum master.”

### Roadmap Review & Update (PM & Tech Lead, Designer (if applicable))

- “Commit to a biweekly or monthly routine [for your tech lead & product lead to review and update the roadmap together](#). Add it to the agenda of an existing meeting, or schedule a separate time.”
- “[Backlog is prioritized weekly by EM/PM](#); Backlog includes business value and rough estimates for each item.”

### Make sure the next 90 days are always up to date

- “When you meet, start by looking back. What happened in the last 2 weeks? Did you work on what was planned, or did distractions happen? What types of distractions? How long did they take? Then, look forward. Are your projects still accurate? Do all the projects for the next 2–4 weeks have designs completed? Should people start installing databases locally or reading architecture docs? If a project requires a specific expert’s time, do you need to block that out now? Is everyone going to an important conference or offsite where you won’t realistically get coding done?”

### Standup

- “In my group at Google, [we have a weekly meeting to sync up on each team’s progress](#). The meeting is structured around a document which each team fills in before, which has sections for Progress; Risks; Need help; Learning”
- “Team sync-ups are meant for you to [sync up with your assigned team to check on updates, any bottlenecks they might be facing, answer any queries, inform the team about upcoming tasks](#), etc. To put it, this meeting acts as a bridge between you and your team and helps you to keep in close communication with them”
- “It is absolutely essential that every Product Manager sets a regular schedule for this meeting and ensures that all the required people are present in this call, because being a PM you will be working with multiple teams and therefore it is important to get everyone together so that [dependencies can be discussed, bottlenecks can be figured out and everyone can stay on the same page](#). Many times, the team discusses important concerns with each other in these calls even though you might think that they will individually reach out to the other team members if required, but mostly that does not happen”
- “As a Product Manager, it is your job to be the connecting point in the team and ensure that the team communicates with each other. That is why it is even more important to keep the tone of this meeting very conversational and open. People working in your team come from different backgrounds and so you cannot expect everyone to share all the details and updates about work openly in the call. Therefore, create an environment where people can speak without any fear of judgment. It will help you to estimate timelines better or foresee crises. Remember, [most of the problems crop up because people do not communicate openly](#), if you are able to achieve this within your team, you will be way ahead in your career and life.”
- “This meeting will help you to [keep track of work progress, updates, timelines, issues, and communicate with your team regularly](#). Doing team sync-ups will keep you on top of your work and will minimize your possibilities of missing out on anything important”

- “Conduct this meeting with your assigned working team i.e. people who are working on the product or features that you are handling. This would [include people from the tech team, design team, UX team, Data Analytics, QA, Support](#). If certain people or teams are not working or not required for that duration, since there are no dependencies on them at that time, you can exclude them from the meetings. For e.g. — QA might not be needed in the call if there is nothing related to testing that is going on or even coming up in the next few days. Similarly, Design or UX might not be needed in all the calls.”
- “This meeting should be [managed and lead by the Product Manager](#)”
- “[Have this meeting twice a week — the first meeting at the start of the week and the second one towards the end of the week](#). This will help you to start, track, and wrap up each week’s task. Having too many team sync-ups in a week can affect the pace of work. For getting quick updates or sharing something with the team urgently, you can always use group chats on Slack, Google Chat, or any other messaging platform that your company could be using”
- “[Keep this call within 30 mins max](#). Long meetings wear down people and they lose focus as well. Section out the call, where the first 5 mins you can start with some light conversation, then move on to sharing any information or updates from your side. Then you can ask the team leads/members for updates. You can end the call with a recap of what was discussed and finalized in the call”

Progress

Risks

Need Help

Learning

Stakeholder Catchup (Stakeholder Feedback)

- “Some people would say that [stakeholder feedback sessions are the most important meeting for a product manager](#) to attend, however, without involvement in some of the other sessions in this post, you’ll have great understanding of needs but a reduced ability at delivering features that meet the needs. And you’ll notice that I’m referring to the people you meet as ‘stakeholders’ and not specifically as customers or users. The PM has a responsibility to all people with a vested interest in your product and its operation, not just the people who are end users of it. This might involve speaking to finance teams about payment options, customer support teams about frequent issues, marketing teams about upcoming promotions, or legal teams for compliance issues.”
- “As a PM your goal be to [meet these groups at regular periods to ensure you’re aware of their needs so that you can plan your roadmap and associated backlog](#). The more you know about what all your stakeholders need, the more you’re able to see common themes and plan accordingly.”
- “Business Stakeholders Catch-ups helps you to [maintain planned & regular interactions with the business folks, where you can share product updates, development progress, discuss issues or concerns that you have come across and you need their inputs, keep an eye on any incoming requirements](#), etc. Setting up a schedule for this will make it very easy for you to get the stakeholders to attend the meeting. Your stakeholders will have other priorities lined up and many a time they will skip this call unless you put effort to schedule this meeting on regular days of the months”
- “Try to have all your business stakeholders in this call, this will help to resolve any inter-departmental gaps or issues. Communication issues and gaps are a major concern in many companies, and this is precisely the reason why Product Managers exist so that



they can communicate with multiple stakeholder groups, bring them under the same umbrella, and give them that platform to talk, discuss, and sort issues. Your business [stakeholders would include but are not limited to Marketing, Sales, Operations, Finance, etc.](#) Keep the duration of the meeting within 30–40 mins depending on the agenda of the meeting”

#### Company Strategic Briefings

- “The final meeting type in our list is [essential for the product manager to understand where to focus their efforts](#). Without a clear understanding of the strategic direction of the organization it is virtually impossible for the PM to deliver real value for the business. Does the organization need to focus on reducing costs in the next quarter? Is new customer acquisition the key metric? Do we need to reduce a growing churn rate? Whatever the organizational strategic goal is will impact how a PM spends their time. If the goal is on reducing cost, then the backlog should be prioritized with activities that aim to reduce costs, not that might increase them. If you as a PM don’t know what the business wants to achieve you won’t know what to prioritize. If you’re organization doesn’t share this information then push to get it, because it will make your role infinitely more effective if you know what to do and why.”

#### Product Advisory Board Meetings

- “Many organizations don’t operate with a product advisory board, but in certain circumstances I’ve found them to be essential for longer term planning. They’re a [selection of your stakeholders that you go to on a regular basis in order to understand the bigger challenges that they’re facing in their lives](#), not just the issues that they have with your product.”
- “For example, if your product is all about showing where traffic jams are, your standard stakeholder feedback focuses on the ease of sign up, the frequency of the traffic data updates, the clarity of the messaging. For advisory group feedback you’re thinking bigger. You need to understand what other things drivers are looking to avoid, or why they’re traveling in the first place, or whether they’re open to alternative forms of transport. [Understanding these bigger questions allows you to seek out new product opportunities that are complementary to your current product.](#)”
- “PMs go into these meetings with [the sole purpose of understanding more about the day-to-day challenges faced by the stakeholders they deal with.](#)”

#### Sprint Review

- “If your organization operates Scrum, then you’ll be a participant in the sprint review; the ceremony at the end of a sprint that [allows the team \(and associated stakeholders\) to inspect the outcomes of the sprint activity.](#)”
- “The Product Manager’s [involvement does vary depending on the organization](#), and I’ve seen it where the PM leads the discussion by demonstrating the features that have been delivered, whilst in other organizations the developers demonstrate their own work.”
- “This session is a great opportunity for the PM to see the progress that is being made, as well as understand what else needs to be done, and plan for future activities. By the end of the session [you’ll have clear idea of what was achieved and where we need to go forwards.](#)”

#### Sprint Retro

- “Often included as part of the sprint review, a retrospective is a session at the end of a sprint that looks at [what went well during the sprint and where are there areas for improvement.](#)”

- “Essential for improvement in self-managing teams, I loved a retrospective session. For PMs and all other team members you have the opportunity to [raise issues and concerns](#) related to things that caused problems for the team during the sprint cycle. This could be anything from changing requirements, to inefficient systems or application downtime. Lack of knowledge, to under estimation and unclear user stories. Whatever it is there’s a chance for the team to take corrective action with the aim of avoiding repeated issues and improving output.”

#### Sprint Demos

#### Hack Days

- "There are many variations of hack days... one of my favorite techniques to quickly get a range of high-potential ideas that are focused on solving a pressing business or customer problem." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The goal is for the self-organizing groups to explore their ideas and create some form of prototype that can be evaluated, and if appropriate, tested on actual users." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "There are two major benefits to these directed hack days. The first is practical, as the technique facilitates the inclusion of engineers at ideation. I've mentioned several times in this book that many of the best ideas come from the engineers on the team, and we need to ensure this is happening. It should be happening on an ongoing basis, but this technique will ensure it happens. The second benefit is cultural. This is one of my favorite techniques for building a team of missionaries rather than mercenaries. The engineers, if they haven't already, are now diving much deeper into the business context and playing a much larger role in terms of innovation." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Directed Hack Day

- "In a directed hack day, there's a customer problem (for example, something is really difficult to learn and use, or it takes too long to do) or business objective we've been assigned (for example, “Reduce the customer churn rate” or “Increase customer lifetime value”), and we ask people from the product teams to self-organize and work on any ideas they like that might address this objective." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Undirected Hack Day

- "In an undirected hack day, people can explore whatever product ideas they like, so long as it's at least loosely related to the mission of the company." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Query Triage Meetings

- “On its face, a [query triage meeting](#) is quite simple: get a bunch of people into a room and discuss what makes a query have poor quality results, but if it was that easy, I wouldn’t be writing a blog post about it, now would I?”
- “Here’s how that works: We bring in people from multiple disciplines that have an interest in search — PM, engineering, data science, UX, CX, etc. We have a theme for queries for the week. [Each person in the meeting has a query they will investigate](#). They bring their own or the meeting lead provides them one. Each participant investigates what’s wrong with the query results, how the results happened, gives it some form of classification (a vocabulary will emerge over time), and a possible solution. Everyone discusses their query and what they found out. Often some people will have more insight on the customer side or the engineering side or the metrics side. That’s what we want!

Everyone should be discussing everyone else's query and helping to fill in the gaps. As time goes on, you'll be creating a list of problem query classes that can be addressed and some methods that might address those queries. You can also review those queries over time and ask "did we fix it?". Checking in to see if things have improved is an important step."

- "The big deal is that we use the query triage meeting as [a space to discuss the problems our search engine faces](#), categorize them, and prioritize solutions. Not every problem is equally important, not every solution equally valuable. This approach merges the human and statistical approaches to search. It gives us a tool to discuss what the problems are and what technology is available to solve those problems. Without that understanding, you will have problems in search of solutions and solutions in search of problems."
- "Relevance problems are generally identified anecdotally. "I ran this search, and it stinks..." is a familiar phrase to every relevance engineer. [The goal of relevance triage is to take those disparate anecdotes and collect them into meaningful classes of relevance problems that can be prioritized](#). The table below provides a reasonable template for collecting together anecdotes, with some examples. It contains numerous possible examples, but is in no way an exhaustive list. An additional column could be added for notes. It is important to realize that triage into Relevance Problem Classes will reduce the number of moles to whack, but won't prevent Whac-A-Mole development. To make continuous performance improvements requires a more structured approach, employing empirical methods to evaluate each possible solution."

## **Roles**

Technical Product Management: [doc](#)

- "Building [a strong foundation of technical skills](#) improves your ability to bridge technical and business domains, uncover implementation issues before they're in production, and improve your working relationships with your technical counterparts."

Product Team Structure

- "It is no different than dealing with engineers. [You tell the what and the why and step back. They will figure out the how](#). With engineering it is how they want to implement the code; with designers it is how they want to approach the problem to design a solution. Obviously, you have an opinion, and you should. Those can be discussed before/after depending on your comfort level with the designer and the problem at hand."
- "[The PMs job is to sell the business that "ABC" feature will help solve "XYZ" problem](#). The designers job is to understand "XYZ" problem, and sell the PM on designs that graphically direct a user to solve that problem."
- "[PM: Define the problem and the \(broad\) functional aspects of the solution](#). Designer: Design the actual solution. Engineer: Make the solution actually work. It should all be collaborative and as iterative as you can make it, but if you have to draw lines around it, that's my take."
- "The best way to work with product designers is exactly the same as you'd work with any other skilled professional - bring everyone together around a problem, then get out of their way to let them maximize their skills. The best Product Managers enable their colleagues to be better practitioners."

Leaders of Product Management

- "To ensure a holistic view of how the entire system fits together from a business point of

view (product vision, strategy, functionality, business rules, and business logic), we need either the leaders of the product management organization (VP product, directors of product), or a principal product manager. This person should regularly review the work of the various product managers and product teams, identifying and helping to resolve conflicts." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "...product teams don't do product strategy. Product leaders do product strategy. They need to do the product strategy... that is the job, is to make these strategic decisions, the focus decisions, the bets you're going to place. But then in a good organization, you give those bets to the teams and you really do give them latitude to figure it out. And honestly, it's been a while since I worked with Facebook at the time, but they had very good teams, very good product teams, serious cross-functional, serious engineers, serious product managers and designers, and they could solve very hard problems and that is what made them good. So I don't frame that as top-down. I frame that as product leaders doing their job and product teams doing their job." ~ [Marty Cagan](#)

#### CPO, VP of Product

- "...this role typically manages the product managers and product designers, sometimes the data analysts, and generally reports to the CEO. With some exceptions, it is important that this role be a peer to the CTO and the VP marketing." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...the VP product needs to complement the CEO. If you have a strong, visionary CEO, there may be some very strong VP product candidates that won't want the position because they know that, in this company, their job is primarily to execute the vision of the CEO." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The director of product management is really responsible for two things. The first is ensuring his or her product managers are all strong and capable. The second is product vision and strategy and connecting the dots between the product work of the many teams." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...the founder comes up with what problem do we want to solve at a broader level, what market are we trying to attack, and so there the thought was 'student loan process was broken, let me hire a team, let me get some funds, raise money to go solve it', at a company like google it might be the head of google photos, the vp, saying 'photo sharing and storage is broken, let me get 100 engineers to go fix it', so at that person they're basically putting a pillar in the sand and sort of [nailing the broad market we're tackling](#)..."

#### Team Development

- "The single most important responsibility of any VP product is to develop a strong team of product managers and designers. This means making recruiting, training, and ongoing coaching the top priority. Realize that developing great people requires a different set of skills than developing great products..." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "For this position, you need to ensure you hire someone who has proven ability to develop others. They should have a track record of identifying and recruiting potential talent, and then working actively and continuously with those people to address their weaknesses and exploit their strengths." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Product Execution

- "The product leader should be an expert on modern forms of product planning, customer

discovery, product discovery, and product development process, but execution also means that they know how to work effectively as part of an organization of your size." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Building Culture

- "A strong product culture means that the team understands the importance of continuous and rapid testing and learning... They understand the need for continuous innovation." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Director / Head of Product

- "The director of product management is really responsible for two things. The first is ensuring his or her product managers are all strong and capable. The second is product vision and strategy and connecting the dots between the product work of the many teams." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...the head of product is going to say to themselves, I've been told we're going to tackle the student loan process, [how should we do it? We'll build an online application](#) or a phone app or something else to go address and tackle this problem..."

#### Product Manager (Detective & Curator of Ideas)

- "Every business depends on customers. And what customers buy—or choose to use—is your product. The product is the result of what the product team builds, and the product manager is responsible for what the product team will build. So, this is why the product manager is the person we hold responsible and accountable for the success of the product. When a product succeeds, it's because everyone on the team did what they needed to do. But when a product fails, it's the product manager's fault." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "If the product manager doesn't have the technology sophistication, doesn't have the business savvy, doesn't have the credibility with the key executives, doesn't have the deep customer knowledge, doesn't have the passion for the product, or doesn't have the respect of their product team, then it's a sure recipe for failure." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...[the product manager's primary role becomes enabling experimentation as a seamless capability](#). At the core of experimentation is rapid prototyping."
- "Product managers are expected to be [experts in product research, ideation, road mapping, user stories, execution, and launch](#). Product managers must always put users first and ensure that the user experience is seamless and to achieve this, she has to work closely with engineers to explain clearly the product roadmap and product vision. Product success is highly dependent on a product manager that is able to take a product from ideation to launch."
- "[Product Management is about coordinating different teams and making sure that their decisions align with each other](#). A PM is a facilitator of effective decision making, not an overlord. Giving a PM such power also seems to remove the question of stakeholders. It's the PMs job to manage stakeholders, something I have spoken about at length."
- "As an ML PM, you can [help other stakeholders understand why building ML products is challenging and help address potential conflicts](#)."
- "For example, defining the data strategy is not the responsibility of data scientists. It's [a strategic decision that PMs and executives need to agree on](#) even before building ML products. Does your company have a defensible advantage in getting proprietary data required to train models against your competitors? Or are industry giants already dominating most of the data?"



- “...you’re not going to be training models, and you’re probably not going to be choosing the technologies that you use, instead what I want you to focus on is [creating clarity around the problem](#) you’re solving, and also set the success criteria...”
- “[Product managers](#) require wireframes more than anything for the purpose of inspecting the project. In this way, they ensure that the requirements are met during the project design.”
- “...like a product manager, like [what does a product manager on a search team do?](#)... A product manager on a search team is constantly looking at data trying to, lets just say at the query level, but it doesn’t have to be at the query level, could be at the user level or whatever, is trying to say here is the cluster of problems we have or opportunities, maybe it’s this kind of search, a search for colors and products or a search for this type of terminology, and then they have to have the ability to constantly do the analysis of that data, advocate for data that they need to get implemented, and then understand to some level when they work with their data and engineering team what are the experiments, like let’s think about half a dozen experiments that could treat this problem, prioritize and triage them in terms of reward, effort, tradeoff, and really plan out how we do those experiments, and when you do that planning it’s not just about planning the nuts and bolts of how we get this experiment in production, like we built this pipeline... it’s also how will we measure how we answer the questions about those experiments, and that’s a unicorn that is hard to have someone with all of those skills, but it’s also really essential to have a successful search team.”
- “...that’s a good way of putting it, [you’re a detective](#), you have to be a really good detective, and then you have to figure out where you’re going to go digging as a detective, maybe i need to set up a team of manual labelers because there’s something in our click that’s not quite right, or do something different with our click data, and it’s like you really have to be able to understand and appreciate the nature of your evidence...”
- “To summarize, until ML becomes the-way-of-the-world (and that day will come :)), until it’s obvious that we are as atomized and optimized as can be, describing data, ML and AI elements will remain complex. Therefore, Data ML PMs remain critical for the bigger picture. They supply the ability to fully understand and analyze the users’ needs, define lower level data features and algorithms, and “translate” and simplify, in order to [get the whole team on the same page](#).”
- “...and so the way to think about this when you’re doing the role well is [you’re the curator of great ideas](#), you don’t come up with the ideas, you’re simple curating them; great ideas come from everywhere on the team, from your engineers, from your designers, from your executives, from your customers, they all have amazing ideas, and your sole job is to not come up with the ideas, but to bubble up the best ones, and to make sure you have a process that’s soliciting the ideas from the best places, that’s evaluating those ideas in a way that makes sense, and then bubbling to the top the very best ones, this is what then makes your team inspired even though technically someone may own the decision, they feel like there’s a framework which enables them to move fast and make decisions in a great way...”

## Roles

### Principal Product Manager

- "Since the head of product is first and foremost responsible for building the skills of the product managers, a dedicated principal product manager is able to focus on the product itself and is readily accessible as a critical resource to all the product managers, product

designers, engineers, and test automation staff. If you use a principal product manager for this, he or she should be a direct report to the head of product so that everyone understands the importance of the role and the responsibilities of that person." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- "One is to stay as an individual contributor, which, if you're strong enough, can go all the way up to a principal product manager—a person who's an individual contributor but a rock-star performer and willing and able to tackle the toughest product work. This is a very highly regarded role and generally compensated like a director or even VP." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Group Product Manager (GPM)

- "The GPM is the actual product manager for one product team, but in addition, she is responsible for the development and coaching of a small number of additional product managers (typically, one to three others)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...the GPM model is designed to facilitate tightly coupled product teams." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Senior Product Manager

- "...you'll have the individual PMs, senior PMs... they'll think through, I'm working on this online application. [Let's build a feature](#) to make sure people can refer their friends to this online application, because we think our acquisition costs can go down that way..."
- "...a roadmap, that's the most important thing that you as a PM should control, your job as a PM - you're getting [paid to prioritize what features to build](#), so your job should always be to have a clear list of 'here's the prioritized list of things I want to do'..."

#### Junior Product Manager

- "...and then a junior PM might say alright [I'm working on this referral feature](#), let's make sure inviting friends is easy, so you can upload contacts, you can do things like that..."

#### Key Responsibilities

##### Value & Viability

- "...if you've been asked to solve these problems, that means you have to come up with a solution that's not only usable and feasible, which is what a feature team does, but is also valuable and viable. And that means you need a different set of skills that your engineers and your designers almost never have. That's not a knock on them. Those are very different skill sets. So now you need this person who understands the customers and understands the business deeply. That's where the product manager role came from. That's what they still at a good product company are responsible for. So that's a very different job. It's also if you have a person playing that kind of product manager, it is very unlikely they've got time on their hands to get in the face of the designer and start wire framing for them or start irritating the developers. They've got their own work to do." ~ [Marty Cagan](#)
- "And for people that are listening to this wondering, what are these skills that I need to build to be a real product manager? I think skills of a real product manager you often say it's mostly focused on value and viability... Value and viability is what you are responsible for as a product manager, just like an engineer is responsible for feasibility, it has to be a solution that can be built and delivered. But a product manager is responsible for value and viability. Another way I like to frame this is on a real empowered product team, product manager is a creator, not a facilitator." ~ [Marty Cagan](#)
- "A product manager is a creator and so there's this side-by-side creation with design and

engineering to come up with these solutions. Now, in order to do your job and represent value and viability, there are some real skills that are involved. First of all, you have to really become an expert on your users and customers. I know that I was not allowed to take the product manager role until I had visited 30 customers in person, 15 in the US, 15 in Europe. That was just the person who was coaching me. That was their rule. And all I know is those 30 customers changed my life because I thought I knew our customers and I really didn't. Another is you're supposed to be the expert on the data. How is our product being used? How is that usage changing over time? How is it being purchased? So that's big. Another big one is you are the person on the team that represents the compliance issues, the sales issues, the marketing issues, the financial cost issues, the monetization issues, go to market in general... legal constraints. This is all the product manager. Just think if you don't have this person on the team and you want to empower this team to make decisions, what are you going to do? You're just going to make it up? Or what they usually do is they call meetings with 20 stakeholders all in a room to try to decide these things, and now you've reverted to design by committee. So no, the product manager needs to bring this knowledge. They also need to bring deep understanding of the market.” ~ [Marty Cagan](#)

#### User Knowledge

- "...you need to become an acknowledged expert on the customer: their issues, pains, desires, how they think—and for business products, how they work, and how they decide to buy... This requires both qualitative learning (to understand why our users and customers behave the way they do), and quantitative learning (to understand what they are doing)." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Become your team's and your company's go-to person for understanding anything about your customer—quantitative and qualitative." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Data Knowledge

- "Most product managers start their day with half an hour or so in the analytics tools, understanding what's been happening in the past 24 hours. They're looking at sales analytics and usage analytics. They're looking at the results of A/B tests." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Business Knowledge

- "...the one that is often considered the most difficult by many product managers—is a deep understanding of your business and how it works, and the role your product plays in your business." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Constraints Knowledge

- "This means knowing who your various stakeholders are and especially learning the constraints they operate under... Succeeding in the job of product means convincing each key stakeholder that you understand their constraints and that you are committed to only delivering solutions that you believe are consistent with those constraints." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Convince them of two things: (1) You understand the constraints they operate under. (2) You will only bring to them solutions that you believe will work within those constraints." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Legal Constraints

#### Compliance Constraints

Financial Constraints

Marketing Constraints

Sales Constraints

Market & Industry Knowledge

- "This includes not only your competitors but also key trends in technology, customer behaviors and expectations, following the relevant industry analysts, and understanding the role of social media for your market and customers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...your industry is constantly moving, and we must create products for where the market will be tomorrow, not where it was yesterday." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Sharing Knowledge

- "Become an undisputed expert on your product and your industry. Again, share your knowledge openly and generously." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "It's also critical that you share very openly what you know about your customers—especially their pain—the data, and your business constraints. Your job is to bring this information to your team and then to discuss the various potential solutions to these problems." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Become a Domain Expert / SME (Subject Matter Expert)

- "They've [been working on this topic for a long time](#). They can answer any question about the field, the people, and the current approach (and often designed the existing methodology). They probably aren't familiar with most machine learning and algorithms."

Prioritize Projects

- "A product manager essentially has two jobs. [First, he needs to decide what to change in the product. Then he needs to decide when to change it](#). Every time a decision is made to modify the product (add, remove or modify a feature) is what I call a change. In fact, we can think of a product manager's job as an algorithm that takes tasks from the set of all possible changes and produces an ordering by priority. A good product manager will pick an ordering that delivers increasing value over time."
- "...in the US if you want to do some big research project at a university you go to a government agency and you give this big proposal and for these big bets it's almost like that where yes we have this side over here that's constantly evolving, whatever currently works, but then for these big bets you almost have to think about it in terms of we want to spend X amount of time researching this area to see if this direction works out and then as part of that you also have to be like these are the early tests, the prototypes, before we build the big thing to know if we should invest even further, and that's a tricky thing and that's something [a really good product manager can coach the stakeholders in thinking about these things as bets, not thinking about them as sure things that we know are going to work out...](#)"

Core Product Team Structure

- "I know that many people crave a recipe for structuring product teams, but I always explain to them that there is no recipe." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Team Size (*at least* 1PM, 1PD, 2-9 ENG)

- "The minimum size for a product team is usually two engineers and a product manager,

and if the team is responsible for user-facing technology, then a product designer is needed, too. Fewer than that is considered below critical mass for a product team. On the other end, it's really difficult for one product manager and product designer to keep more than about 10–12 engineers busy with good stuff to build." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Minimize Dependencies

- "A big goal is to minimize dependencies. This helps teams move faster and feel much more autonomous." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Product Trio (Small Council)

##### PM, Design, EM

- "Functionality, design, and technology are inherently intertwined. In the old waterfall model, the market drove the functionality (aka the requirements), which drove the design, which drove the implementation. Today, we know that the technology drives (and enables) the functionality as much as the other way around. We know that technology drives (and enables) design. We know that design drives (and enables) functionality. You don't have to look further than your own phone to see numerous examples of both. The point is that all three of these are completely intertwined. This is the single biggest reason we push so hard for the product manager, product designer, and tech lead to sit physically adjacent to each other." - Marty Cagan (INSPIRED: How to Create Tech Products)
- "A product manager is a creator and so there's this side-by-side creation with design and engineering to come up with these solutions. Now, in order to do your job and represent value and viability, there are some real skills that are involved. First of all, you have to really become an expert on your users and customers. I know that I was not allowed to take the product manager role until I had visited 30 customers in person, 15 in the US, 15 in Europe. That was just the person who was coaching me. That was their rule. And all I know is those 30 customers changed my life because I thought I knew our customers and I really didn't. Another is you're supposed to be the expert on the data. How is our product being used? How is that usage changing over time? How is it being purchased? So that's big. Another big one is you are the person on the team that represents the compliance issues, the sales issues, the marketing issues, the financial cost issues, the monetization issues, go to market in general. This is all legal constraints. This is all the product manager. Just think if you don't have this person on the team and you want to empower this team to make decisions, what are you going to do? You're just going to make it up? Or what they usually do is they call meetings with 20 stakeholders all in a room to try to decide these things, and now you've reverted to design by committee. So no, the product manager needs to bring this knowledge. They also need to bring deep understanding of the market." ~ [Marty Cagan](#)

#### Product Designer

- "In modern product organizations, [product managers and designers spend the majority of their time on discovery work](#). Their discovery involvement is rarely questioned."
- "UX Designers are [involved throughout the entire process of Product Discovery](#). Their participation spans from the study of the problem to the definition of the solution, while focusing on the best experience for the user. Part of their routine is to construct solutions alongside the team by communicating and aligning themselves with the Product Manager and development team, so they can address the interests of the user and the business



simultaneously.”

- “[UX / Graphic Designers](#) consider using wireframes when they want to create modeling, prototyping, or a new user interface. So for them, this is a preliminary process to work... The designer decides what goes in each place, and how users navigate through the house without breaking their little finger on the kitchen table. In other words, user flow is basically a series of interactions between the user and the interface, resulting in a smooth and silky path. Flow charts, history, and schematics work together to achieve the goal.”
- “A [designer generally creates wireframes](#). However, a PM will have to jump in once in a while to help out from time to time.”
- “The goal of the Hi-fi Mockup is to communicate what the users will see and what will be built. A [designer will generally lead this phase](#) while working closely with the developer and the PM.”
- “The Designer is responsible for ensuring a consistently high quality User Experience through the many iterations that are foundational to software development. This usually includes creating designs that describe the solution to the problem, and [testing said solution with users](#).”
- “Designers: Sit next to them! Include them from the beginning and when interacting with customers. Provide them with feedback, not your ideas! [Encourage them to iterate early and often as well as to explore alternatives](#).”
- “I am extremely passionate about Customer Discovery and UX, so I am always impressed by Product Designers. The way they talk with customers, drill into the underlying problems and walk away with quick, tangible ways to bring visions to life is mind blowing. A Product Design is more than a Visual Designer or Researcher; they are a superhero combination of both that brings strength to your product team. [I meet with my Product Designer multiple times a week](#). Early in the week we chat about upcoming goals, what do we want to learn this week, where are we stuck, or how can we best provide insights to the rest of the team.”
- “The Product Designer [needs room to breathe and test out ideas and designs to see what resonates best with customers](#). They need room to gather feedback and bring back ideas to the team to discuss feasibility.”?
- “Your product designer is there to work together with you [to fill in the blanks in your research plan](#), such as any additional user or process experience that should be asked (within the boundaries of the problem to be solved or idea to be proposed), user habits or behaviors that could shape the future design of your solution and any other potholes or gaps in your research or thinking that you might have missed out at first glance.”
- “Design — crucial in developing a digital product, a designer always has the counterpoint of representing the user in the day-to-day decisions. The PM considers all stakeholder’s points of view, but [the PD contemplate mostly the user experience and how to achieve the best solution possible in the user perspective](#).”

#### Designing Prototypes

- “...most of these prototypes are created by the product designer. Good product designers use prototypes as their primary canvas for communicating ideas, both internally and externally. They are generally comfortable with many different prototyping tools and are able to apply the correct one for the task at hand.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### User Testing

- “Good product designers are constantly testing their ideas with real users and customers.

They don't just test when a prototype or idea is ready; they build testing into their weekly cadence, so they're able to constantly validate and refine ideas as well as collect new insights they might not have been looking for... Product designers and their product teams utilize the opportunity to assess the value of their ideas." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Success for PD

- "Rather than being measured on the output of their design work, the product designer is measured on the success of the product. Given this, product designers have many of the same concerns as product managers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### EM, Tech Lead

- "Have a lead engineer, or engineering manager, take up [an active role with notable time invested in your discovery work](#)."
- "...any senior engineer is helpful because of the broad knowledge he or she brings that pertains to what is possible. However, a tech lead not only has this knowledge—and is responsible for helping to share this knowledge with the other engineers on the team—but the tech lead also has an explicit responsibility to help the product manager and product designer discover a strong solution." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "What's not okay is to have a team of engineers in which none of them wants to engage in discovery activities. It is for this reason that the product manager and product designer work most closely with the tech lead." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "Technical leads have the authority to [technically guide their teams to deliver high-quality products](#) in a committed amount of time."
- "The technical leadership role does not replace the role of engineering management, and [technical leads do not perform the following activities](#): Promising or issuing monetary rewards to their teams; Discussing salary with engineers; Promoting engineers; Dealing with their team's HR-related matters, which includes visa, travel, etc.; Performing performance reviews with engineers"
- "Tech Lead is the person who not only talks to developer or tech-savvy people within his team, but can effectively collaborate with multiple non-technical teams. For example, has some [awareness of how QA specialists work, their approaches, practices, tools](#). Can setup a healthy collaboration between DEV and QA team."
- "Tech Lead is the person who is responsible for the technical quality of the project. [Tech lead establishes and the Team agrees to adhere to a particular level of quality and policies](#), for instance, no linter errors, no failing tests, naming conventions, Git branching model, release cycles, modular structure, testability, following various software design practices and principles."
- "TL [partners with managers to help with decisions around](#) prioritization, execution, work division, sprint planning, goal setting, tech-debt management, etc."
- "e.g. to ensure smooth execution, a TL [might be asked to spend time in](#) organizing work on jira, clarify the definition of done for tasks, track dependencies, etc."
- "Your Lead Developer is typically an experienced developer who has demonstrated leadership skills to get them into this "Lead" position. Whether that is managing other developers, leading major projects or wanting to grow their skills with broader engineering work. Lead Developers have seen a lot in their time as a dev and can bring

that experience to help solve the problems the team is running after. [You should be including your Lead Developer as you're learning about your customer, your problem space and exploring opportunities.](#)"

- "Tech — the developers are vital, not only for the fact that they are directly involved in bringing the product to life but also because they ensure other critical aspects of the solution such as being scalable, reusable and maintainable (with few bugs). The [PM works closely with the Tech Lead to assure that the deadlines are met and the sprint is fulfilled.](#)"

#### Owens Tech Debt

- "Tech Lead is the person who [owns the Tech Debt](#). Tech Leads is aware of pain points, technical issues, tech debt (e.g lack of Continuous Integration, lack of Testing, lack of modularity, entangled project structure, high cost of adding new changes/feature in the particular subsystem, etc). He has a vision of what is the next issue to address, what is the level of urgency of each issue, and can come up with a technical solution/vision on how to address and fix those issues."

#### Everyday Tasks

- "Tech Lead is not limited only to technical, [tech debt or infrastructure-related tasks, he works with everyday product-related feature tasks](#), same to any other Team member. Otherwise puts himself at a risk of losing the feeling of the business/product side of the project. Losing either of those aspects — technical or business — is unacceptable for the Tech Lead."

#### Tech Lead is the Final Decision Maker

- "Technical leads foster consensus around technical directions and ensuring everyone has a voice in their teams. However, during a conflict, they have the authority to [make the final decision](#) to keep their teams moving forward."

#### Efficiency, Effectiveness of Code

- "Technical leads have the authority to use their best judgment to ensure that the team is [implementing the solutions most efficiently and effectively](#) in the given situation."

#### High-Level Architecture Discussions

- "Technical leads, in coordination with their engineering and product manager, [drive the high-level and architecture discussions](#) and ensure team members know the reasons for the technical decisions while actively participating in making them."

#### Who owns what?

#### Why [from the Product Strategy via *PM OR Product Leaders*]

- "...the why actually comes from the product strategy anyway. You don't even do the why. A product manager is a creator and so there's this side-by-side creation with design and engineering to come up with these solutions." ~ [Marty Cagan](#)

#### What [PM] (*likely with PD + ENG*)

- "Product answers the question "What?" — as in, what are we going to build in order to achieve the Business goal. The [Product vertical is responsible for creating a vision of what the product is actually going to be, and what it's going to do.](#)"
- "However, [the most successful organizations involve engineers deeply in answering the What? question as well](#). This is wise, because technical implementations — although possible — may be time consuming or difficult, which is to say, expensive. All application and feature development efforts have a set budget, so involving your engineers in answering the product (and design) question can make the difference

between doing things once and delivering on time and on budget, and reworking things that turn out to be too complex, and likely incurring a delay or an overrun.”

How [ENG]

- “How? is the central question of the Engineering vertical. Engineering takes the requirements and design from Product and composes application code (and usually remote APIs) to drive the experience. [Product Requirements are translated into technical requirements, then into implementation designs, and finally, functional code.](#)”

How [can also be “everything done previously” combined, which then is PM+ENG+PD]

When

1-2 Trusted Colleagues

- “...as you develop your ideas you should start pushing out to increasingly large share circles, so maybe you [have that 1 or 2 very close colleagues that you really trust their ability to look at something that's pretty rough](#), maybe look at something that you're going to throw away, you share the first version with them, and they'll give you feedback and maybe you'll throw that away, maybe you'll develop something new, but as you gain confidence and as it evolves you should be sharing with a broader and broader circle and as people are gaining passion and excitement about this strategy they'll start sharing it with other people to, and so about the time you get to a point where you're looking to bring your stakeholders along and move this into action they should already have heard of it, you should already be on the same page about it...”

Panel of Experts

- “...remember, it's not your job to have all the great ideas, [it's just your job to champion them](#), i know a lot of times we have this opinion that the product manager has to drive those ideas, but really you don't have to be the one to come up with them, so be more humble about that and [make sure you're working with the panel experts in your organization](#)...”
- “...one of the best places to look for ideas is within the minds of your own colleagues, I find that a lot of times in product we think we're responsible for having the ideas... but really your company is full of people who were drawn to work at that company, in that industry, and potentially have worked in other companies in that industry before, they're likely brimming with ideas and they're spotting trends with your customers, so [I recommend every product manager have a panel of experts within your organization](#), their go-to people that they trust that are identifying what's going on, so these are going to be people in the exec team, these are going to be people in product, likely user research, support, and everywhere throughout your company, just start to find the people that are talking about the pains that the customer has... you really want to understand what trends are going on and there's a lot of people at your organization that you might have overlooked that probably have that information and that insight...”

Additional Stakeholders

- “A stakeholder is [anyone within an organization who can offer useful advice about the product](#) and ultimately help simplify the design process. Additionally, stakeholders rely on the product's success for their own gain, either personally or professionally. Although these are normally high-level employees, stakeholders can be lower-level employees or even prominent users.”
- “When you start a task, [let your stakeholders know when you've started](#). If you plan to spend 10 days working on it, give an update after 3 or 4 days whether you are on track or not. Either way, the news will be welcome to your stakeholders and you will build a

better relationship with them.”

CEO, Business Owners, Directors, Managers

- “Each of Creditas’ squads is composed of either one or various Business Owners. I work inside the Acquisition team, and to us, the Head of Performance Marketing is the person who fulfills this role. The Business Owner [provides strategic business information and guidelines](#), as well as inputs that are valuable to Discovery, given their context and background working with the squad.”

CTO, VP of Engineering

- "They should be reviewing the architecture and systems design of all the software—both systems developed by your own staff, as well as any systems designed by vendors." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Tech Debt Strategy

- "They should also have a clear strategy for managing technical debt." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The main obstacle to rapid delivery is often technical debt, and it is the responsibility of the CTO to ensure that the company is keeping this at a manageable level and not allowing the problem to cripple the organization's ability to deliver and compete." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Product Marketing Managers (PMM) (GTM // Go-to-Market) – *Note: IF NO PMM exists THEN this role falls on the PM*

- "Modern product marketing managers represent the market to the product team—the positioning, the messaging, and a winning go-to-market plan." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "When you make products for businesses that are sold through either a direct sales force or a channel sales organization, it is a very significant and critical job to declare the positioning—by that we mean the market position the product must occupy, in addition to the messaging—digital/content assets, sales tools, and training that enable sales to effectively sell. If your company has a sales organization, and you don't have a product marketing partner, then this responsibility likely falls on you as product manager." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Product marketing is involved from the very beginning. They contribute to the creation of our product strategy and OKRs, so they're equally accountable for what we're trying to drive. When we review proposed roadmap epics in JIRA and bless the ones that we think will do the best job driving our OKRs, product marketing is a part of that; they can raise concerns/risks that we may not have considered, and on more than one occasion have steered us away from disaster (or toward something way better than what PM was proposing). [They are less involved during design, requirements gathering, PRD drafting, project planning, etc.](#) but become reengaged pretty early in the development process. We do launch prep meetings so that at the very least they know at least a month in advance what is coming, and for major updates they will have been involved long before that time. A huge part of product management, as I'm sure you know, is connecting the right people with the right information at the right time; keeping product marketing (or demand gen marketing, or whoever) abreast of what you are building, why you're building it, and when you expect it to release is a huge part of that.”
- “Similar to not being experts in tech, PMs are also not as heavily involved in marketing as many think. While the two disciplines are heavily focused on the customer, marketing requires its own skill set and its own guidelines. Knowing the customer is an absolutely



vital part or being a PM, but it doesn't mean you know how to create the perfect Facebook ad segment. [It's the job of the PM to be aware of how the marketing team for their product operates and what future campaigns will be run](#), but it is not their responsibility to have an overly hands-on approach. For example, a PM can ask to see a draft of the next email marketing campaign to make sure it's factual, but they won't be crafting the funnel themselves."

- "Marketing: [Work with them to figure out your go-to-market strategy](#). They help you with positioning. Include them to represent the market."
- "For those that are unaware, product marketing is one of the crucial pillars when it comes to delivering and marketing the work that your team has performed and completed. [As a product manager, you should be working as closely with your product marketer as you do with your product designer or engineers](#), so that they are not only informed about the new product or feature that you are planning to release but that they are also invested in the success of your new product or feature, which will motivate them to ensure your new product or feature gets the right and proper treatment, in terms of getting the best and most optimum publicity for the public market."
- "Often, [working with product marketing will take the following forms](#): Getting all of the GTM materials ready — this will likely take the form of a launch blog, marketing messages on social media platforms, collaborations with other vendors who are integrated with your new feature or product etc. Getting visual aids — whether reading or watching materials — for potential new users so that you can announce, detail and teach them on how to use your new product or feature. Aligning the messaging and materials for the launch of your new product or feature with the launch goals. E.g. if the goal or theme of the launch is, "Better user experience for all customers", ensure that you are highlighting a smooth and buttery user experience for your new product or feature for all potential and existing customers that may or may not be using your new product or feature."

#### Design Team

##### Product Design Leads

- "...the person or people responsible for the holistic user experience." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...at least one person must review everything going on with the product that is going to be visible to the user. You can't expect any individual product manager or designer to be able to have this all in their head." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

##### Customer Success Team // Customer Support Team

- "Recruiting can easily turn into a time-consuming task. To combat this, you can create a somewhat automated recruitment process. For B2C products: think about recruiting from your product (i.e. a pop-up that asks for customer feedback in return for a certain reward), social media, or with the help of your support team. [For B2B products: ask your customer success team](#) for support, or consider setting up a lead user pool where customers sign up to frequently participate in return for a reward. A lead user pool is something we built up at my former company NavVis. Many customers were surprisingly eager to join and hence, finding someone for an interview or shadowing session was not a problem any longer."
- "I would encourage you to [have a 1-1 with the support manager to get a "voice of the customer" report on a weekly or monthly basis](#). That way, you have a general idea of what customers main pain points are and what features they want in the product. Once

you start to build a rhythm / cadence of good customer feedback that gets built into the product 2 big things happen: Bugs are fixed and support volume goes down - cost savings for the company and less frustrated customers; Features get added which can lead to a more valuable product offering and potentially better reviews on external sites like AppStore, google Play, etc.”

- “Source user [feedback from users reaching out to customer support](#). Customer support learning can range from intention (“I wish you offered...”) to action (“I get stuck when I do...”), and from qualitative (individual quotes) to semi-quantitative (well-categorized customer support system analytics). For example, at The Knot I’ve learned through customer support which bugs cause surprising user pain, and changed product prioritization to both increase user delight and decrease customer service contacts quickly.”

#### Sales

- “Depending on the type and size of company that you are working at, your customer support and sales function play the crucial role of being the ‘face’ or sole representative for your company to a large number of accounts. [They will be the ones that will have daily conversations with customers](#), to truly understand the kinds of issues that your customers face on a daily basis and to inform them if anything newsworthy comes out of your company, if that comes in the form of new features, products or policies.”

#### Business Analysts

- “...it’s the practice of enabling change in the organization by [defining needs and recommending solutions](#)...”
- “Also known as pseudo product owner, [defines user stories and acceptance criteria](#), coordinates with scrum master, engineering and QA teams, aligns the team with PO’s directions to ensure product vision is delivered.”

#### Data Analysts – *Note: IF NO Data Analyst exists THEN this role falls on the PM*

- “If your company does not have any data analysts, then responsibility for this typically falls on the product manager.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “Analytics [assists the Product Manager on a daily basis](#), whether it be with the calculation of each initiative’s impact, updating each squad’s principal metrics, or helping explore problems during the Product Discovery process.”
- “I describe “telling a story with data” as [the ability to answer a business question and explain why it matters to the audience](#). The answer becomes a “story” when you’re able to “tell” how your results link to company KPIs and how changes in KPI trends impact the business.”
- “The reality is data analysts must manage expectations and prioritize requests accordingly. A common way to [prioritize requests is to have a stakeholder meeting to agree on requests to be started now versus later](#) by weighing the business impact. If your company follows the Agile framework and has sprint planning this makes the process easier. I always double the time it’ll take me to complete a request to account for any obstacles that prevents me from finishing in a shorter time.”
- “Let’s walk through a fictional use case at the ecommerce company. Marketing has noticed a recent drop in website visitors and would like you to research a possible cause. Website visitors ( awareness ) is at the top of the customer acquisition funnel and a common KPI to look at is website visitors by channel . You discover the visitor drop is from organic search and upon further investigation you discover there were website

changes that occurred on the day the drop started. On the surface this may not seem to be a huge concern for marketing and senior leadership to take notice and have fixed immediately. This is where your knowledge of the customer acquisition funnel will help build your data story. In addition to researching the cause of the visitor drop you also segment visitors and sales by channel. It turns out visitors from organic search make up 20% of all visitors to the website but they account for 50% of total sales. With this information you'll be able to [tell a compelling story to show stakeholders and senior leadership why the website should be fixed immediately](#)... A visitor drop may only cause marketing to notice but any impact to revenue will make senior leadership pay attention because it's an important KPI that affects the company. In addition to answering the question, you showed the downstream impact, why it was important to fix immediately, and the cause of the problem. These are all elements of telling a story with data that ensures your results are presented successfully. Now that you've seen an example of how to tell a story with data I hope this helps you craft your own data story."

#### Dashboard Development

- "I've found the best way to get stakeholder sign-off is to first create a prototype and then refine it based on feedback. For example, [if you're asked to create a dashboard you can create an initial version based on the requirements](#) and make suggested changes after showing to stakeholders. I managed scope creep by splitting additional requirements into phases. I stated the initial requirements were part of phase one and future changes were going into phase two. This satisfied my stakeholders and ensured sign-off because a phase two meant I would work on their requests at a later point."

#### Data Analysis

- "Goal setting is common in organizations to measure performance at the end of the year. Goals can be set by stakeholders or cascaded down from company goals. Knowing your stakeholder's goals helps you understand what defines their success. For example, if you're supporting a product manager whose individual goal is to drive user engagement and the company goal is to increase revenue then [your analysis should try to address the impact to those two goals](#). This will help your stakeholder understand the results and make informed decisions to meet their goals."

#### Hypothesis Validation

- "I'm about to hire a PA, and here's basically what I'm looking for:... Diagnose problems using available data. [Spot trends](#), help come up with hypotheses, and work to prove/disprove them."

#### EDA (Exploratory Data Analysis)

- "This type is intended to [provide new information to the audience that was previously not known](#). This may be in response to a trend the stakeholder has noticed and would like researched. Alternatively this can be showing data with new segments to identify opportunities for future growth."

#### A/B Test Results, Impact (Design Tests)

- "This type of story shows results that can be used to make a change that impacts the business. A common example are results from an A/B test. [Knowing the variant winner will help the stakeholder decide if they should keep the existing control version or implement the variant that had better results](#)."
- "In the past, [I've had product analysts to help me understand the results of A/B tests](#) or to compile business cases."
- "Measure success of products and features. Work with PMs to ensure that we have a

feasible measurement plan in their specs. Develop new metrics when needed. [Design, run, and interpret experiments and A/B testing](#). Basically, help to answer the "launch or not" question."

#### Model Feature Development

#### Data Extraction for ML

User Researchers – *Note: IF NO User Researcher exists THEN this role falls on the Product Designer*

- "The key to tapping into the real value that these user researchers can provide is to keep in mind that the learning must be shared learning. You need to witness the insights first hand." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "If your company does not have user researchers, then your product designer will typically pick up these responsibilities for your team." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

#### Search Quality Analysts

- "Google is hiring a new Search Quality Analyst who would work on fighting spam in the Google Search results. A new job posting by Google is currently accepting applications, the job seems to require you to be available to work on-site at the Mountain View, California office. Job details. The job description defines the job of a Search Quality Analyst as someone who "will be working to [measure and prevent inorganic user behavior through enforcement and development of our webmaster guidelines](#)." It also requires you to "support search ranking launches through qualitative and quantitative analyses." As a Search Quality Analyst, Google said, "you will solve problems across data sets, with the power of Google's technology to identify issues occurring in Google Search and related product areas." Make a difference. Google said this job will make a difference and have a "direct impact on users every day." Plus you will get to work "closely with engineers and other analysts to launch algorithms and lead efforts that improve the overall search experience." In short, you get to understand the search ranking algorithms in a deeper way and actually work on overall search quality."
- "Search Quality on the other hand [is the set of teams organized around tuning the algorithms in these vast systems to do their job better](#): launch after launch after launch. In the same steel factory analogy: Think of them as the designers that structure and restructure what happens to the steel and the parameters under which the steel gets made."
- "Search Quality folks [work on making the company's core products much better than what they are today](#) while trying to worry a little less about the operational, constructional and maintenance load on a day to day basis... Search Quality is more open ended but with a high risk of failure."

#### Data Science Team

#### Machine Learning Researchers

- "Secondly, once you have the right people, make sure that they stay connected with the rest of the company so we are all on the same page about what products to build. For example, [put your ML researchers in the same team with engineers](#) so the team can build early prototypes to test key functionality and iterate."
- "Because of the nature of ML products, we want to give ML scientists more time and space to explore and experiment. But we need to help the team stay focused on what customers need and are willing to pay for. That's why we need to [time-box the exploration and encourage the team to test the models early and frequently](#) from end to

end.”

## Data Scientists

- “This can simply be [providing the Data Science team with a ranked list \(excel sheet or otherwise\)](#) with all of the customer problems identified, and how you hope to address them. This gives the Data Team a clear foundation to begin their data explorations and POCs, and ensure that all conversations are couched in customer problems. You can even create a space for people to add comments, blockers, and POC proposals underneath customer problems, providing deeper clarity on these issues...”
- “A stakeholder can be dangerous for a project if they feel like they should be providing technical guidance, like asking the data science team to use a specific type of model. [The data scientists are almost always the experts on the technical solution](#), and an overly specific stakeholder making technical requests limits what the data scientist can provide as a solution. On the other hand, data scientists can be overly specific with their opinions on how the business should be run. The data scientists should be providing technical expertise and general recommendations for the business, but ultimately it’s the stakeholders’ responsibility to choose what to do with it.”
- “...a Data Scientist is a role where you know how to get the data, but you also know how to analyze the data, so a very analytical mind thinking about what insights you can gain from the data, it may not be writing code that will go into a product features, but it may be [using data science to inform the decisions that we make...](#)”
- “For example, defining [the data strategy is NOT the responsibility of data scientists](#). It’s a strategic decision that PMs and executives need to agree on even before building ML products. Does your company have a defensible advantage in getting proprietary data required to train models against your competitors? Or are industry giants already dominating most of the data?”
- “Data scientists juggle with data. More specifically, they derive insights from the vast amount of data available within the organization. Using their excellent statistical understanding, they conduct analyses and discover patterns and structures in data. They can [validate and present data-driven use cases and hypotheses](#).”
- “While [in smaller products](#), activities are covered by one role, e.g. the data scientist covers activities of the ML-engineer or the data product owner covers activities of the data product manager, roles need to be split whenever the product scales.”
- “Dave, a Data Scientist, is thrilled to get a customer-based problem! He [spends the next few weeks](#) reading new papers on recommendation systems, implementing a few that seem promising, and testing them offline. He uses top5 recommendations as his metric of choice, and finds that a cutting edge Deep Learning model performs the best.”
- “Building the Virtual Assistant poses several interesting data science, product, and engineering challenges... From the data science perspective, we need a customer intent taxonomy with comprehensive and mutually exclusive categories. Once we have the taxonomy, [we need to label data against this taxonomy](#), and finally select a modeling approach with a fast inference time (~100 ms) to ensure that interactions with customers flow as seamlessly as chatting with a live agent.”
- “Again, it’s not being a data scientist, [but listening to your data scientists](#) and understanding the tradeoffs. A data scientist isn’t going to tell you that your users’ chief goal is finding one perfect document or is finding a bunch of relevant stuff. That has to come from you, it’s a product decision... A search engine tuned to P@10 is going to be different than one tuned for MRR is going to be different than one tuned for DCG. Know



- what kind of search engine you are creating when you tune for each metric.”
- “One approach for setting expectations is to have data scientists present a range of potential outcomes. They can then [show stakeholders the data and models they used in their calculations as well](#), so that there’s transparency and understanding about why certain expectations are likely more realistic than others.”
- “This starts with a data scientist being clear about [their goals for the project; these should be in writing so that stakeholders have an understanding of your expectations](#). It also includes setting up regular meetings (e.g., weekly) or other forms of communication channels like Slack or email where you are available for questions from data science team members as well as data stakeholders on all levels within your organization and even outside partners who may not use formalized communications methods regularly such as telephone conversations.”
- “...data scientists might want to invite a stakeholder from one department (say product management) into the process as they’re [exploring how data can be used within their project](#). Once data has been gathered, visualized, collected, analyzed etc., this may mean inviting another person who doesn’t work closely with analytics efforts such as an engineer who will use data insights from your research to inform development decisions but hasn’t been directly involved in data science.”
- “Usually, a data scientist is given an abstract business objective, such as “use data to find out why new customer growth is down” or [“use machine learning to predict if a customer will use a coupon.”](#) These are business objectives in that completing the tasks will help the business, but they don’t provide clear data science steps to achieve them. In the first example, there may be many different ways to define “new customer growth” — you could use the number of people who make a new account or, alternatively, a first purchase. There are even more ways to run analyses on that data. It’s not obvious for a data scientist what approach is the best one to be taken, and different types of analyses have trade-offs for the business... As a leader, it is your job to help resolve these situations. You are the person who bridges the gap between what a request is loosely asking for and what a data scientist can actually achieve. You should ensure the data scientists have the best understanding of what the stakeholder needs truly are, and you should have a perspective on what the data science team is capable of handling.”
- “The data science team [which deals with developing machine learning based products will be](#) discovering and analysing data, defining features for the problem (feature engineering), selecting and optimizing algorithms and then putting machine learning into production for further testing. As a product manager, one should have a good grasp of the machine learning model development process.”
- “Focus on breaking down the core business pain-point so that your ML product can have the right problem and analytical fit. PM can work backwards from the expected business outcome and answer a few key questions like [\(1\) Why this objective? \(2\) What ML can do to address the Why? \(3\) What is the baseline KPI without ML \(4\) What is the output KPI from the ML product?](#) then move on for a discussion with a data scientist to check on the technical feasibility of applying machine learning onto the business problem you’re trying to solve.”
- “This can simply be [providing the Data Science team with a ranked list \(excel sheet or otherwise\)](#) with all of the customer problems identified, and how you hope to address them. This gives the Data Team a clear foundation to begin their data explorations and POCs, and ensure that all conversations are couched in customer problems. You can even

create a space for people to add comments, blockers, and POC proposals underneath customer problems, providing deeper clarity on these issues...”

- “...so first of all, we’re working more on this idea of how can we in a deeper way understand whether users are satisfied or not, so how can we go beyond optimizing for clicks, or optimizing for scrolls, so basically trying to have a tighter causation between the user actually being happy and [the thing that the model is optimizing for...](#)”
- “Once the [business & science stakeholders arrived at a consensus](#) that a business objective is something achievable through machine learning application, we could safely take this as a valid ML use case and move to the next point.”

#### Dashboard Development

- “When a [data scientist creates... a dashboard](#), a code package, or pretty much anything, they are creating a deliverable. As part of the work, there is an understanding that the deliverable will exist beyond the moment it’s created. Sometimes this is explicit: a dashboard is expected to be continuously viewed... The deliverable itself has to be maintained (the dashboard has to be always up and running... If data scientists are not putting effort into making sure their code and output is easy to maintain, over time you’ll find your team’s output getting slower and slower. Unmaintainable code and deliverables are a form of technical debt, and you need to keep an eye on it.”

#### Data Analysis

- “When a [data scientist creates an analysis](#)... or pretty much anything, they are creating a deliverable. As part of the work, there is an understanding that the deliverable will exist beyond the moment it’s created... Sometimes this is implicit: an analysis may have been done as a one-off request for an executive, but the executive may periodically re-review the results or even ask for it to be updated with new data... The deliverable itself has to be maintained... and the method of creating the deliverable has to be maintained (the code for analysis needs to be saved in case people have questions about how it was run). If data scientists are not putting effort into making sure their code and output is easy to maintain, over time you’ll find your team’s output getting slower and slower. Unmaintainable code and deliverables are a form of technical debt, and you need to keep an eye on it.”
- “Compared to other fields such as software engineering, it’s hard to tell in data science when something is considered done. In most cases, there is no clear definition of what “done” is:... [analyses can have more and more ways to slice data](#)... That said, for data science work to be useful, it has to be delivered to a stakeholder to use it, and sooner is better.”

#### Develop ML Model

- “...the feel of ML is very collaborative, you have to brainstorm often, your ideas are not going to come from you, it's probably going to come from the ML scientist, they're equal stakeholders to the product manager, what the ML scientist is going to do [once you've defined the problem statement and the acceptance criteria is he's going to come back to you with a model that's going to solve your problem](#), he or she will use raw data, convert it into training data, and then build an ML product that you could use, the ML scientist will also do a lot of offline analysis, this is basically trying to prove the ML model works in a non-production, non-online mode, on some of the past data, test data... to drive confidence that this model when productionalized is going to work...”
- “When a [data scientist creates... a machine learning model](#)... they are creating a deliverable. As part of the work, there is an understanding that the deliverable will exist

beyond the moment it's created. Sometimes this is explicit:... a machine learning model is expected to be rerun with similar accuracy... The deliverable itself has to be maintained... the model has to be consistently accurate), and the method of creating the deliverable has to be maintained... If data scientists are not putting effort into making sure their code and output is easy to maintain, over time you'll find your team's output getting slower and slower. Unmaintainable code and deliverables are a form of technical debt, and you need to keep an eye on it."

- "Compared to other fields such as software engineering, it's hard to tell in data science when something is considered done. In most cases, there is no clear definition of what "done" is: features into a model can always be further adjusted... and [there is always another possible machine learning framework to try](#). That said, for data science work to be useful, it has to be delivered to a stakeholder to use it, and sooner is better."
- "This is made worse by the earlier point that the desired outcome from the stakeholder may not be clear and achievable. [If a data scientist is tasked with making a model to predict if a customer will use a coupon](#) and every model the data scientist has tried to make hasn't worked, how is the data scientist able to know if one more try would work or if no model would ever work on that data? The work of a data scientist is to constantly try approaches until one works, but they have no way of knowing if any will ever work. So a data scientist has to balance "let's try more things" with "this is good enough and let's deliver quickly" without knowledge of whether or not more things would work better or even what good enough is."
- "Compared to other fields such as software engineering, it's hard to tell in data science when something is considered done. In most cases, there is no clear definition of what "done" is: [features into a model can always be further adjusted](#)... and there is always another possible machine learning framework to try. That said, for data science work to be useful, it has to be delivered to a stakeholder to use it, and sooner is better."
- "Practically, a data science leader should be constantly keeping an eye on how work is progressing and if things seem off track. You may have a situation where each morning you ask a data scientist how the work is progressing, and [each morning they say, "I'm still selecting features for the model."](#) It's hard to know at what point that goes from an acceptable amount of feature selection to a sign that the project won't be completed in time. As a leader, you have to find a balance where the data scientists feel like they understand the amount of time available and your expectations of them without feeling like you are telling them how to do their jobs."

QA (QE) Engineers // Test Automation Engineers

- "...what's not okay is if your company doesn't have test engineers, and your engineers don't do the testing either, and they are looking to you as product manager to do the quality testing. While it's true as a product manager you want to make sure things are generally as you expect before things go live (acceptance testing), that's a far cry from being able to release with confidence. The level of test automation necessary to release with confidence is significant and a big job." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "The Product Manager and QE should be checking in no less than bi-weekly to [make sure they are comfortable with the team's delivery goals and how the product should function](#). More often if your team is releasing code more frequently."
- "I'd also recommend [including your QE in as many design and discovery sessions as possible](#). It's great for them to understand where decisions are made around function and

keep an eye out for experience gaps. Catching these early in the process will remove a ton of headache down the road.”

- Test coverage: It is important to understand how much of your feature or app is covered by a given test suite. An 80% test coverage means that 80% of your source code gets executed when running the tests. A 100% test coverage is ideal, but only truly meaningful if the unit tests that make up the coverage are robust.
- Regression testing: New code can interact with pre-existing code in unpredictable ways. To catch any potential issues, tests are re-run even if they have already passed. Often, your QA engineer will select the regression tests to run. Those tests are mostly automated due to the frequency at which they must run.
- Test automation: There are countless tests to run with every release. To avoid having to repeatedly do this manually, engineers will automate the task. This is key for teams working in continuous delivery.

Program Managers, Project Managers, Scrum Masters – *Note: IF NO Program Manager exists THEN this role falls on the PM AND the EM (Tech Lead)*

- "Delivery managers are a special type of project manager whose mission is all about removing obstacles..." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "In a single day, they might track down someone in marketing and press them for a decision or an approval, coordinate with the delivery manager on another team about prioritizing a key dependency, persuade a product designer to create some visual assets for one of the front-end developers, and deal with a dozen other similar roadblocks." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "If your company does not have delivery managers—by whatever title—then this work typically falls to the product manager and the engineering managers." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

Product Engineers

- “There are typically two types of discussions going on each day. In the first type of discussion, you're soliciting their ideas and input for the items you're working on in discovery. In the second type of discussion, they're asking you clarifying questions on the items they're working on delivering to production.” - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- “With the business vision brought by the product manager, plus the solution design made by UX people — based on an understanding of the customer’s need or problem — [product engineering “builds” the product](#). To build it, they must not only do the programming but also define the technical architecture. That is, what infrastructure it will run on, which programming language is most appropriate, which database is most appropriate, how to ensure the non-functional requirements of this product (response speed, availability, scalability, etc.). It is also important to validate with the product manager whether the cost of this infrastructure fits his business model.”
- “Engineers: [Appreciate the complexity of their work and engage with them often](#). Share with them what you know about customers and their pains. Involve them with discovery and delivery questions. Give them space to figure things out. Make them feel like missionaries, not mercenaries.”

Senior Engineers

- "Make sure that members of the senior engineering staff are participating actively and contributing significantly throughout product discovery. If your engineers and architects

are only being used to write software, then you are only getting a fraction of the value from them you should be." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)

- “Identify those [engineers in your team who are interested in taking an active role in discovery](#). They can then get involved in your discovery work either on a rotating basis or split up by initiatives.”
- “When an engineer gets a new idea and develops a new algorithm, we test their ideas thoroughly. We have a team of statisticians who look at all the data and determine the value of the new idea. [We meet weekly \(sometimes twice a week\) to go over those new ideas](#) and approve new launches.”
- Pull request / Merge request: When satisfied with their code, your engineers perform a pull request / merge request. The merge is subject to a code review from the repository maintainers or code owners. They will often comment or request changes. Once sorted, the request is approved and merged into the repository.
- Peer review / Code review: After a pull request an engineer other than the author of the code must review it. This peer review best practice helps maintain quality standards and may improve performance. It also mitigates risk by preventing deployment of malicious or unwanted code.
- Tech debt: Product managers and engineers must sometimes agree to make tradeoffs. The team may sacrifice quality of code in order to deliver faster. The code delivered comes with limitations. It may be hard to maintain or not scalable. It will require additional work. This work is what engineers refer to as tech debt or refactoring.
- Service level agreement (SLA): Modern software applications are complex collections of services and systems communicating together. Often, third parties provide some of those systems for you. An SLA outlines the commitment the service provider has made to you. Your organization may also have an SLA if it provides a service to others.
- Unit testing: Unit testing is the testing of code to ensure that it performs the task that it is meant to perform. It tests code at the very lowest level possible — the individual methods of your classes.

#### Data Engineers

- “...they also need to be able to deal with scale, big data or lots of data, it’s working with systems for really large scale data, like big table or hadoop, and how you run these machine learning algorithms and data jobs on large sets of data, so that’s more on the Data Engineer side of things, [you know how to deal with those systems and get the data from point A to point B...](#)”
- “...the data engineer [works closely with the data scientist and ML-engineer taking responsibility for so-called data pipelines](#), which extract data from its sources and store it in the adequate concept. In most cases, they also own the data architecture and ensure the technical realizability of AI on the available technical stack.”
- “...our [data engineer came up with a data collection and event firing system](#) that are kafka based, so kafka can process streaming data in realtime and also service realtime feature data to the ranking system, they also have an API layer that allows our web application to send http calls to kafka without directly interacting with kafka...”

#### MLOps (Machine Learning Operations)

- “MLOps stands for Machine Learning Operations... Scaling has become a difficult process for data scientists, especially when it comes to transferring ML models from a development environment to a production environment. Additionally, stakeholders in an



organization are usually siloed across different teams with varying responsibilities. This causes an extended delivery time frame to implement a ML model to production. [MLOps was developed to optimize the ML lifecycle](#). The communication and implementation process between those stakeholders is streamlined and made more effective with MLOps...”

- “First, what are these challenges which make MLOps distinct from DevOps? [You should think of MLOps as an extended version of DevOps](#) as it tackles the same problems plus some additional ones.”
- “[MLOps aims to take control of both development and in-production issues in an organized way](#). To achieve that, there are some important functional building blocks to be adopted — as shown in the picture below. There may be more depending on the specifics of the industry or company but these are usually common across various use cases.”
- “[Pipeline management](#) allows you to version control the pipeline which controls flow of data from the input to the output. It should also log each run and raise a meaningful error if something bad happens. Here take a look at: Vertex AI Pipelines, Kedro, PipelineX, Apache Airflow.”
- “[Drift detection is a module that monitors the characteristics of the incoming data and behavior of the system](#). When the characteristics of incoming data deviate from the expected range an appropriate alert should be raised so retraining of the model can be requested (automatically or manually). If this doesn’t help, the alert should be escalated and the dev team should take a deeper look into the issue. Tools/services to consider: AWS SageMaker Model Monitor, Arize, Evidently AI.”

#### Machine Learning Engineers / Architects

- “Even though there will be a specialized ML engineer (or an entire team) responsible for the implementation, [as their PM, you want to be able to](#) articulate the user problems, business motivation and pros / cons of the proposed solution(s) in simple terms to other stakeholders in the team, leadership and to your clients.”
- “...our Machine Learning Engineers are not just sitting and writing algorithms in matlab, [they’re actually putting those things in production pipelines](#), so you need to be able to deal with real world systems with things failing, bringing things up, getting things working, so a good practical knowledge of software engineering is necessary...”
- “ML engineers [implement the AI systems](#). They have technical responsibility for the overall solution and manage the scalability, reproducibility, and overall quality of an AI product.”
- “[Developers](#) use wireframes to get a more tangible model of site functionality. This gives the developer a clearer picture of the elements they need to code. It is essential to highlight the type of development we are talking about; in the case of back-end development, wireframes can be low fidelity, while front end development requires a high fidelity wireframe.”

#### Scales ML Model in Production

##### Optimizes ML Model Architecture in Production

#### Frontend Software Engineer / Developers

- Library: There is a huge amount of ready-made assets and components available out there. All packaged with standard code neatly organized. They can save front end developers a considerable amount of time as they offer a great base to build on.
- Component: Libraries are collections of components. Components are individual pieces of functionality. Checkboxes, sliders, dropdowns, date input fields are all examples of

components. As your product grows, make sure to put processes in place to manage your own library of components.

#### Backend Software Engineer / Developers

- “In the Product Discovery process, the development team [contributes technical insights which explore the viability of business solutions or even proposes solutions which could only come from those responsible for building the product.](#)”
- API: Broadly speaking, an API is used when your app needs to communicate with another service. The API and its documentation determine how your app will be able to access the data held by the target service. I particularly recommend reading Perry Eising’s post on this topic.
- Endpoint: Simply put, endpoints allow your app to request specific resources from an API. When a request is sent to the endpoint, a response is expected. It carries the requested digital resource. Endpoints should be listed clearly in their API documentation.
- Salt: A salt is random data which is assigned to a password and which is used to hash that password. It is a method of storing passwords more secure than storing it as plaintext.
- Queue: Where you’ll be standing inside Pret for your morning coffee (Covid restrictions allowing, of course). Joking aside, queues are very much what they sound like. An ordered collection of items where the oldest item is at the front and the newest at the rear. Think about your printer queue.
- Stateful / Stateless: A stateful app stores data about its states from past sessions. In other words, a stateful app has the ability to remember exactly what data it held, when it changed, why and how. A stateless app on the other hand, does not store any information regarding its past states.
- Script: Programming often involves repetitive, systematic tasks. In such situations, you might want your team to write a script. A well written, clear set of instructions can automate most processes and save considerable time.

#### Develops APIs or Applications (that work w/ ML Models)

#### Verifies Model is Working Correctly

#### Search Relevance Engineers

- “...I haven’t once suggested that the PM is the ‘haver of ideas’ for the Search team. Often (perhaps mostly) [it’s the engineers who have the best ideas](#) of how to solve user issues...”
- “Engineers have the technical aptitude, but they don’t often get the exposure to real users (and real user problems) that will motivate them to solve those issues. You’ll notice that I haven’t once suggested that the PM is the “haver of ideas” for the Search team. Often (perhaps mostly) [it’s the engineers who have the best ideas of how to solve user issues](#). In order for that brainstorm to occur, the engineers have to connect with customers, understand users’ problems, and figure out how technology can solve those problems. That’s what is so powerful about the Query Triage methodology. Connecting technologists to user issues will invariably spark multiple ideas for what’s most important and how best to solve those issues. The goal for the PM is to get the engineering team to get their noses out of the latest WSDM paper and “fall in love with the problem.””

#### DevOps Engineers

- “...the DevOps engineer [builds the technical bridge](#) towards the digital product team. In close cooperation with its team members, they take responsibility for the integration part, test the data product end2end, and align with the technical team from the digital product.”

#### Lingo (Jargon)

- Continuous integration: Teams working in continuous integration merge their code daily

(or several times a day). This practice surfaces bugs sooner than with others. It also enables more automation and is a prerequisite to continuous delivery.

- Continuous delivery: Continuous Delivery is the ability to get changes of all types — including new features, configuration changes, bug fixes and experiments — into production, or into the hands of users, safely and quickly in a sustainable way.
- Microservices: Microservices is a type of software architecture. An application built as microservices relies on a set of small components interconnected by a network. Those can be added, modified or removed although dependencies must be considered. The main benefits of Microservices are in terms of scalability and reliability.
- Docker / Docker containers: Docker is a set of products which delivers software in packages, or containers. Containers keep the software they package completely isolated. They allow for strictly codified communication. The use of docker containers is a popular choice when building microservices.
- Data warehouse: Variety of data sources can make data analytics complicated. Often, organisations aggregate information from various sources into one repository. This data warehouse allows analysis of the information it holds unachievable otherwise.
- Environment: An environment is a computer or server in which to run an instance of an application. When working on a feature, an engineer will work within their local environment. After that, there are a few ways things could go. Generally though, there are three types of environments: development, staging and production.

Manages Security of ML Model Architecture

Manages Performance of ML Model Architecture

Platform Teams (Core Services; Architecture)

- "For larger companies, especially, it's typical to have one or more teams that provide common services to the other product teams. We often label these teams common services, core services, or platform teams, but they primarily reflect the architecture." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)
- "...it is also a difficult type of team to staff because these teams are dependencies (by design) of all the other teams, as they are there to enable the other teams." - Marty Cagan (INSPIRED: How to Create Tech Products Customers Love)