ESSENTIAL PRODUCT FRAMEWORKS

THAT ANY PRODUCT MANAGER SHOULD MASTER

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Introduction

Product management is a complex discipline that stretches across engineering, design, business management, user psychology, organizational theory, economics and more. While it'd be great to become an expert in all of these, it is practical impossible for busy people with full-time jobs. That's where product frameworks come in. They help us attack parts of the product development journey by offering a useful abstraction or system we can repeatedly use.

In this ebook I've compiled 15 of my favorite[1] product frameworks and models, some well known and some more obscure:

- Strategy: the innovation ambition matrix, business model canvas
- Evidence-based development: GIST
- Value: value exchange model, value proposition canvas, product market fit
- Metrics: impact, outcomes, output, pirate metrics
- Evaluating and testing ideas: ICE scores, MVP, the confidence meter, assumption maps, the AFTER framework
- Growth: growth engines, growth loops

Still, a word of caution. Frameworks and methodologies are *models*. They simplify the messy reality of creating and selling technology products. In the words of statistician George Box *"All models are wrong, but some are useful"*. In other words, use your discretion to decide if and when a framework is applicable and beware of oversimplification.

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[1] I'm cheating a bit as some of these are my own.

Innovation Ambition Matrix

Bansi Nagji and Geoff Tuff (Deloitte)

Deloitte's *innovation ambition matrix* splits strategic initiatives into three areas, or horizons:

- **Core**—Our current market, products and technology.
- **Adjacent**—Markets, products or technologies that are new to us, but not far from what we're doing.
- **Transformational**—Markets, products or technologies that are new to us and quite unrelated to what we're doing.

The framework encourages building a portfolio of investment in which we also consciously fund initiatives that go beyond our core. Having this perspective helps companies diversify their products and adjust the level of risk they take. Google (now Alphabet) is a good example of a company that continuously balanced investment in its core products with pushing forward into adjacent and transformational areas.

Google Mid-2000s

Alphabet Now

Article: Managing Your Innovation Portfolio (HBR)

Article: A Lean Approach to Opportunities and Threats

Business Model Canvas
Strategyzer

The business model canvas (BMC) helps evaluate the business viability of a new product or business model. The canvas maps out all the key facets that need to be in place for the product to be a business success. Designed as a brainstorming tool, teams using the canvas can fill in the blanks, find gaps in the business model and surface risks. The BMC is also a very helpful communication tool for when you wish to present an idea for a product or a business model.

It's recommended to create a seperate BMC for different market segment, and for different business approaches. You can iterate and validate those separately and end up with a business model that works (at least on paper). Another important technique is to calculate the number of customers required to reach the breakeven point between Cost structure and Revenue Streams.

Further reading: Business Model Canvas / Strategyzer
Book: Business Model Generation / Alexander Osterwalder, Yves Pigneur

Business Model Canvas. Source: strategyzer.com

The GIST Framework

Itamar Gilad

GIST is a product development framework based on the principles of modern product development: agile planning and execution, evidence-based decisions, customer focus and team empowerment. It's a modular system comprised of four layers:

- *Goals* define what we want to achieve, using customer-centric metrics
- *Ideas* define hypothetical ways to achieve the goals. In GIST we strive to evaluate and test as many ideas as possible.
- *Steps* are short projects (a few weeks long) that develop an idea and test it with users. Steps generate learning, and enable us to readjust our investment in ideas.
- *Tasks* are the activities that implement a step. GIST is compatible we current ways to manage tasks (Scrum, Kanban etc), but ensures the tasks are tightly connected to the goals, ideas and steps.

Resources:

- Article: [Why you should stop using product roadmaps and try the GIST Framework](#)
- Video: [The GIST Framework by Itamar Gilad](#)
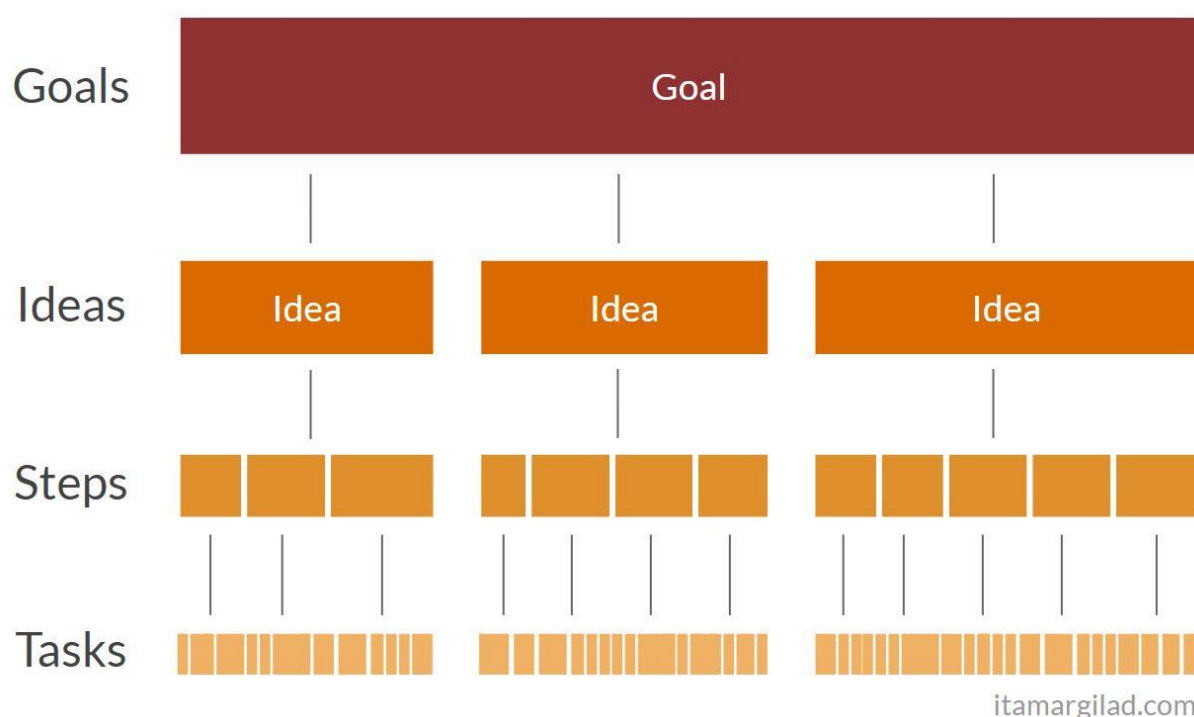
The GIST Framework

The Value Exchange Model

The value exchange model simply states that the mission of every organization is to deliver high value to a market and to capture value back. We deliver value by addressing customers' needs at a reasonable cost. There are multiple types of value we may capture in exchange: revenue, active user/customer, attention, data and so on.

In the ideal case delivering value and capturing value are tightly connected and mutually-reinforcing, creating a virtuous loop. For example in an ad-monetized search engine the more successful searches are performed the more value the market gets form the service, and at the same time the more ad inventory the company has to sell and more usage data it can collect. The revenue and data can be used to improve the search engine and thus deliver yet more value.

It is often helpful to measure, correlate, and set goals for the two type of value—delivered and captured— using the north star metric (NSM) and the top business KPI.

Further reading: article.

Deliver Value
(The North Star Metric)

Org

Product

Market

Capture Value
(The Top KPI)
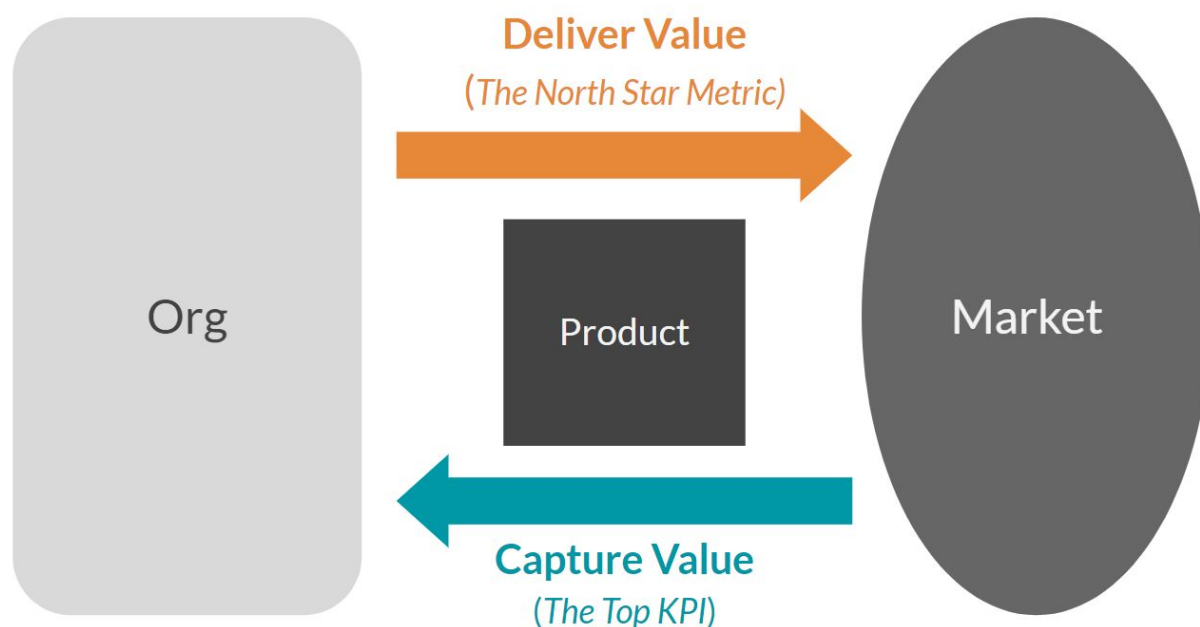
Value Exchange Model

Value Proposition Canvas
Strategyzer

The value proposition canvas (VPC) helps map customer needs and match them with products and solutions. The right side, or *Customer Profile,* is where we list the *Jobs*—the tasks customers need to complete (for example: getting from point A to point B), the *Pains* associated with the jobs—high costs, undesired consequences, risks, negative emotions (for example: getting stuck in traffic), and the *Gains*—the benefits they wish to gain from the job (for example: always get to where I need to be on time). Once we have the list of jobs, pains and gains we can rank them by frequency and severity/importance. Then we can use the left-side of the canvas to brainstorm ideas for products, services, features or enhancements that will accomplish the jobs, relieve the pains and create the desired gains.

For example, consider Instagram's early value proposition (depicted below). The company launched an iOS app that addressed two key jobs: taking photos, and sharing them. One of the biggest pains associated with these jobs was that most people's photos didn't look good enough to share. The ideal gain, the benefit that the users really wanted, was to have beautiful photos every time without having to use complicated photo editing software. Instagram addressed this need by adding photo filters that with a click of a button could make photos look pretty and artistic.

Resources (Strategyzer): Downloadable template | Book | Video
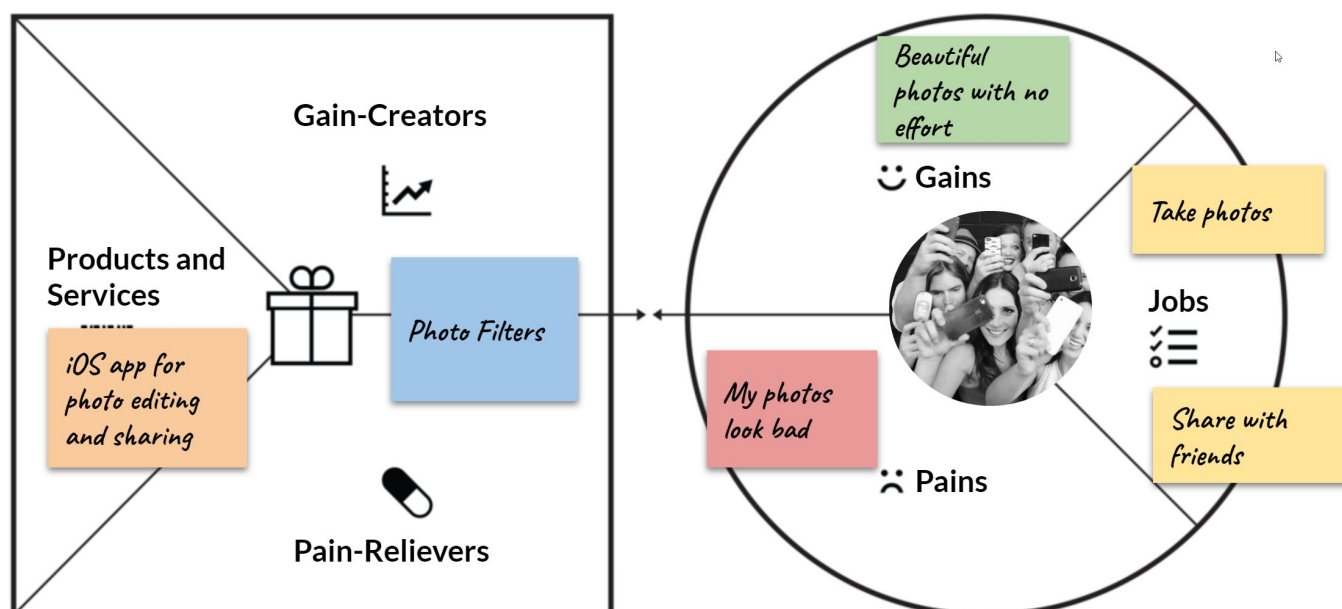
Value Proposition Canvas (source: Strategyzer)

Product/Market Fit

Product/Market Fit (PMF) is a model conceived and popularized by silicon valley investors Andy Rachleff and Marc Andreessen. It refers to discovering a large or growing market that has a strong underserved need, and creating a product that addresses this need. According to the model, hitting product/market fit dramatically changes the relationship with the market. When customers are hungry for a solution, they will accept a less-than-perfect product even from an unknown company without much pushing. In fact, they may "pull" the product out of your hands.

It's critical to ensure product/market fit for a new product or feature *before* investing in growth, otherwise most of the users we acquire will leave. One popular way to determine whether or not you have achieved PMF is the Sean Ellis survey that measures customer sentiment based on the answer to the question, "How would you feel if you could no longer use the product?" Even stronger indications come from Pirate metrics, especially high levels of retention and conversion to paying.

Further reading:

- Marc Andreessen / The only thing that matters
- Sean Ellis / Using Product/Market Fit to drive sustainable growth
- Rahul Vohra / How Superhuman built an engine to find product/market fit
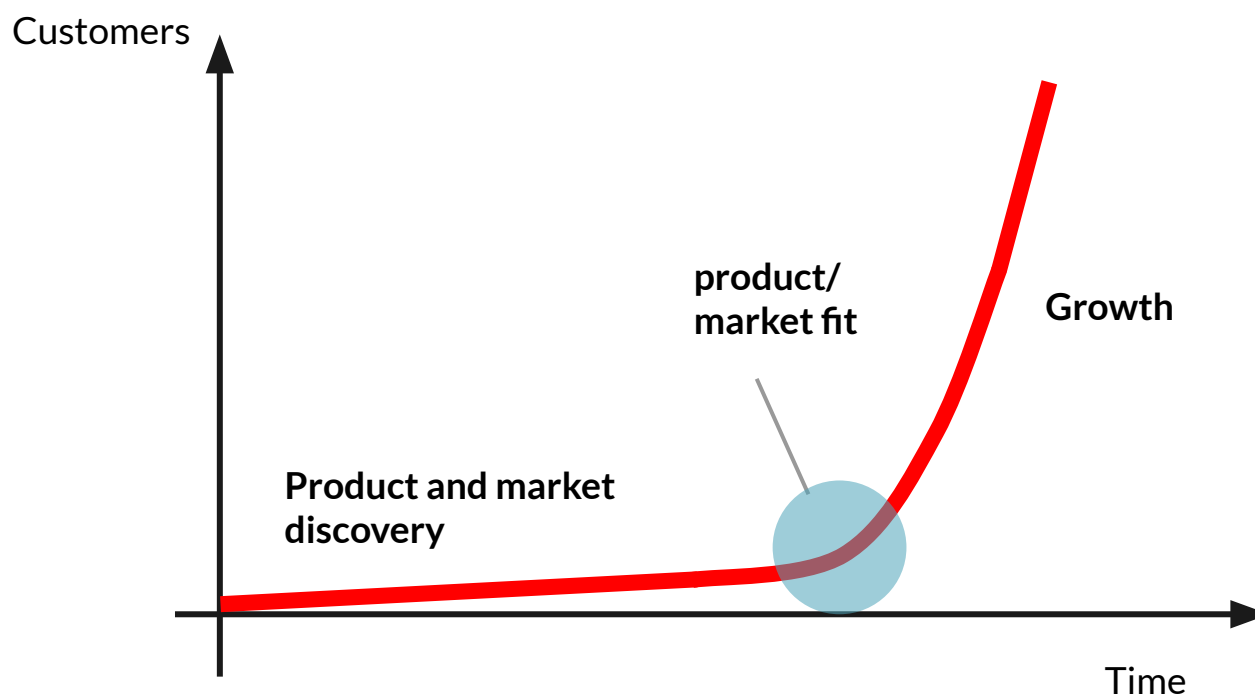
Impact, Outcomes, Output

Originally used by nonprofits, *impact, outcomes and outputs*, are now common ways to measure the success in any company.

- Impact refers to long term benefits tied to the company's mission. Often we will measure impact using the north star metric (how much value we're delivering to the market), and a top business KPI (how much value we're capturing back). For example, number of messages sent through our app, and number of paying customers, respectively.
- Outcomes are the short-term benefits we expect to get from our activities. Outcomes typically measure change in user/customer behavior (for example, shortening the average onboarding time,), in system behavior (e.g. reducing downtime), in business performance (e.g. growing average MRR) and more.
- Outputs describe the quantity and quality of what we produce. For example number of features launched, % project progress, number of story points completed, number of bugs fixed..

The distinction between impact, outcomes and output is extremely important when setting goals. The common practice of setting output goals (launch feature X, integrate with system Y) tends to create a lot of waste and gets the company to focus on doing rather than achieving. The recommended practice is to focus on growing outcomes and impact, while *reducing* output.

Impact — The long-term benefits we strive to create

Outcomes — The short-term benefits we hope to gain

Output — The things we produce

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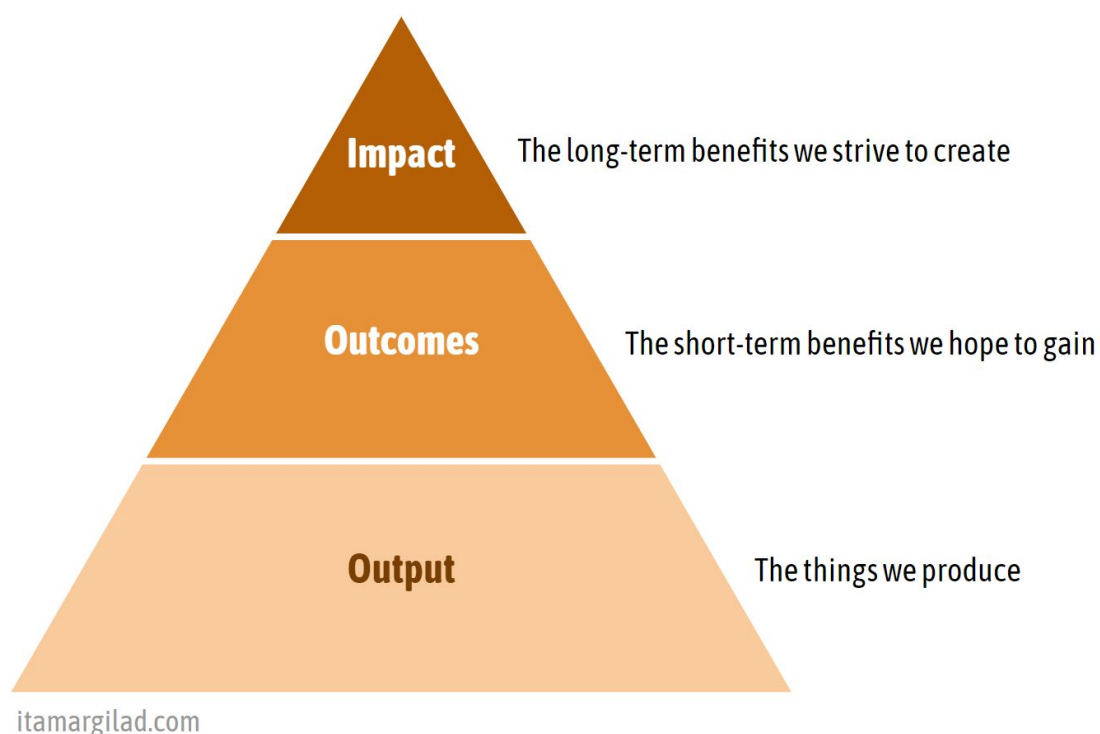
Pirate Metrics

Dave McClure

Pirate merics (so called because they have the acronym AARRR) describe the journey a user undergos with the product, form *unaware* to *paying customer*. The metrics are:

- **Acquisition rate**—what % of visitors or people who see a promotion or ad, that signup, visit the pricing page or give another meaningful indication of interest
- **Activation rate**—% of acquired users that took at least one key active action in the same session
- **Retention rate**—% of users that are still active N days after first activation
- **Revenue** (conversion to paying rate)—% of active users who are willing to pay
- **Referral rate**—% of active users who shared the product with at least N other people

Pirate metrics are based on meaningful user behaviors, and show how much value the users find in the product. They are applicable to a large number of products and services, and are a staple of product dashboards. Often measured in cohorts, they help us see product performance over time, and highlight where we're losing customers and need to improve. Growth teams regularly use pirate metrics to track progress and come up with growth ideas.
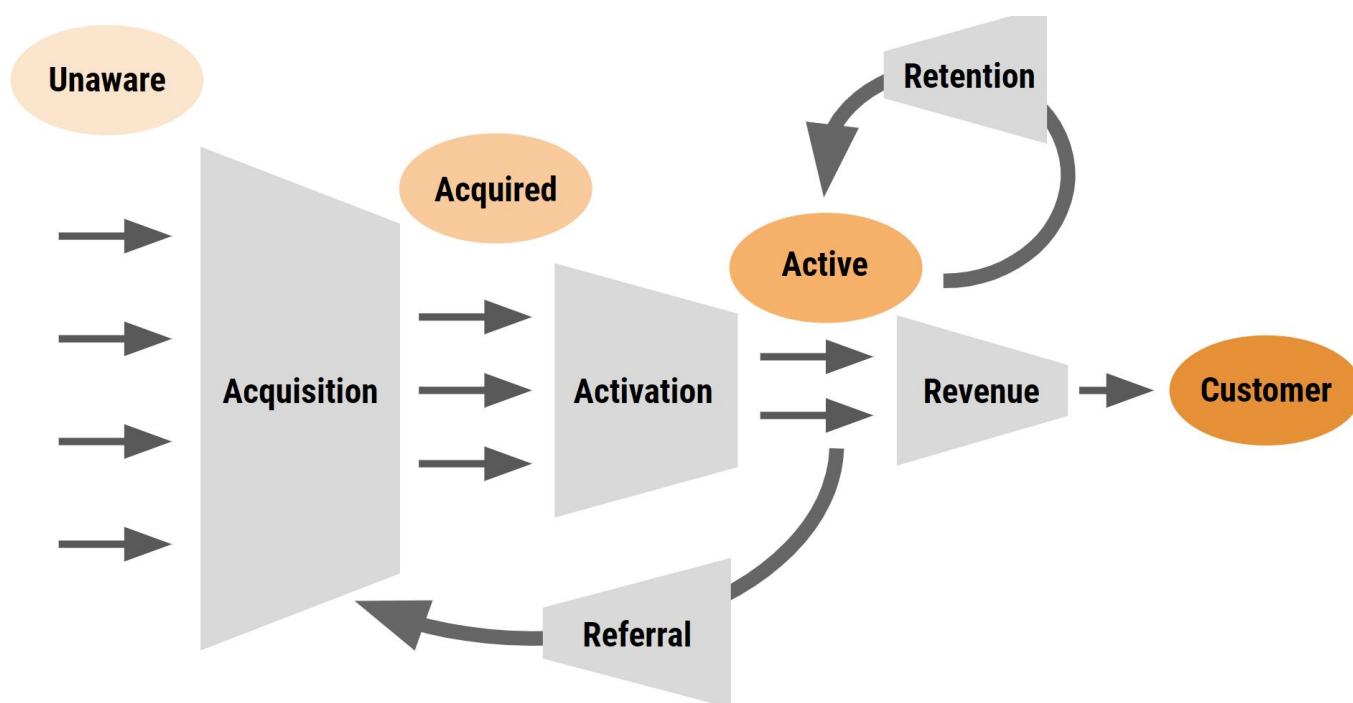
ICE Scores
Sean Ellis

Idea	Impact [0-10]	Confidence [0-10]	Ease [0-10]	ICE Score [I x C x E]
Community tab	7	2	8	112
Update submit flow	5	5	3	75
Add PayPal billing	8	1	5	40
Double opt-in	1	4	3	12

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ICE, invented by growth expert, Sean Ellis, is a technique to score ideas based on three criteria:

- **Impact**—how much value will the idea delivers to the market (and consequently to the company)
- **Confidence**—how much evidence do we have that this idea will have the expected impact.
- **Ease**—Essentially the opposite of effort, for example an idea that takes 1 week to build is considered "easy" and therefore gets an Ease rating of 10, while an idea that will take 6 months to build is just a 3. The scale should be set by the company or team.

ICE scores themselves are meaningless. The goals of using ICE are:

- Asses the idea in an objective, unbiased way
- Compare multiple ideas
- Keep a running score as we learn more about the idea
- Communicate with team members, managers and stakeholders

Further reading:

- Article: Idea prioritization with ICE and the Confidence Meter
- Article: Why the impact/effort matrix doesn't work

The Confidence Meter

Itamar Gilad

Using evidence to evaluate ideas is a key principle of modern product management. Evidence can come in many forms—qualitative, quantitative or other, but not all evidence is created equal. Having a handful of customers indicate they would use your new product is great, but as people are bad at predicting their own future behavior, it gives us only medium-low confidence. Getting customers to sign up to to the early adopter program is a much stronger signal, as they are showing commitment. Having most of those convert into paying customers after trying the product is stronger yet.

This concept is captured in the *Confidence Meter*, that translates evidence into a confidence score in the range of 0-10. You can use the score in conjunction with ICE scores or other prioritization methods, or just in discussion over ideas.

Further reading: The Confidence Meter

Confidence calculator tool: free download
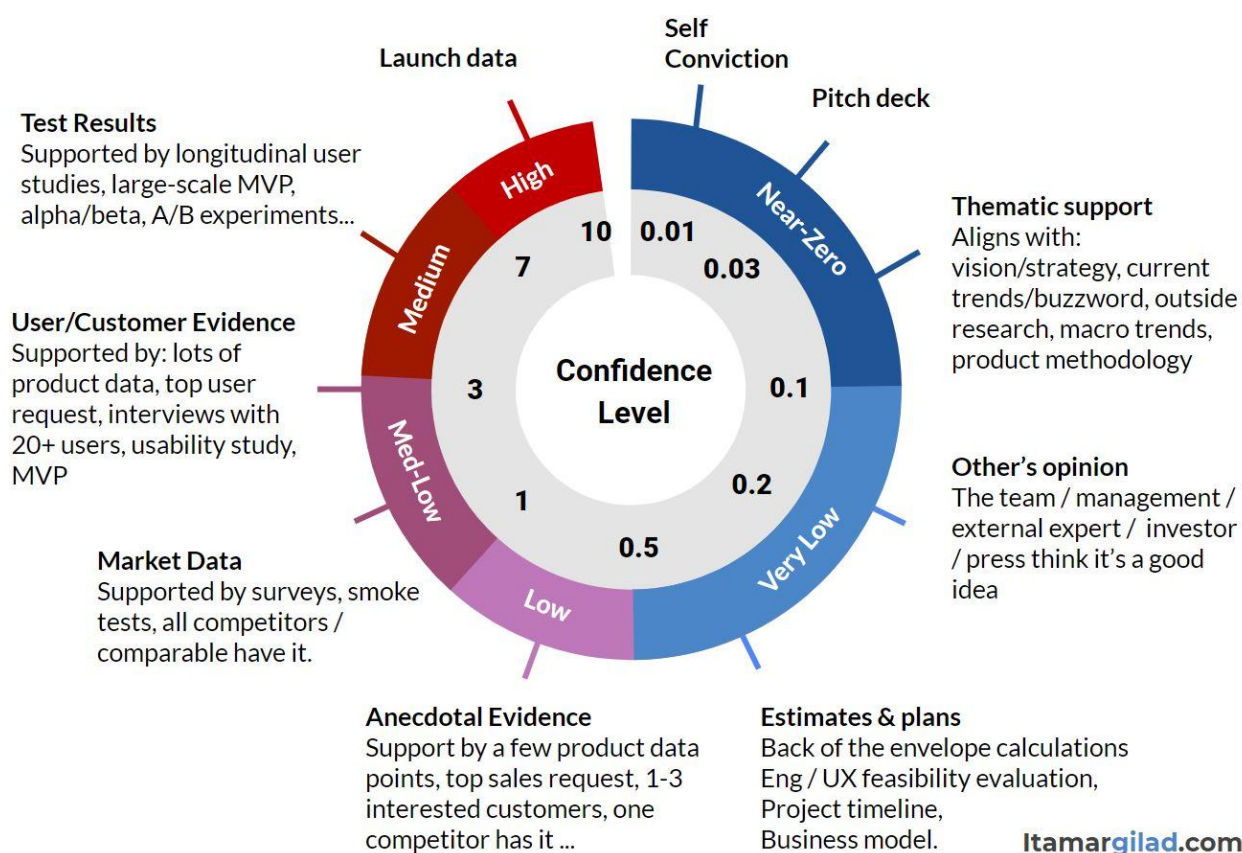
Confidence Meter

The AFTER framework

Itamar Gilad

As most product ideas will not generate value, it is crucial that we validate ideas quickly and run through as many ideas as possible. Many companies get stuck with a few validation techniques and miss out on key options. The AFTER framework shows the gamut of validation options broken into five levels of validation—from the cheapest and most shallow to the most expensive and thorough:

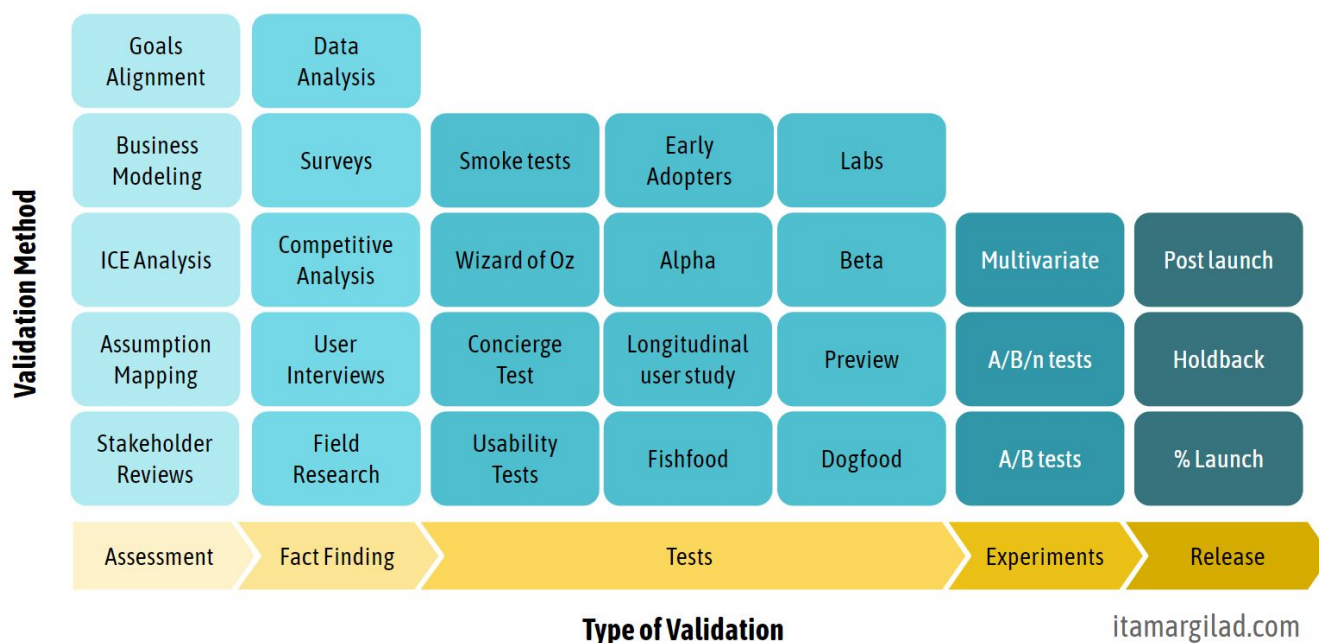- **Assessment**—Quick and rough evaluation of the potential and risk of an idea with no external research
- **Fact Finding**—Actively looking for data and facts that may support or refute the validity of the idea
- **Tests**—Putting increasingly more evolved versions of the idea in front of users and measuring their reactions.
- **Experiments**—Conducting quantitative tests that control against false results.
- **Release results**—Gradually releasing the product to more users and customers while monitoring the reaction.

Further reading:

- Ebook: Testing Product Ideas
- Article: Idea validation - more than A/B experiments

Validation Method						
Goals Alignment	Data Analysis					
Business Modeling	Surveys	Smoke tests	Early Adopters	Labs		
ICE Analysis	Competitive Analysis	Wizard of Oz	Alpha	Beta	Multivariate	Post launch
Assumption Mapping	User Interviews	Concierge Test	Longitudinal user study	Preview	A/B/n tests	Holdback
Stakeholder Reviews	Field Research	Usability Tests	Fishfood	Dogfood	A/B tests	% Launch
Assessment	Fact Finding	Tests			Experiments	Release

**Type of Validation**   itamargilad.com

Minimum Viable Product (MVP)

Frank Robinson, Eric Ries

The term MVP was coined in 2001 by Frank Robinson, but was redefined by Eric Ries in the book *The Lean Startup* to be: *"MVP is that version of the product that enables a full turn of the Build-Measure-Learn loop with a minimum amount of effort and the least amount of development time."* The book makes it clear that the MVP does not have to be a functional product, but rather anything that helps us learn, including paper mockups, landing pages, wizard of Oz tests, video demos and much more.

Still, the term generates a lot of confusion and resistance. Some wrongly assume it's about launching low-quality, incomplete products fast. Others go into full waterfall development of the minimum product we can sell to customers. Neither of these approaches is correct. At any stage in the development we should decide what's minimal and viable—MVPs in early stages of a product idea should definitely be very light on implementation, while those at the late stages should be much more complete and better coded.

There are two main ways we can cut a product to its minimum—reduce the *scope* of functionality included and reduce the *depth* of implementation. A typical sequence will start with cheap modes of implementation and will move to more expensive ones as we gain more confidence in the idea.
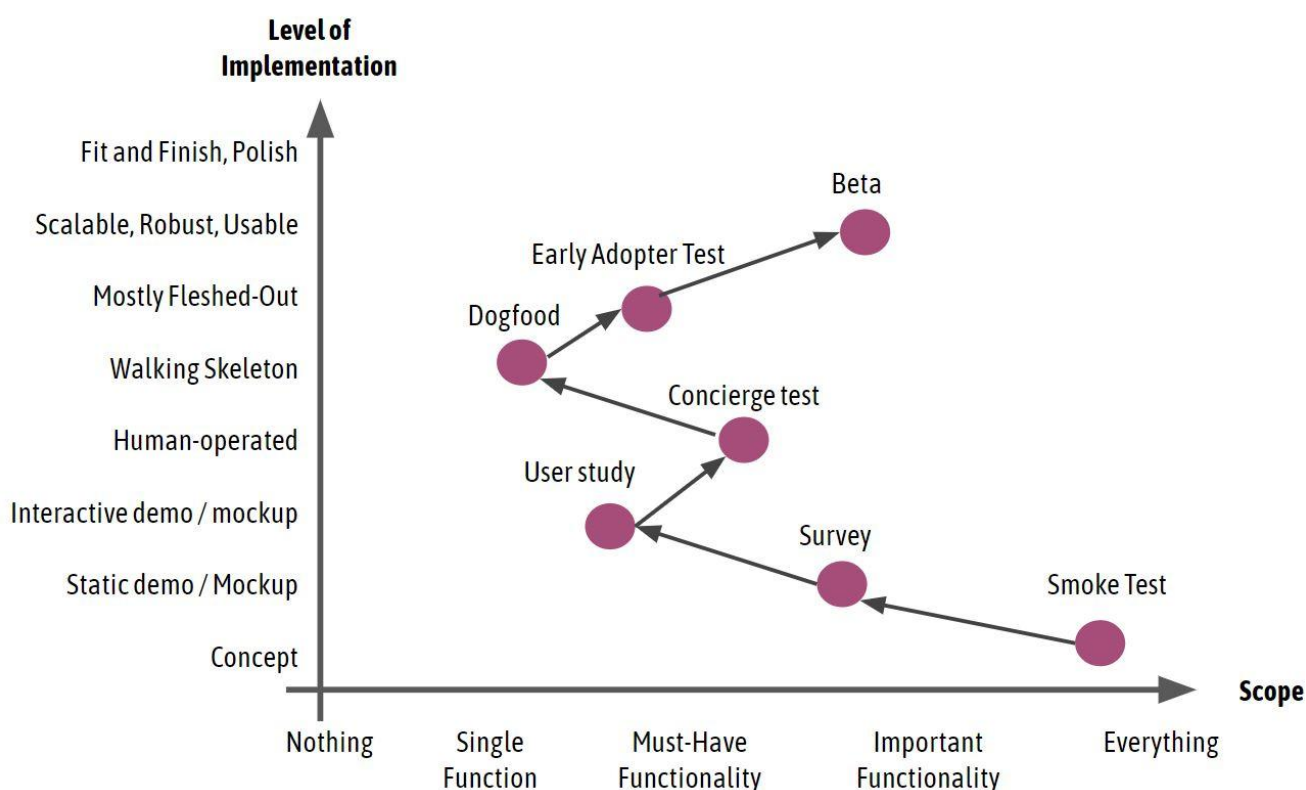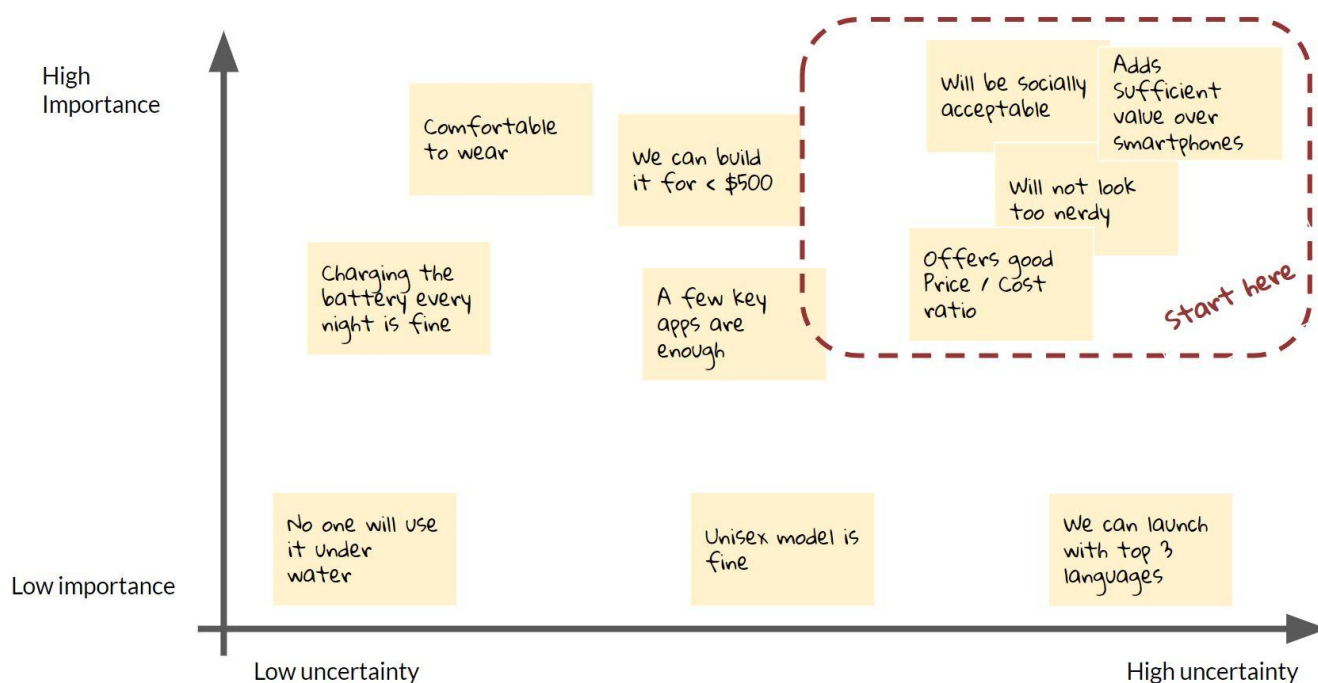
Assumption Maps
Precoil

Assumption mapping, invented by David J. Bland, is a technique to surface assumptions and risks in your bigger ideas. Assumption maps place assumptions on two axes—how certain are we that this assumption is true, and how important it is for the success of the product. For example if you're considering adding 4K streaming support to your service, you may add assumptions like "There are enough people with 4K devices", and "The Load on our servers will grow by no more than 25%".

The assumptions on the upper-right (high uncertainty and high importance) are the ones we should validate first.

After completing the assumption map you should have a deeper understanding of what might go wrong with your idea. The map helps in planning next validation steps.

Further reading: https://precoil.com/resources/

Assumption map

Growth Engines

Eric Ries

In his book *The Lean Startup* Eric Ries lists three core mechanisms through which businesses grow, which he names *growth engines*:

- **Sticky growth engine**—Companies using this engine keep customer churn rates significantly lower than customer acquisition rates. Users and customers may arrive organically (no need for virality or advertising) and remain active and engaged for long periods. This engine doesn't generate new customers directly, but supports growing the lifetime value of each customer.
- **Viral growth engine**—When using the viral growth engine, each new active user/customer, through the use of the product or service, causes at least one other user/customer to adopt the product or service. If the ratio, called the viral coefficient, is larger than one, growth will be exponential.
- **Paid growth engine**—In companies where the lifetime value of the customer (CLV) is well above the cost of acquiring a customer (CAC), the company can grow simply by investing its profits in in customer acquisition, for example through paid advertising or maintaining a salesforce.

Ries further explains that companies can employ more than one engine, but typically have one that is most important. All engines eventually "run out of steam" and need to be updated.
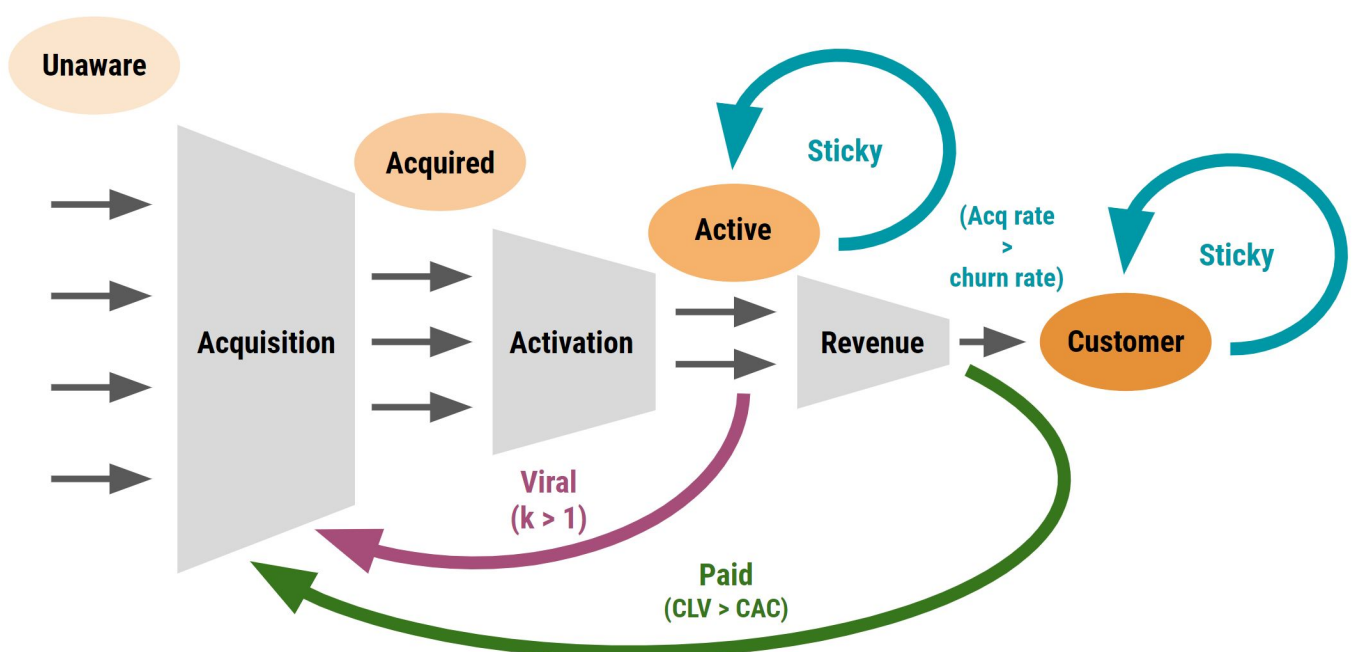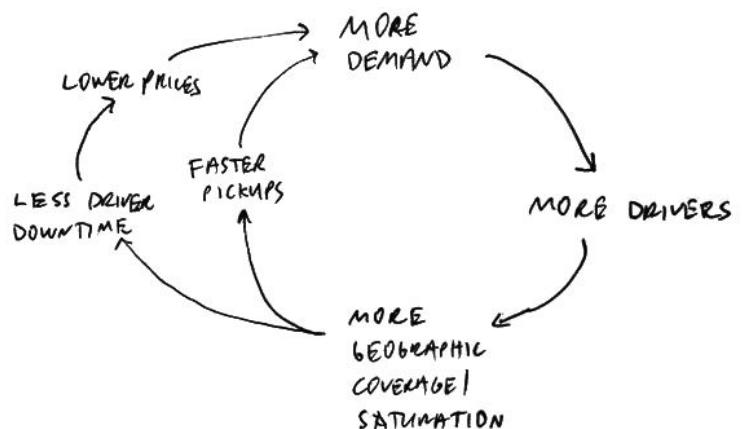
Growth Loops / Flywheel

Based on Jim Collins' concept of the *Flywheel* (presented in his book *Good to Great*), growth loops explain growth through one or more virtuous cycles or feedback loops. Growth loops typically rely on network effects and economies of scale in which every new user creates more value or reduces costs for, which in turn attracts even more users. It's hard to start spinning through the loop, but once you have momentum you gain strong compound effects that lead to rapid growth and are hard to copy.

Amazon and Uber have both used growth loops / flywheels to great effect.

Source: Amazon
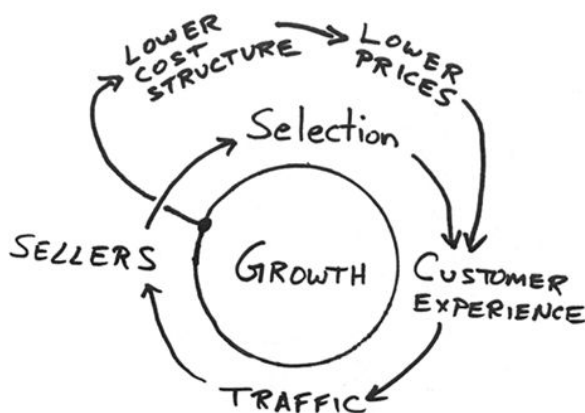
Source: David Sacks, via Andrew Chen

Amazon's intertwined growth loops show how creating a marketplace in which any vendor can sell to Amazon customers grows selection and traffic, and improves operational costs while reducing prices. Those in turn attract more sellers and more customers.

Uber's growth loop uses higher demand to attract more drivers, which serves to lower pickup times and prices, which in turn attracts yet more passengers and creates yet more demand.

Further reading:

- [Flywheel Effect: Why Positive Feedback Loops are a Meta-Competitive Advantage](#) — Eric Jorgenson
- [Advantage Flywheels](#) — Max Olson / Future Blind
- Video: [Virtuous Cycle](#) — Amazon internal training
- [Uber's virtuous cycle. Geographic density, hyperlocal marketplaces, and why drivers are key](#) -- Andrew Chen

About Itamar Gilad

I'm a coach, writer, and speaker specializing in product management, strategy, and growth. Prior to coaching I held senior product management and engineering roles in Google, Microsoft and other companies.

I help product and management teams build high-impact products through modern product management practices.

Here's How We can Collaborate

I facilitate product management workshops and give keynotes.

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For questions or comments please email itamar@itamargilad.com or contact me via LinkedIn.