DRAFT

DAVID WINS:

The Discipline of Asymmetric Competition

February 2019

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A one-month conversation

Contents

INTRODUCTION

Do not read this conversation alone.

Read it with two or three colleagues, partners, friends.

Discuss it, debate it, apply it, fail.

You'll get to answers and actions ten times faster.

Your co-readers don't have to be from your own company. All they have to be is hardworking, smart, tough-minded, curious, and fast.

This is a different type of book. You need to – and want to – work through it in a different way.

In doing so, you will learn the true spirit of asymmetric. And you will learn it within one month.

I don't want to teach you

Introduction

This book requires three commitments:

1. Go through it with 2-3 colleagues.
2. Meet for lunch twice a week, to set a good tempo (the lunch questions are provided at the end of every module).
3. When finished, read through the whole text one more time (no one ever achieved mastery without repetition).

I once asked an absolutely brilliant Japanese translator how he got to be so good, so … effortless.

He thought for a few minutes (yes, an uncomfortable silence set in), and said:

> *"There are four stages. Awareness, awkwardness, application, assimilation.*
>
> *The first feels awful, the second feels worse. In the third, you sweat, but you know you're getting there, you just know it.*
>
> *The fourth? It's an absolute pleasure, for translator and audience alike."*

I want you to teach yourself …

what's most important

The Age of Anomalies

We live in disorienting times. Our business landscape has become filled with non-linearity, disproportionality, numerous surprises, and puzzling anomalies. We are seeing very small teams creating very large amounts of value. Simultaneously, there are radical and rapid changes in industry leadership.

Consider just a few numbers (you know some of these already; for the others, just turn the page).

92%
2.2 million
38 vs. 56,000
4 vs. 11
$6 vs. $12,000
0
10×
Cloud, Echo, Drone
Auto, aero, energy
4

The Age of Anomalies

92%	Apple share of global smartphone profit last year
2.2 million	Number of Amazon resellers and associates (referrers)
38 vs. 56,000	Number of employees to create $1BB in market cap (Facebook vs. Air France)
4 vs. 11	Years to develop a rocket (SpaceX vs. Ariane)
$6 vs. $12,000	Advertising cost per car (Tesla vs. BMW)
0	Dollars of inventory for $500BB in sales (Alibaba)
10×	SpaceX target to reduce rocket cost
Cloud, Echo, Drone	Amazon winning, rather than current leaders/Goliaths
Auto, aero, energy	Musk highest momentum, rather than current leaders/Goliaths
4	Years for Airbnb, Uber to go global

SpaceX goal is to reduce rocket cost by a factor of 10×. Chinese smartphone competitors are targeting a 10× reduction in smartphone cost. Startups with 100 people create $1BB in value.

What's going on?

Yes, it has become a spikier, rougher, more non-linear world. Very small teams defeat very big, very well-resourced teams.

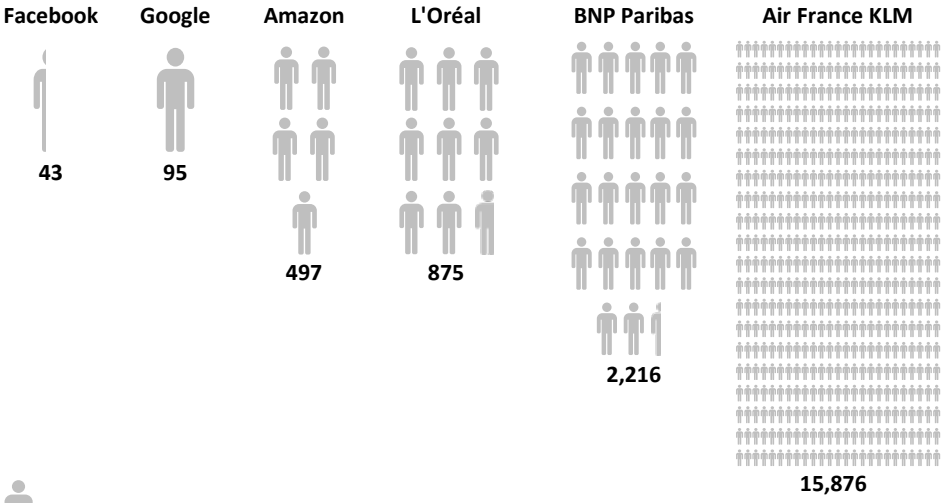
Some teams turn $1 into $2.

Some teams turn $1 into $20.

What's going on?

Make your own list of the biggest economic anomalies you see around you.

Number of employees required per $1 billion of market cap



There's a very broad spectrum of talent productivity.

Which part of the spectrum does my company occupy?

Where do we want to be tomorrow?

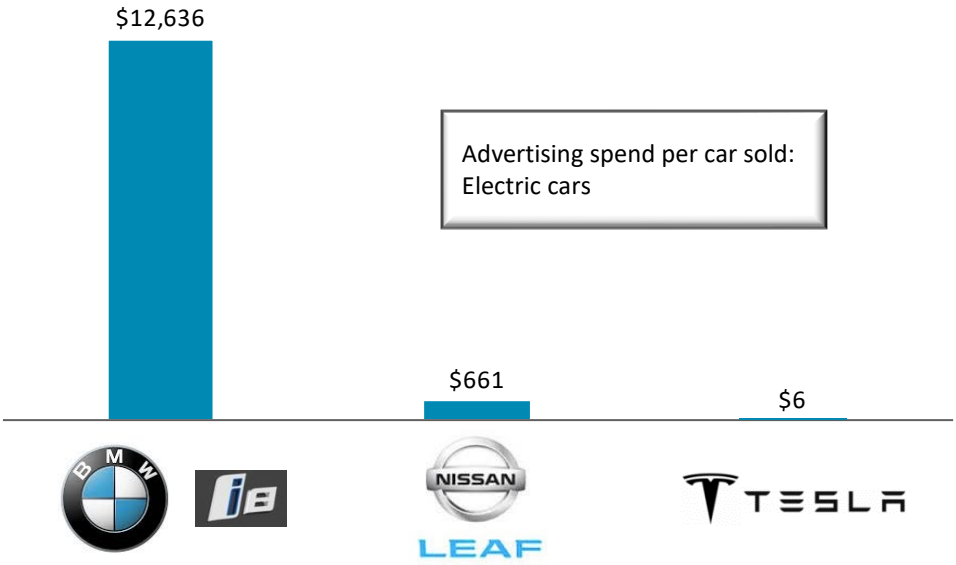
Are we willing to do the thinking and the work to get there?

1430 – 1530

How do 10,000 mariners
from one of Europe's smallest countries
build the world's first global trading network
in a century?

See page 195

	Ariane 5	SpaceX Falcon Rockets	
Years for development	11	4	Develop quickly
Lost during test phase	1	3	Fail quickly
Rockets per year	4	8	Produce quickly



The Age of Anomalies

The once-reliable rules of physics and economics no longer seem to work

Dali's "Still Life – Moving Fast" (1956)

Small Teams

	Acquirer	Target	Price	Employees at acquired company	Users today
2007	Google	YouTube	$1.65BB	65	1.5B
2012	Facebook	Instagram	$1BB	13	0.7B
2014	Facebook	What's App	$19BB	55	1.0B

Many "small team" stories are illusory. These three are not. They're very real, and they have many more customers today than they did when they were acquired.

Are they the precursor for who wins in the next decade?

1600 – 1700

How did 30,000 mariners
from one of Europe's smallest countries
lead the world economy
for a century?

See page 212

Where do these teams come from? Startup Planet*

> 100,000 startups

> $130BB VC investment/year

World's largest lab of:

- Business design innovation
- Asymmetric competition
- Accelerated economic evolution

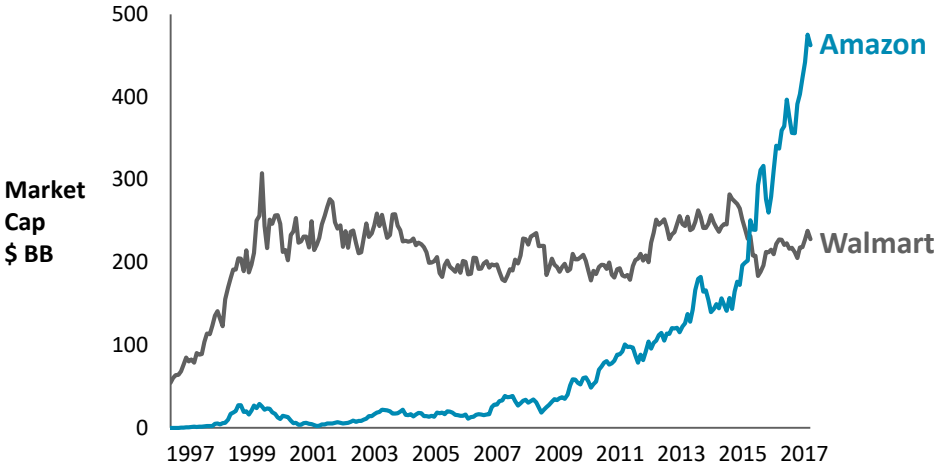
Why not take advantage of it?

*See Appendix III: Startup Planet

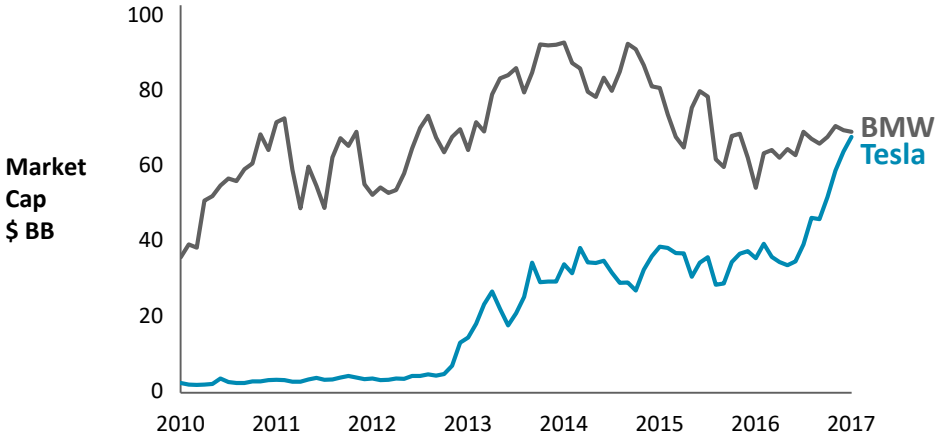
Simultaneously, there is a fundamental change in industry leadership going on

Amazon vs. Walmart: 1997-2009

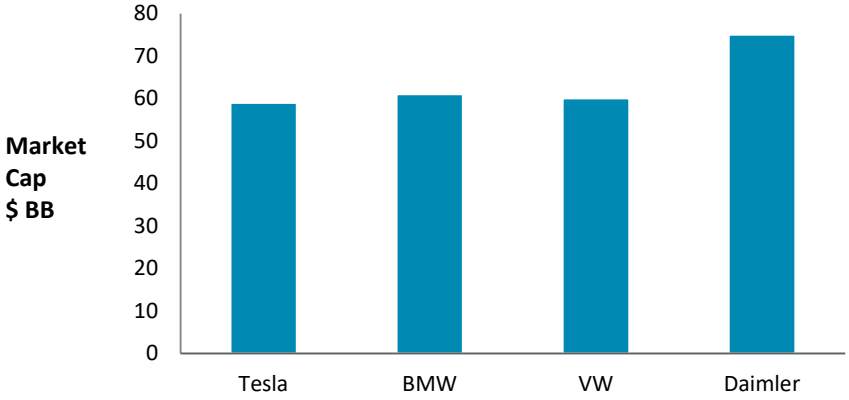
Amazon vs. Walmart: 1997-2017



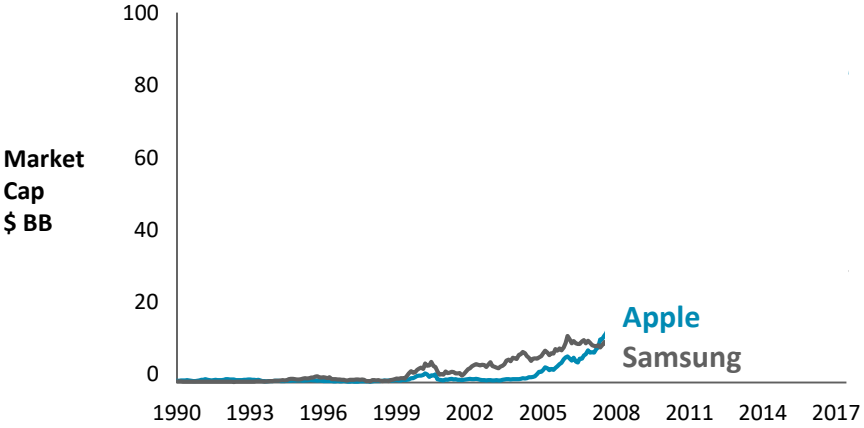
Tesla vs. BMW



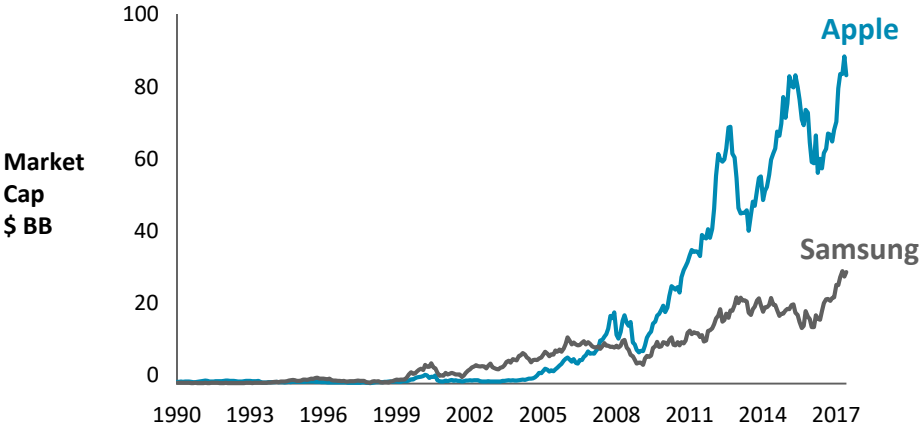
Who will lead tomorrow?



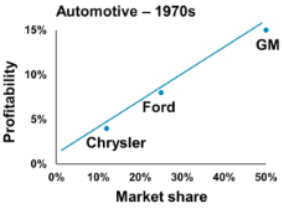
Samsung vs. Apple: 1990-2008



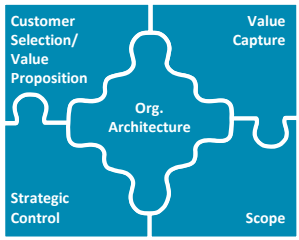
Samsung vs. Apple: 1990-2017



The evolution of competition



Market share



Business design*

Asymmetric model

*See Appendix I: Business Design

The asymmetrics

Startups	Teenagers	Classics
Airbnb	Amazon	Portuguese Empire
Didi	Alibaba	Dutch Empire
Magic Leap	Google	Mongol Empire
SpaceX	Apple	
Tesla	Tencent	
Uber	Baidu	
Xiaomi	Netflix	

Please study these companies, do it with a friend or two. Analyze them, compare them to others. Compare them to what they were just five years ago. Debate them with your colleagues.

Ask yourself, when I look at them, really look at them closely, what do I see? Use the method of the scientist: Observe and measure and compare.

Of course, don't let someone else do the observation, the analysis, the comparisons for you. Do them yourself.

When you observe them closely, you'll find that they ask different questions. And that there is a tremendous quantum of energy hidden deep inside those questions.

They ask themselves, for instance: Why work on small problems? Why not the big ones?

They ask: Why wait to fail; let's fail now (and find out what we need to know to win)?

They ask themselves: Why wait – period? Why "squeeze" a day's work into a week, or a month, as so many companies do?

They ask: Why spend a dollar, when we can find a way to do it for a dime?

CAUTION: Please read this list of questions in context. These are not all of the questions, because in prior years asymmetric competitors have already mastered the art of constantly asking themselves:

- What's best for the customer?
- What's the best business design for my company? (See Appendix I)
- What's my customer's hassle map? (See Appendix 2)
- How can I engage external energy (partners, suppliers, customers, non-profits, etc.) to create better value for the customer?

This set of questions alone would be enough to give a small team (and they all started as very small teams) a tremendous advantage. But they don't stop there.

They ask: Why own, why not access the assets of others? It's not the conventional way to think about the balance sheet. They say: Who cares about convention?

They ask: How many algorithms do we have in every part of our value chain, and in every part of our product portfolio?

They all, without exception, have set large-scale challenges for themselves because they're trying to solve very large problems for customers. As a result, they ask a very personally painful question: Is our team the kind of team that can attract the top 1% of talent in our market?

Finally, they ask the toughest question of all. The most seemingly nebulous, ephemeral, ungraspable. The question engineers hate, that super-rational analysts hate.

What is our story?

What, in a sentence, is the story of who we are, what we're doing, why we're doing it? A simple, easily repeatable, easily transmittable sentence that causes everyone to talk about us.

If we did a fMRI, we would find all these questions twisting around in the minds of these companies, like tough strands of DNA seeking to find their physical expression in the real world outside the mind.

The asymmetric player's questions:

- Why work on small problems?
- Why fail late?
- Why wait?
- Why waste?
- Why own?
- Why guess?
- Why hire the middle?
- Why be story-free?

Do we ask ourselves these questions?

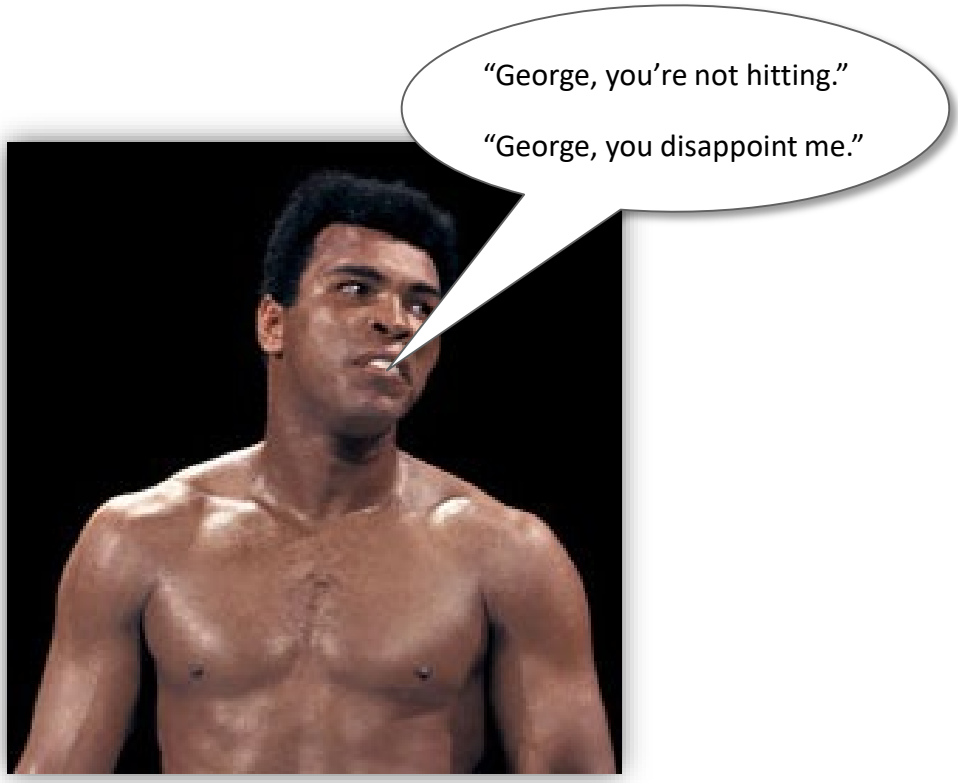
As a result of these questions, these companies compete differently. They create value differently. They look for productive mismatches. They all:

1. Negate their opponents' strengths.
2. They put pressure on opponents' weaknesses.
3. They search for leverage, for multipliers that maximize their actions' impact.
4. They are far "tougher inside" than their rivals.

They are asymmetric competitors. It's as if a society of Davids is competing against an army of Goliaths, and doing very well.

Asymmetric competitors are nothing new

Please Google “How the Weak Win Wars” by Ivan Arreguín-Toft. It’s only 36 pages. It’s worth your hour, including the list of 197 examples at the back of the paper. It begins with a great story.



How the Weak Win Wars

A Theory of Asymmetric Conflict

Ivan Arreguín-Toft

No one had given Muhammad Ali a chance against George Foreman in the World Heavyweight Championship fight of October 30, 1974. Foreman, none of whose opponents had lasted more than three rounds in the ring, was the strongest, hardest hitting boxer of his generation. Ali, though not as powerful as Foreman, had a slightly faster punch and was lighter on his feet. In the weeks leading up to the fight, however, Foreman had practiced against nimble sparring partners. He was ready. But when the bell rang just after 4:00 A.M. in Kinshasa, something completely unexpected happened. In round two, instead of moving into the ring to meet Foreman, Ali appeared to cower against the ropes. Foreman, now confident of victory, pounded him again and again, while Ali whispered hoarse taunts: "George, you're not *hittin'*," "George, you *disappoint* me." Foreman lost his temper, and his punches became a furious blur. To spectators, unaware that the elastic ring ropes were absorbing much of the force of Foreman's blows, it looked as if Ali would surely fall. By the fifth round, however, Foreman was worn out. And in round eight, as stunned commentators and a delirious crowd looked on, Muhammad Ali knocked George Foreman to the canvas, and the fight was over.

The outcome of that now-famous "rumble in the jungle" was completely unexpected. The two fighters were equally motivated to win: Both had boasted of victory, and both had enormous egos. Yet in the end, a fight that should have been over in three rounds went eight, and Foreman's prodigious punches proved useless against Ali's rope-a-dope strategy.

This fight illustrates an important yet relatively unexplored feature of interstate conflict: how a weak actor's strategy can make a strong actor's power ir-

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Ivan Arreguín-Toft is a postdoctoral fellow in the International Security Program at the Belfer Center for Science and International Affairs at Harvard University's John F. Kennedy School of Government.

Asymmetric practice

You are the trainer in George Foreman's corner. It's the end of Round 1. Ali has been taunting George non-stop. What do you do?

Now, it's the end of Round 2. Ali's still taunting. Foreman (in a natural human reaction) is still over-punching, still missing, still burning a tremendous amount of energy. What do you do?

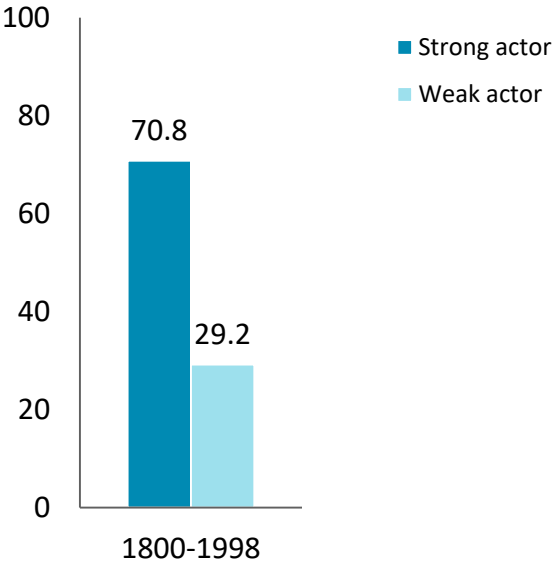
How good are we at making adjustments mid-battle? When have we done it well?

The history of war is filled with the conflict of large, evenly matched competitors, ever since the Greeks and the Trojans, whose model has been followed in an uninterrupted line all the way to the great destructions of World War I and World War II.

What happens when the forces are not evenly matched?

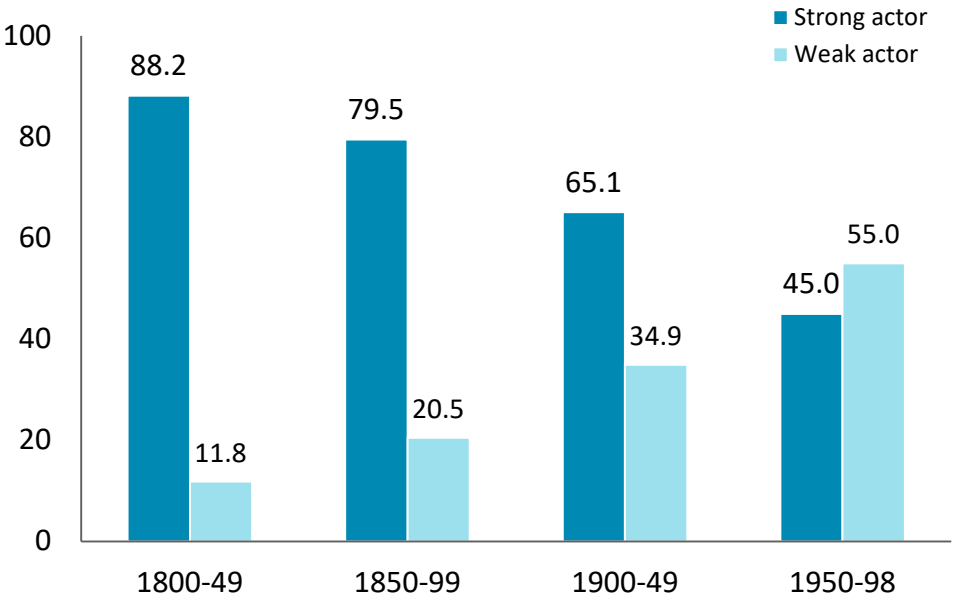
Arreguín-Toft looked at 197 battles fought since 1800. He found that, as we might expect, the more resourced competitor won most of the time.

Percentage of asymmetric conflict victories by type of actor: 1800-1998



Fortunately for us, Toft looked beneath the surface. The ratio changes over time, and it changes in a radical way.

Percentage of asymmetric conflict victories by type of actor in 45-year periods



Is this happening in business? What do you think?

1200 – 1300

How do 30,000 horsemen from one of Asia's smallest countries conquer from Korea to Hungary and from Moscow to Baghdad in less than a century?

See page 221

Asymmetric Attributes

- Small vs. big
- Methods that are very cheap
- Produce very big impact
- Along multiple vectors
- Takes away opponent's advantages of scale/mass, resources, etc.
- Highest impact/resource ratio for:
  - Customers
  - Investors

The art of the mismatch

- David
- Ali
- Longbow
- Vietnam
- Mongol composite bow (2× range)
- Afghanistan
- Drone

↓

- Can you find a dozen others?

- Online vs. 4,700 stores (Amazon/Walmart)
- Reusable rocket (SpaceX)
- One-click vs. conventional transaction (Amazon)
- Platform vs. thousands of contracts
- App vs. phone and wait (taxi)
- Electric car vs. hybrid, conventional engine
- Flat pack vs. volume transport (IKEA)
- Specialist vs. full value chain (Microsoft, Toyota, McDonalds)
- Do less, get more
- 9 modes (Didi) vs. private car (Uber)
- One source/format vs. dozen (Bloomberg, FactSet)
- Reality TV, unscripted (costs less, generates more)

↓

- Can you find a dozen others?

Lists

There are a dozen lists throughout the book.

In 1 month, you will know them all by heart.

In 2 months, you'll also make each list **twice** as long after you add your own examples.

Why?

Because you don't want to re-solve problems that have already been solved by someone else. Asymmetric competitors are wired **never** to reinvent what's already been invented.

They don't have the time, the energy, the attention, or the mental space for it. They're just too busy building new vectors for their model.

And besides, they think wasting time is just not very smart.

To get into the mode of thinking about extreme differences in resources vs. results, consider not just David's sling …

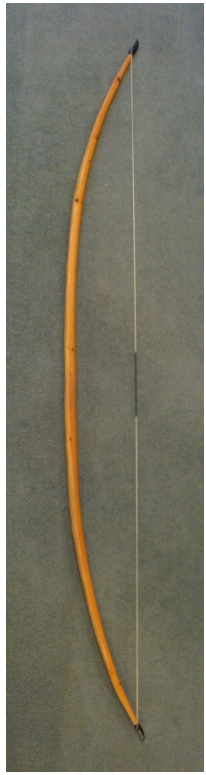
… which negated Goliath's size, strength, and armor.

Source: wikipedia.org/wiki/David_(Michelangelo)#/media/File:%27David%27_by_Michelangelo_Fir_JBU013.jpg
https://www.google.com/search?q=david+and+goliath+sling+weapon&source=lnms&tbm=isch&sa=X&ved=0ahUKEwi53r6Ctv_UAhUI34MKHS_cCBwQ_AUIBigB&biw=1920&bih=959#imgdii=JMbE9bPxsIDiQM:&imgrc=ZBKCgU1TFM2-DM:

… but also consider the Trojan horse, which negated Troy's high, thick walls and impenetrable defenses …

Source: By Giovanni Domenico Tiepolo - Own work, Public Domain, https://commons.wikimedia.org/w/index.php?curid=173986

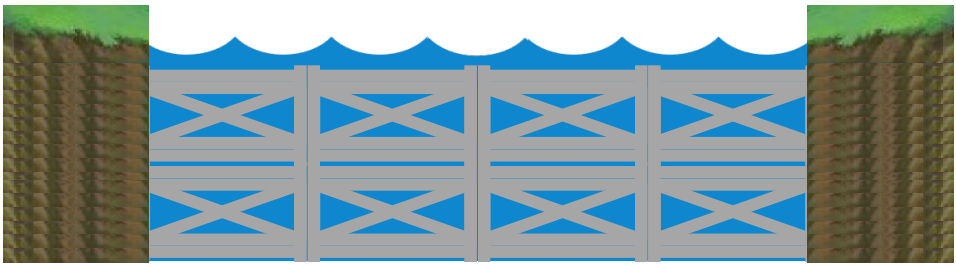
Consider also the English longbow, which negated the French superiority of mounted, heavily armored knights …



Source: https://www.thelongbowshop.com/products/medieval-arrow-quiver-bag?variant=27633639369

… and the North Vietnamese underwater bridges along its rivers, which negated massive US air superiority (over 250,000 sorties flown) …

Pilot sees blue water …



… not the bridge beneath the surface

… or consider the four horses each Mongol warrior had. By changing to fresh horses every couple of hours, the army could move three to four times faster than rivals, with much lower logistical support (mare's milk) …

Source: http://www.sfgate.com/world/article/Horses-are-reintroduced-to-their-native-habitat-2356952.php#photo-1879955

… or drones that allow small groups to carry out highly targeted missions at a fraction of the cost, negating the impact of the opponent's massive air force.

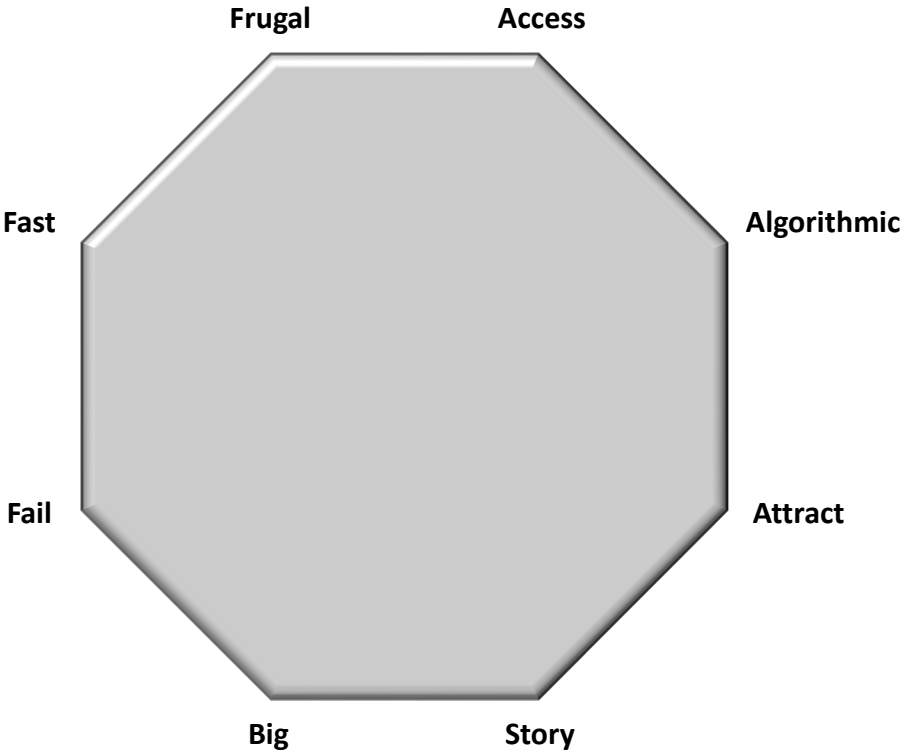
"One must take advantage of the situation exactly as if he were setting a ball in motion on a steep slope. The force applied is minute, but the results are enormous."

– Sun Tzu

There are very few companies that have evolved a fully developed asymmetric model. A careful observation of the emerging asymmetric leaders shows there are eight vectors along which they think, act, and compete differently.

	Vector
• Why work on small problems?	Big
• Why fail late?	Fail
• Why wait?	Fast
• Why waste?	Frugal
• Why own?	Access
• Why guess?	Algo
• Why hire middle?	Attract
• Why be story-free?	Story

The Asymmetric Model



These questions form a cluster of seemingly simple, deceptively simple inquiries. It's actually quite hard to understand each question correctly. Answering each question imaginatively can lead to surprising, unexpected results.

The hidden logic of the asymmetric model: Interdependencies

You can't do "big" without failing.

You can't fail without being fast. (Otherwise, market entropy will kill you.)

You can't be fast without being frugal (minute-frugal, penny-frugal).

You can't be fully frugal without access.

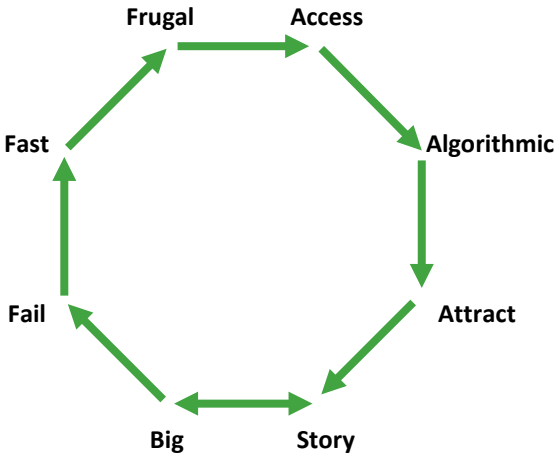
You can't do access (which means **complexity**) without algorithms.

You can't do algorithms (which = sophistication) without top talent.

You can't have the best people without a great, great story.

The result?

A self-reinforcing upward spiral.



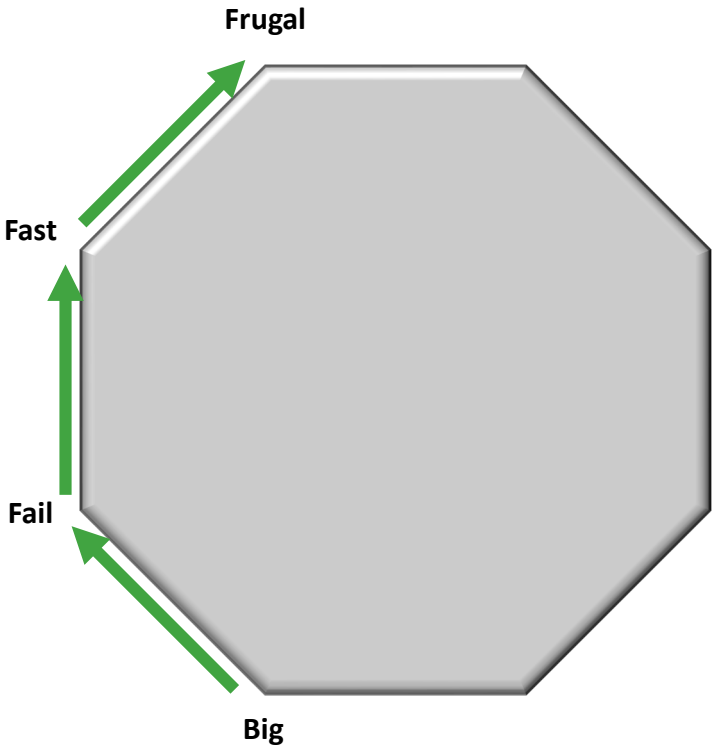
The following eight modules (from Big to … Story) describe each of the eight vectors of the model.

Each module will explain the rationale for the vector, will provide examples, will ask you to provide examples you have seen in business or other spheres of activity. It will also ask what actions you will take to create this vector for your company.

At the end of each module, you'll be asked to rate yourself/your team, on a scale going from "weak/just starting" to "best in class."

At the end of each module, there will be a set of questions – that's the agenda for the lunch discussion with your colleagues.

Let’s begin with the first four vectors of the asymmetric model.



BIG

Big

All the asymmetric competitors started with small, **manageable** customer problems. We all do. The difference is that they quickly evolved from small, to larger, to big:

			Examples
Small	–	Single customer, single issue	Books, DVDs (Amazon, Netflix)
Larger	–	Single customer, multiple issue	Easy to buy, simplify life (Apple, Amazon)
Big	–	Industry level, multi-customer, multi-issue	Healthcare, value chain productivity

The sequence of hassle maps (shown in Appendix II) shows this line of evolution:

- **Single issue:** Netflix, Amazon, Eurostar
- **Multiple issues:** Tetra Pak, Jennifer Stone, mobile phone
- **Industry level:** booking.com, health care

Examples are all around us today. Uber works on taxis, but Didi Chuxing on urban mobility (cars, taxis, micro buses, corporate buses, intra-city car sharing, inter-city car sharing, and a growing list of others).

Big

More importantly, a single company can evolve from small to big pretty quickly, e.g. Amazon:

Small	Books
Larger	More merchandise
Big	Easy to buy anything
Bigger still	Easy to buy and receive: • Delivery • Echo • Cloud

Amazon is not working on "retailing." It's pretty much working on everything (retail, e-books, cloud, drones, artificial voice, artificial intelligence). Tesla is not working on green cars; it is working on creating green households (e.g. solar panels, power wall batteries, electric cars). SpaceX is not working on rockets; it wants to get to Mars.

"Big" is a huge source of leverage. Solving **bigger** problems gives disproportionately bigger returns, for the customer and for your company.

Big

Didi Chuxing:
Take a small idea and make it a big idea

Master of transportation logistics in mega cities

Didi Chuxing (Didi) is a China-based ride-sharing company that serves more than 400 million users across over 400 Chinese cities. But Didi – which bought Uber China in 2016 – is a not just a ride-sharing or ride-hailing app. It is a transportation logistics company that intermediates between travelers and commuters on one side, and cars, taxis, buses, limos, social ridesharing (Hitch), and car-pooling on the other side (see Didi Chuxing Services). And, while its main goal is to move people from point A to point B, an equally important secondary goal is to relieve traffic congestion and improve routing.

Didi Chuxing Services

Didi Taxi: 1.68 million drivers operating in 380 Chinese cities.

Didi Express: operating in about 400 cities with an ExpressPool option. Around 2 million passengers use carpooling services to commute every day.

Didi Hitch (Social Ridesharing): 2.2 million daily inter- and intra-city rides at peak. During 2017 Chinese New Year holiday, Didi's Inter-City Hitch provided nearly 8.48 million passenger trips.

Chauffeur: operating in about 200 cities.

Enterprise Solution: about 30,000 corporate clients.

Test Drive: working with more than 200 leading carmakers and building P2P car owner communities.

Car Rental: In January 2017, Didi officially launched its overseas car rental service to serve outbound Chinese travelers in over 1,500 cities across over 100 countries.

Big

Didi Bus: Launched initially in Beijing and Shenzhen as a WeChat-based trial in 2015. In Beijing, Didi took over Koala Bus fleet and operation in September 2015.By the time of Didi Bus's official launch in October 2015, Didi Bus was providing 1,500 daily rides and transporting approximately 500,000 daily commuters.

Didi Minibus: Didi started to offer minibus rides in December 2016, aiming to provide “last three-kilometer” connection to and between public transport hubs.

Big data operation: Every day, Didi's platform generates over 70 terabytes worth of data, processes more than 9 billion routing requests, and produces over 13 billion location points. Now Didi is building a cloud platform with integrated anonymized data from sensors on vehicles, static information and real-time events from roads and streets with Didi's pick-up and drop-off data, trips and carry capacity. With this platform, transportation supply and demand can be balanced efficiently, and congestion can be significantly mitigated.

Didi, the result of a 2015 merger of two transportation apps backed by tech giants Tencent and Alibaba, is a private company now valued at $50 billion, the second most valuable startup in the world after Uber ($70 billion). The stated goal of the merger between the two arch rivals was to make transportation in China more efficient, given the huge increase in ownership of private cars, the horrific traffic and smog in the big cities, and increased regulatory scrutiny on private car-sharing services. The philosophy behind Didi's big-data program called "The Great Tidal" strategy (which has also been referred to simply as “Tides”), is that traffic is a problem that can be solved if the vehicles on Didi's network could be properly dispatched.

Big

This is a big idea in a big country and it's now travelling around the world. Didi essentially owns the Chinese "mobile transportation" market, and it is moving overseas through partnerships with Ola in India, GrabTaxi in Singapore, 99 in Brazil, Taxify in Europe, and Lyft in the US[1]. (Didi also has a financial stake in Lyft.)

Didi is an asset light, data-intensive company that is working to get smarter every day. It *knows* the traffic demand patterns of a megacity – how many cars, how long it takes to move between two points at different times of day. Didi has the highest market share, by far, of *information* on the physical movement. Didi's algorithms learn drivers' preferences and match them with orders, as opposed to assigning the closest driver to a booking to cut waiting times. "It is not just by distance. It has a lot to do with the driver's behavior," said Didi President Liu. "For instance, the driver doesn't like to take long orders at 6 p.m. because he has to go home to eat."

Didi's approach is totally geared to megacities in emerging markets, rather than more developed cities of Europe and North America. One vexing issue Didi is working hard to solve is delivering an accurate Estimated Time of Arrival (ETA) for a driver, especially one involved in complex car-pooling. The usual algorithm checks only for distance between two locations, but riders might have to wait much longer depending on traffic and the type of service (private ride, social ride, carpool, bus, taxi). Didi is working with its Indian partner, Ola, on this issue, as traffic in cities like Beijing and Delhi is similar. The goal is to deliver a dynamic and accurate ETA.

[1]Didi Chuxing users visiting the US can order a Lyft ride from within their Didi hailing app (Lyft users will soon be able to do the reverse in China) and pay for it without worrying about currency exchange.

Big

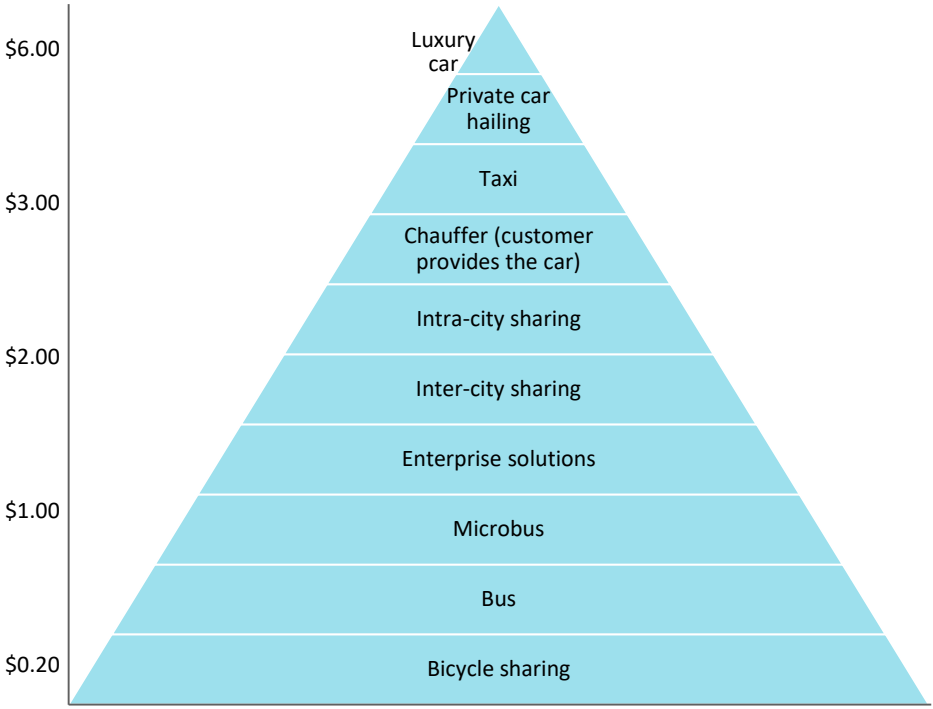
“We want to focus our resources on innovation and build a world-class big data team,” says Stephen Zhu, VP-strategy development. “The same algorithms that work in San Francisco don’t work here in Beijing. Because of the complexity of the city, the population density, all kinds of factors. So this is where we are focusing most of our resources.”

Consider the contrast between Uber’s approach and Didi’s model.

Uber	Didi
	Luxury car
Private car hailing	Private car hailing
	Taxi
	Chauffer
	Intra-city sharing
	Inter-city sharing
	Enterprise solutions
	Microbus
	Bus
	Bicycle sharing

Big

Per-mile cost



Maybe Didi stepped back and looked at a larger canvas. Maybe it had a very different internal thought process. Maybe it read Sun Tzu, and translated him into the 21st century war for better urban mobility.

I don't know.

What I do know is, they built a better model. And a unique model. In Sun Tzu terms, a model perfectly contoured to the situation.

And a model that will be extremely difficult to copy.

Big

Or, maybe Didi did something else.

Uber started in 2009.

Didi started in 2012.

Did Didi look at Uber and say:

"Hey, pretty good model.

But, we can develop one that's radically better."

And they did.

Now it's your turn.

Look at Didi's model.

Can you come up with one that's **radically** better?

Big

Most books fail. This one will, too.

Unless …

Unless you decide to become a co-creator of this idea in your own context. The next chart, p. 49, provides a starter. If you read it and understand it, you will enjoy it.

If, however, you read it, and ADD to it (in the right-hand column of p. 49), your own observations of this phenomenon, and translate your ideas into profitable actions, you will:

a) Enjoy it less (because you have to think till you sweat), and

b) You will make money from it, for both your customers and your company, and the people who work in it.

Big

Didi	• Not private car, but urban mobility	**My observations of "big problem" solvers**
Airbnb	• Global	•
Tesla	• Not car, but green household	•
Google	• All information	•
SpaceX	• Not rocket, but Mars	
Amazon	• Platform for all	**What I will do to create this vector for my business**
	• Cloud for all	•
	• Kindle	•
	• Echo	•
	• Drones	

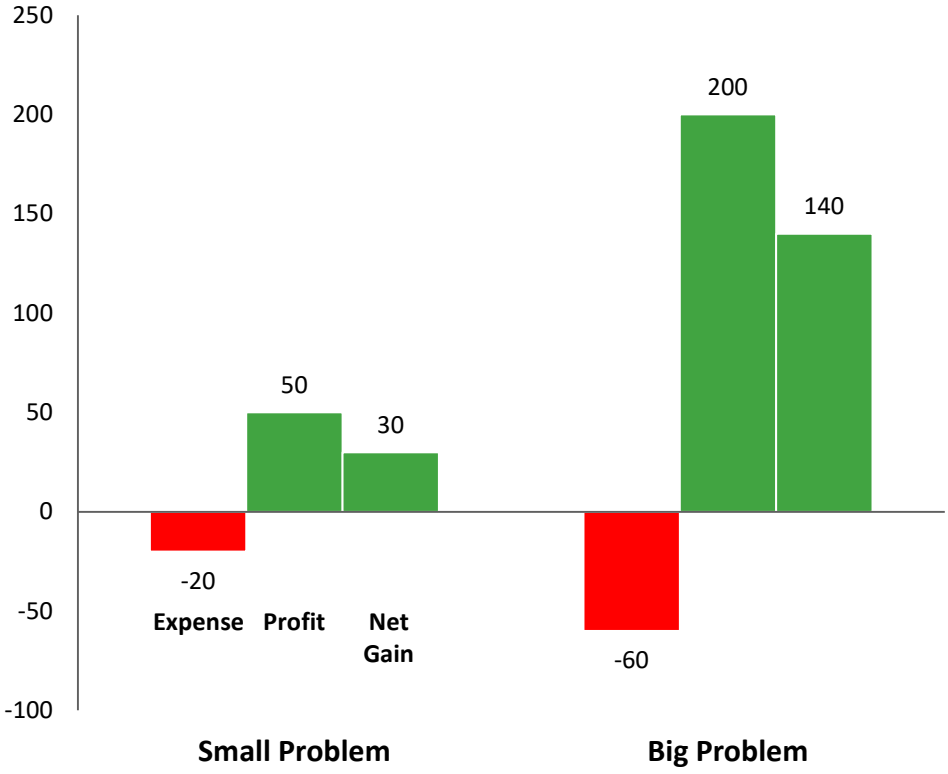
Big = Source of Leverage

How to use this page:

The column on the left provides a few examples to get the thought process started. In the upper right, add examples you, yourself have seen. In the lower right, add the actions you will take to build this vector for your organization.

Big

The economics of solving the “big” problem



Big

When Mark Parker became Nike's CEO in 2006, he called Steve Jobs, asking for his advice.

After a very brief exchange of pleasantries, Steve said: "Cut out the crap."

"I thought he was joking," said Parker. "But he wasn't."

Steve said Nike has great products – focus on those. Create new ones.

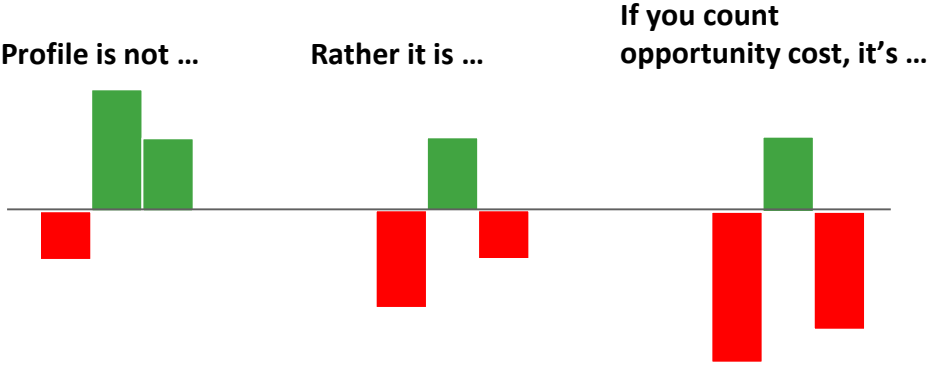
He said Nike also has a lot of other products: trivial, not relevant, not good, not exciting.

"Cut all those out," said Steve. The customer doesn't need them. You don't need them. They are just clutter, they are a distraction, they are a black hole for precious attention that should be devoted to those that matter.

As was so often (though not always) the case, Steve was right.

We don't think dozens of small, mediocre products are a problem. Just spend an hour, one hour, computing how much time and emotional energy they siphon away from the few that will really matter in the lives of customers.

In fact, the prior chart was probably way optimistic. In fact, for many small products:



Big

Asymmetric works at many levels, even local

"Big" is relative. It depends on your chosen customer set and field of activity. The question is: What are the biggest customer problems within that sphere of activity?

Consider the contrast between FactSet and Bloomberg. Both provide world-class, state-of-the-art support to their customer set. Yet, FactSet is worth $7 BB, while Bloomberg is worth $35 BB. The reason? Bloomberg serves traders; FactSet serves buy-side analysts. There are many times more traders than buy-side analysts.

You can find the "biggest" customer problems at many levels:

- Global
- National
- Regional
- Local

In fact, the asymmetric model is fractal in nature. The opportunity to compete asymmetrically works at many levels of magnitude. You can compete asymmetrically as a local baker, or restaurant, or restaurant chain. As a single school, or hospital, or network of hospitals.

You can work asymmetrically as a priest delivering a 10-minute sermon that is authentic, concrete, and spiritual, and deliver more content and spirit than all the waves of media washing over parishioners each week.

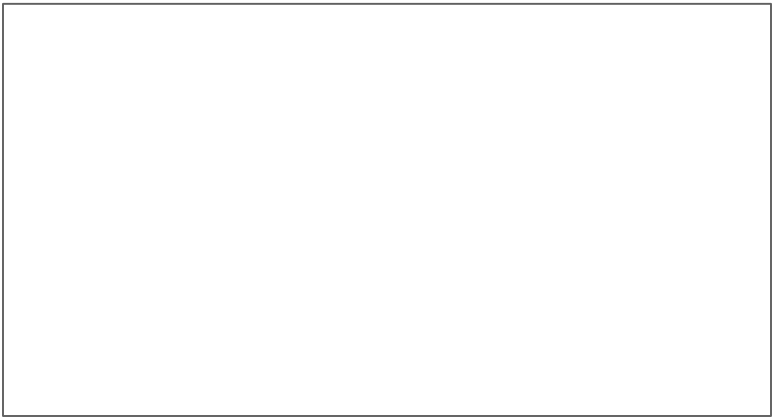
You can work asymmetrically as a math teacher, using Khan Academy to help your students better prepare for class, and learn more deeply.

You can work asymmetrically as a lawyer, an accountant, or financial advisor.

The list is endless. The tools are there. It is a question of customer obsession, and thought and practice.

Big

Draw your customer's hassle map



Now, use a wider angle lens to broaden your view. Draw the hassle map again. Can you find a bigger problem worth solving?

Big

Now, use a fully wide-angle lens. Draw the hassle map for your industry.

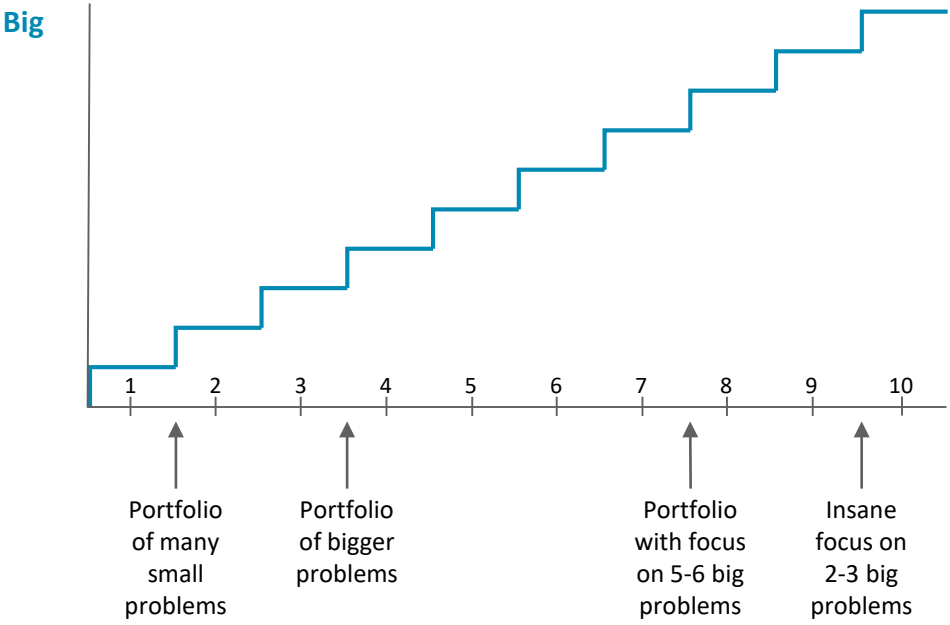
What are the biggest problems you can find? How quickly will your team evolve to be ready to attack them?

If you try to solve the wrong problem …

… you will.

Big

How do I want to rate myself, my team, my company?



Do we love our customers?

How much?

Enough to create a breakthrough for them?

Big

LUNCH #1

1. What new customer problems are we trying to solve today?
2. How many? How big are they?
3. How much time are we wasting on trivial things?
4. What are the **biggest** customer problems we can solve today, ourselves?
5. What are the biggest customer problems we can solve tomorrow?
6. What's stopping us?

FAIL

Who loves to fail? Who enjoys the ego-shattering, soul-destroying experience of failure? Especially of public failure? Of public humiliation?

If you want to understand public humiliation, read *The Iliad*. **Everyone** in *The Iliad* undergoes public humiliation (Achilles, Menealos, Priam, Agamemnon, Hector, Paris, …., Apollo, Aphrodite, even Zeus himself).

If we know (or admit to ourselves) that there's a chance we'll fail, we cling to formal mechanisms, such as the stagegate development process, that we can use as an excuse if we don't succeed. "Hey, look, we did all the things we were supposed to do."

Or we rely on comic Steven Wright who instructs us:

> *"If at first you don't succeed, destroy all evidence you tried."*

Very smart people hate to fail the most. But, the very, very smartest people **love** to fail. Really? Why?

Before reading on, take a few minutes (meaning 10 minutes, or more) to try to solve this paradoxical puzzle: Why do the very, very best **love** to fail?

By the way, if you read this volume quickly, you will fail. If you pause at every step along the way to think till you sweat, to think till you get a headache, victory will be inevitable. It's a really, really valuable 10 minutes. When 10 minutes are up, please write your own answers here.

Fail

I know you want to read forward. Please don't. Please don't until you get to at least 10 items in the lines above. Consider it a flip chart exercise.

I wish this were an online course, so that you wouldn't get the **next** module until you finished this one. In fact, if it took **two days** before you got the next module, you would personally be far, far better off.

This is the single most important moment in this virtual conversation. Most will fly by to try to get to the end to get a sense (a totally illusory sense) of accomplishment. Very, very few will stop to think, and think hard, and imaginatively, before proceeding. This book, this conversation, this irritating, challenging odyssey of questions was written for the second type of reader.

How tough is my character – today?

Fail

Here are the answers provided by one frequently failing, ridiculously successful executive.

Why do I love failure?

1. Transcend customer conversations
2. Transcend market research
3. Resolve uncertainties
4. Get to answer faster
5. Test for relative impact of variation
6. Teach organization to move faster
7. Teach organization to endure failure, and use failure as raw material for next success
8. Get more intense, more probing customer conversations
9. Set up a series of tests each quarter (e.g. Wegmans)
10. Get insight into what competitors do/will do
11. Learn to fail fast, cheap, smart
12. Forge a different culture inside the company
13. Learn to fail inside before you go to market

Do I have the courage to be a frequent failer?

Fail

A group of programmers at Providence Health Services (a large regional hospital chain) had been hired from Amazon. Their approach to development was completely different from the conventional processes used by the company.

They worked day and night and had a prototype out in customers' hands in two weeks. It was awful, of course, and it catalyzed a torrent of customer complaints.

And suggestions. They spent the next two weeks incorporating those suggestions, and working hard to create answers for the complaints that came without suggestions as to how to fix them.

In two weeks, they launched again. Again, they triggered complaints (many fewer) and suggestions (many more), because the product was really adding value to the users, and the users wanted it to succeed.

In two weeks, they launched the revised version again. The users **loved** it.

Providence Health Services CEO said that the product was up and running in 45 days!

"How long would your conventional process have taken?" I asked.

"Nine months," he replied. "More importantly, it wouldn't have been as good for the user."

Fail

The grandmasters of the art of failure have taken the idea a step further. Or rather, a step sooner. When you look closely at Apple's development process, or the development process of the Toyota Prius, or of GM's OnStar, you find the same approach: internal competition and internal failure **before** the launch. They create many variations and have them compete against each other, in their search for the best answer.

At Apple, Steve Jobs asked his engineers to develop **10** pixel-perfect prototypes for each future of a product. Through user testing, these were competed down to three. Further revisions and testing brought the three finalists down to one.

The Toyota Prius team tested 80 different engine systems, 20 different transmissions, 7 different stylings, etc.

As always, the search was not just for the best **standalone** feature, but one that was outstanding **and** fit into the overall idea of the product, and integrated well with the other "best" solutions.

At GM's OnStar, it wasn't only about multiple product features. GM also explored multiple alternative business designs before discovering the winning approach.

For some companies (very few), failure becomes part of the psyche of the company, failure is woven into the fabric of how the company does business.

Fail

Family-owned grocer, Wegmans, looks for ways to do a better job for customers **and** employees, and launches an experiment every quarter. It's been doing so for decades. Most fail. Most teach what might work, what might succeed. They provide the raw material of the breakthroughs that make Wegmans the value leader in its industry.

For years at Johnson Controls, the mantra was that it was absolutely okay to fail, so long as you:

- Failed fast
- Failed cheap
- Applied **what you learned** to the next development effort

Fail

Wegmans' history of experimentation

1930-40s	1970s	1980s	1990s	2000s
• One-stop shop • Cold display cases • "Misted" produce shelf • Self-service format	• Bar codes • Electronic register • Pharmacy (1974) • Private label (1979)	• Credit union • Employee scholar-ships	• Loyalty program (1990) • Child care (in-store) • Broad ethnic food line	• Data synchronization across supply chain • Joint improvement initiatives with vendors • Online vendor auctions • Organic research farm • Full-service restaurant (2010)
20,000 sq. ft. store	**40,000 sq. ft. store**		**120,000 sq. ft. store**	

After decades of experimentation, after hundreds of failures, Wegmans knows that failure is the critical raw material for manufacturing tomorrow's value breakthrough for the customer.

Fail

- Amazon hires at Providence Health
- SpaceX
- Xiaomi – revisions every Tuesday
- Apple (Inside)
- Prius (Inside)
- GM (Inside)
- Wegmans – 50-year history of fast failure
- Johnson Controls – fail fast, fail cheap

My own observations of "productive failures"

-
-
-

What I will do to create this vector for my business

-
-
-

Fail

SpaceX

Perhaps the quintessential example of using failure as the raw material for the next success is SpaceX. The table below shows just a sampling of the major, very visible, highly public failures the company has endured.

Rather than creating crisis, depression, or loss of morale, each failure was a stepping stone to the next breakthrough.

2006	First SpaceX launch fails 33 seconds after lift-off
2007	Engines shut down prematurely and rocket fails to reach orbit. 0 for 2.
2008	Two rocket stages separate and collide
2015	SpaceX rocket vaporizes shortly after launch. NASA renegotiates for significant discount.
2016	SpaceX loses a rocket before launch; vehicle explodes during fueling.

Fail

SpaceX: Learning from Failure

"I think it's important to have a good hard failure when you're young because it makes you kind of aware of what can happen to you," Walt Disney once said. "Because of it I've never had any fear in my whole life when we've been near collapse." That could describe Elon Musk, CEO of SpaceX.

After three rocket failures between 2006 and 2008, Space X was on the verge of bankruptcy. But, a day after the last crash, billionaire investor Peter Thiel of PayPal fame became the first outside investor in SpaceX.

Space X went on to get a NASA contract to supply the International Space Station with Dragon capsules, which it has since done successfully 12 times. In 2013, a spacecraft in orbit developed issues with its thrusters—but engineers on the ground were able to remotely control the problem and it reached the ISS a day late.

But then, more spectacular launch failures. In 2015, a Falcon 9 rocket headed to the ISS with a Dragon capsule blew up after two minutes in the air. The problem was determined to be a two-foot strut that broke free. Musk said it appeared "to be incorrectly made but with no visible way of determining that from the outside."

In 2016, a Falcon 9 exploded during a propellant-fill operation for a standard pre-launch test. The payload, the Amos-6 communications satellite valued at $200 million, was destroyed. Space X euphemistically described the blast as "an anomaly on the pad." Actually, liquid oxygen got so cold that it solidified and ignited.

Fail

After proving that rockets could lift supplies to astronauts in orbit (at least most of the time), SpaceX began landing reusable rockets on a robotic drone ship at sea. Musk has described the feat as “like trying to balance a rubber broomstick on your hand in the middle of a wind storm.” This resulted in four more failures, all crash landings at sea.

Musk: “Definitely harder to land on a ship. Similar to an aircraft carrier vs land: much smaller target area, that’s also translating [and] rotating.” After the final landing failed, Musk tweeted: “Didn’t expect this one to work (v hot reentry), but next flight has a good chance.”

SpaceX doesn’t consider the botched landings to be failures, but experiments. After all, the idea of re-using rockets is a new idea. And they launched fine. Finally, in spring 2016, the company landed a reusable rocket on a drone ship floating in the Atlantic Ocean, an industry first. In August 2017, it landed a rocket on a drone ship for the 15th time!

SpaceX has a NASA contract to re-use a rocket to deliver a payload. And a NASA contract to deliver astronauts into space. When, no one knows. But, SpaceX has clearly survived and is beginning to prosper. In 2017, it has had 11 successful launches. And, despite its many failures, no lives have been lost.

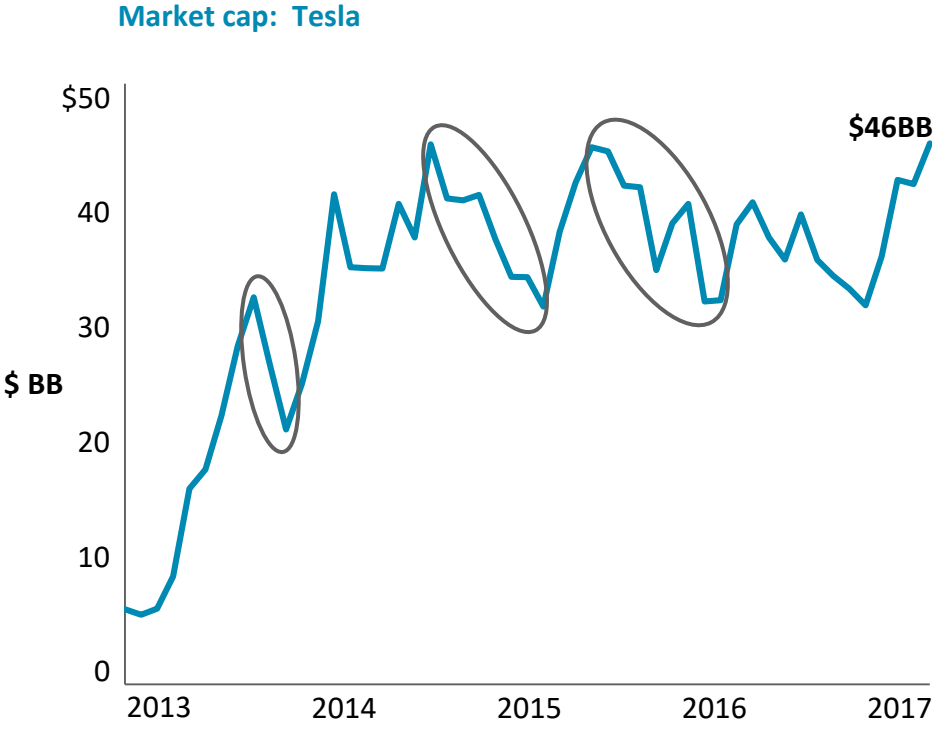
Fail

"War is a series of catastrophes – leading to victory."

– Clemenceau

Tesla is a similar story: Failures with major auto systems, failures with algorithms, failures in distribution/dealership battles.

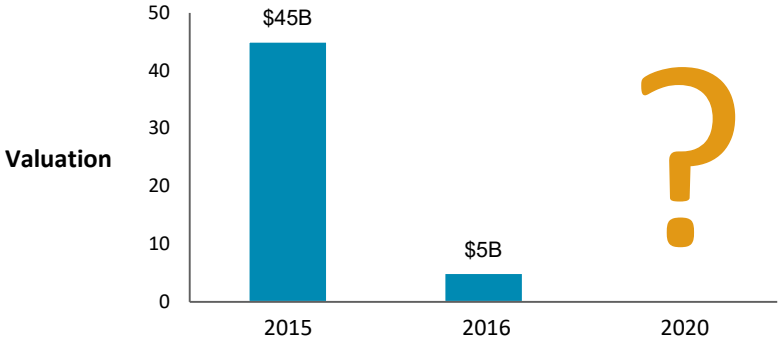
The EKG of a frequent failer is not a pretty picture. Consider the short history to date of Tesla's stock price.



Many companies hope to achieve victory without catastrophes. I've never seen it done.

Fail

Xiaomi



Failure happens not just at the level of product, but also at the level of strategy. Like Dell in the 2000s, Xiaomi got the strategy wrong. Consumers wanted to buy in stores, not just online.

Xiaomi got so many things right (word-of-mouth, upgrades every Tuesday, ultra low-costs, etc.), but one big thing wrong. Xiaomi is modifying its approach. Do you think they'll bounce back, as SpaceX and Tesla have done so many times?

Fail

Koan*
Productive Failure = Foundation of Breakthrough

*Koans are riddles, puzzles used to teach monks in Japanese Buddhist monasteries. A teacher assigns a koan to a student, and they spend days wrestling with it to discover the meaning hidden inside it. Some of the most famous koans are:

- What is the sound of one hand clapping.
- If a tree falls in the forest and no one's around, does it make a sound?

Fail

Koans

Koan 1

Koan 2

Koan 3

If a man is all alone in the forest,

And his wife isn't around

And he says something …

Is he still wrong?

Fail

A short course on failure

- Microsoft 1.0, 2.0, 3.0
- Providence Health – customer critique
- SpaceX
- Tesla
- Apple – Fail inside (10 variations)
- Prius – Fail inside (7-80 variations)
- OnStar – Fail inside

Shift from **Fail Outside** → **Fail Inside**

- Wegmans – Failing for decades
- Xiaomi – Turnaround – Work in progress
- Hamlet – Secret weapon – the theater (constant revision)
  Your secret weapon: the market (constant testing and revision)
- Evolution – Fails **all the time**, to find the best solution

Can I double this list?

Fail

Please do a highly personal (don't share with others) thought experiment on strategic failures (product failure, big customer loss, strategic misstep, lose an ally, …)

1. In the next year, I and my team will fail **once or twice**.

OR

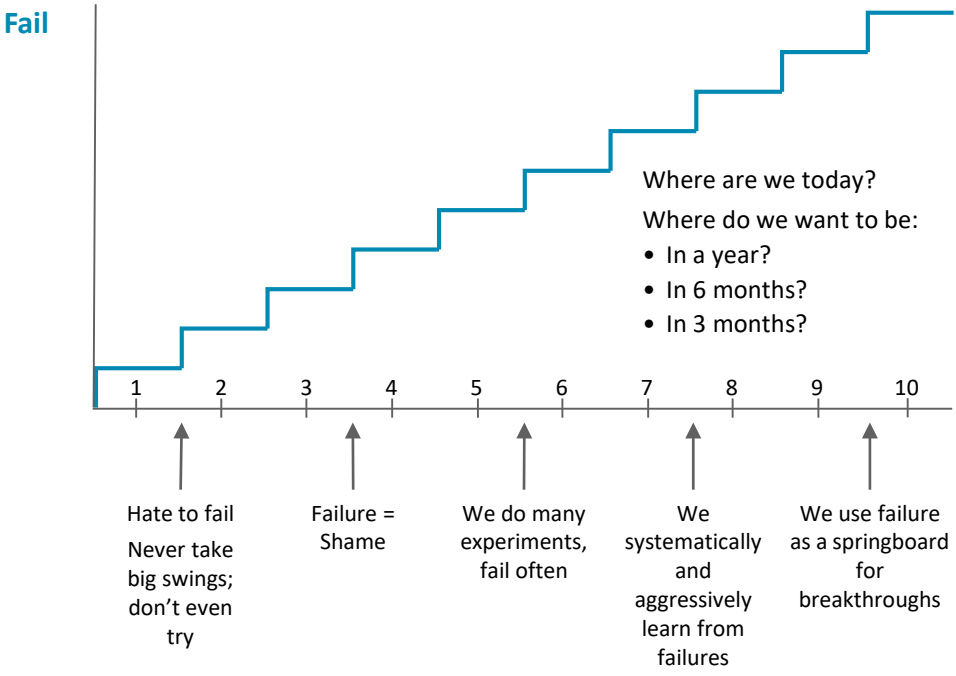
2. In the next year, my team and I will try much more often, and we will fail **10-12 times**.

↓

What difference will it make?

Fail

Why do I want to rate myself?



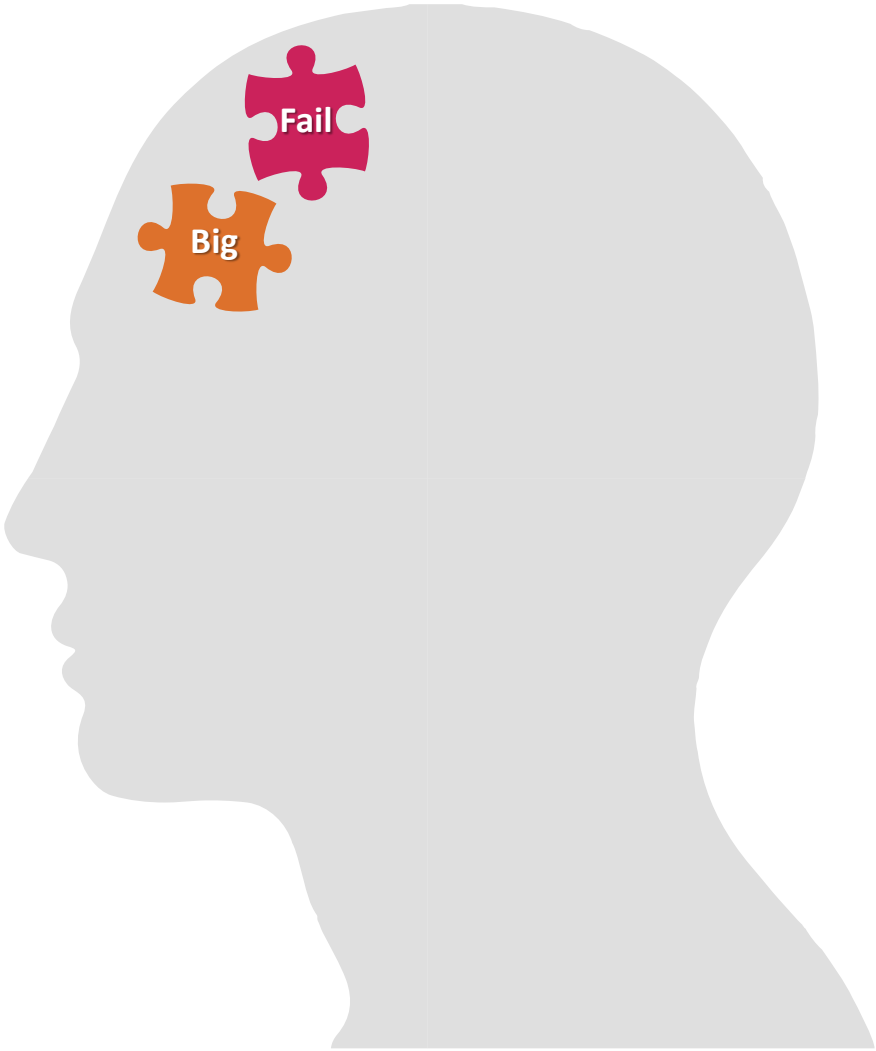
Fail

LUNCH #2

1. How many times have we failed in the last two years?
2. Have we learned anything? Applied it?
3. Do we hate failure? Or embrace it as a stepping stone, a springboard, a transition to victory?
4. How will we fail this year? How can we make those failures incredibly productive?
5. What's the relationship between "fail" and "big?"

Fail

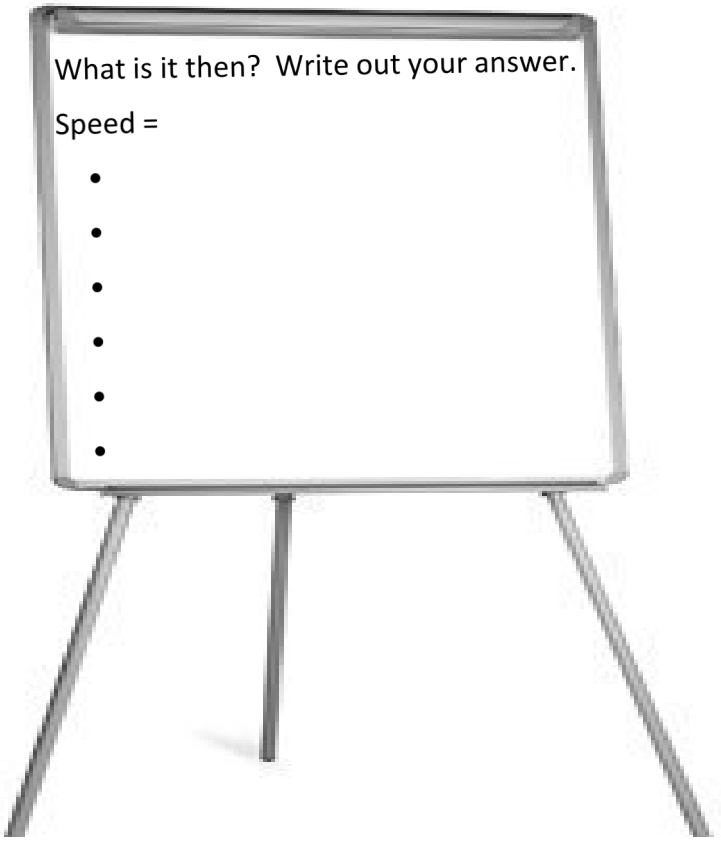
The asymmetric competitor



FAST

If you spend a meaningful amount of time with Startups, you'll see that speed is an essential component of the Startup mindset. Speed is everything. Speed is important **in** everything: hiring, developing, deciding, testing, customer development, globalizing, …

Yet, speed is very, very hard to understand correctly. It is **not** about being frantic, or hyper-kinetic, or lurching from failure to disaster, or even from failure to victory.



Fast

The very best say: Go slow to go fast. Figure out what you need to do, what you want to do. Figure out the right way to do it. Figure out the problems you'll run into. Solve them **in advance**.

> "If you prevent the problem before it happens,
> was it ever a problem in the first place?"

"Fast" has evolved. It used to take a decade or two to globalize. Airbnb did it in five years.

We've learned that unnecessary costs are waste. Taiichi Ohno of Toyota taught us this in the 1960s. Today's asymmetrical value creators know that for the customer, unnecessary delay is the worst form of waste. They act accordingly – in everything they do.

There are huge psychological barriers to being fast. We all hate to be rushed. If we work in large organizations, even more so. Yet, giving in to these barriers puts us at risk to the forces of market entropy. And to the tactical successes of the "fast" competitor.

Fast

- "Blitzscaling" – Global in 4-5 years
- SpaceX – 4 years vs. 11
- Tesla – Moving at 2× the rate of the market
- GE – Hire 2,000 software engineers (San Ramon)
- Amazon – 48 hours → 2 hours (Prime deliveries)
- C.C. Myers – 66 days instead of 140

My own observations of fast

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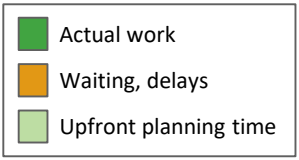
-
-

What I will do to create this vector for my business

-
-
-

Fast

How to get "fast:"
Change the work/wait ratio



Work/Wait Ratio

30%

Now, suppose you reengineered this workflow to take out most of the delays:

70%

Now, cut the amount of effort by taking out the **unnecessary** work:

90%

When the asymmetric competitor is "fast," they are fast because they:

1. Think ahead more
2. Remove the delays **and**
3. Cut out work not needed to delight the customer

Fast

Look closely at the sideways bar and consider what the boxes mean. When they are green, you are working and making money. When they are yellow, you are losing money.

Delay = Loss

It is always better for us to draw them in color, as a persistent reminder that actual work on the right target is making money, but that unnecessary waiting means a loss every bit as real as the losses on an income statement.

In the 1970s and 1980s, under the leadership of Dr. Roy Vagelos, Merck knew this. Vagelos taught the organization that needless delay was tangibly expensive. That consciousness became part of the culture of the company.

And it was not fuzzy, but quantitative. There was a cost of delay for every project, and it ranged from $1 MM/day (for smaller markets, where the Merck product would be a late entrant), to as much as:

$10MM a day

… in cases where markets were very large and Merck had a chance to be the first entrant. (Remember that pharmaceutical products had very high margins **and** pharmaceutical patents expired several years after market entry.)

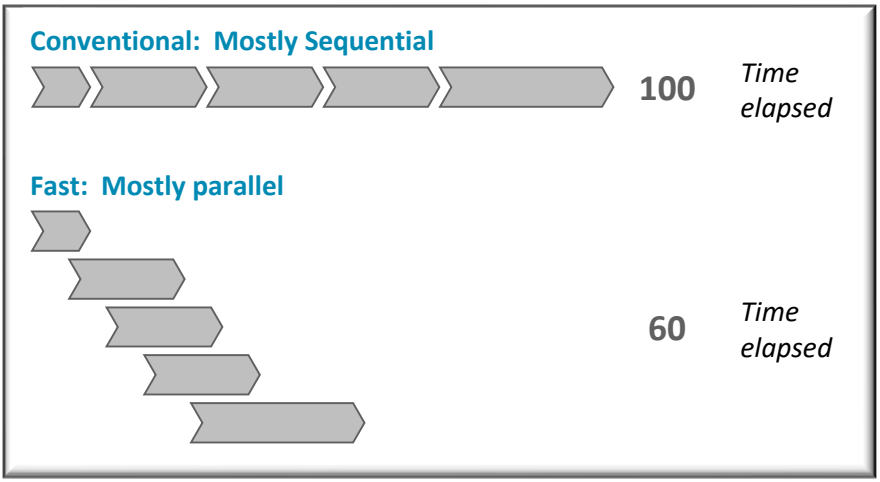
Fast

As a consequence, Merck:

A. Was very disciplined to focus on the second type of project (large market, early entrant), and

B. Believed that allowing unnecessary delays was a mortal sin

Merck innovated to find ways to be fast. It greatly reduced the number of projects from dozens to several really high-potential candidates. It planned, and replanned, and replanned to anticipate and avoid delays. And it did tasks in parallel wherever possible. It rejected conventional, sequential thinking, and it tried to parallel process whatever it could:



As a result, it could often cut the **total** time required by more than 40 percent. That time savings was worth a fortune.

Fast

Observe any or all of the following:

- Kitchen renovation
- House painting
- Bridge repair
- Developing a new car

How much time is:

- Actual work?
- Waiting?

Fast

Squeeze out the air

A friend once pointed to a PC dominating his desk space, and a slim laptop to its side and said:

> *"The laptop is exactly the same as the PC,*
> *just with air squeezed out of it."*

A fast project is exactly the same as a slow project, just with the air squeezed out of it.

Squeezing the air out is not easy. It is a matter of skill and of will. A great practitioner of squeezing the air out was C.C. Myers, a construction and repair company based in California. They were serious about speed.

In 1994, the Northbridge earthquake damaged four bridges on the Santa Monica Freeway. Officials expected to repair it in 140 days, fingers crossed. The State of California, understanding the loss to the LA economy that was caused by the freeway being down, offered a $200,000 per day bonus for each day prior to the 140 days that the bridge opened. (The closure of the freeway was estimated to cost the economy of the area as much as $1M per day.)

C.C. Myers won the bid, and repaired the freeway in 66 days – 74 days ahead of schedule. The company earned a $15 MM bonus for finishing so quickly, and enabling drivers have access to their normal routes.

Fast

Santa Monica freeway after 1994 earthquake

By Robert A. Eplett - This image is from the FEMA Photo Library., Public Domain, https://commons.wikimedia.org/w/index.php?curid=8063087

Fast

MacArthur Maze: 2007

In 2007, in San Francisco, C.C. Myers did a post-earthquake retrofit of the old Bay Bridge. It also did a reconstruction of the MacArthur Maze near Oakland, which was damaged after a gasoline truck exploded. In both cases, the work was done significantly ahead of schedule. In the MacArthur Maze work, Caltrans expected repairs to take 50 days. C.C. Myers said he could do it in 25, and won the bid.

The repair was completed in 19 days, winning a bonus of $5 MM, and opening the road to frustrated commuters a week ahead of schedule.

How did C.C. Myers do it?

Have you ever watched a construction site? A bridge repair? A house renovation?

Think of what you observed, and then think of the opposite. That's C.C. Myers:

- Bringing a sense of urgency
- Intense but accelerated planning and preparation
- Advance ordering of materials
- Keeping reserve materials
- Keeping reserve workers ready
- Frequent meetings to check progress, anticipate bottlenecks, break bottlenecks in advance
- Adding extra capacity (workers, machines) wherever possible
- Keeping a sense of urgency

Fast

MacArthur Maze after gasoline tanker truck overturns and burns

C.C. Myers' approach was not a bad approach to strategy: look closely at what your industry is doing; then do the opposite.

Postscript: As a result of bad real estate investments, Myers sold his stake in the company. It wasn't enough, and he wound up in bankruptcy.

Irrepressible as always, today, at age 76, he is back in business, having started a new company, and once again working on California highways and bridges, getting projects done twice as fast as competitors.

Source: http://www.nytimes.com/2007/04/30/us/30collapse.html

Fast

C.C. Myers

Portrait of a man who enjoys being fast …

… even at the age of 76.

Source: nytimes.com/2007/06/02/us/02ramp.html

Fast

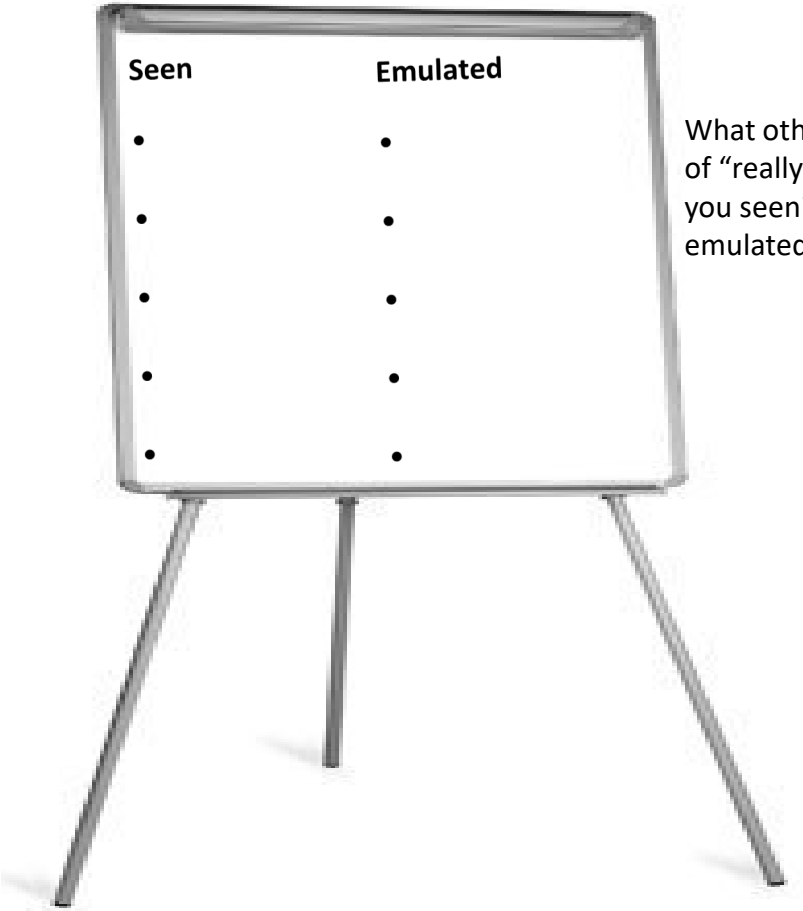
When you think of "Fast," think:

Airbnb	–	Global in 4-5 years
C.C. Myers	–	Build in half the time
Merck	–	Product development 40% faster
Amazon	–	Transaction speed
Ali	–	Faster than Foreman
Intel	–	Product development, 18 months ahead of AMD
Xiaomi	–	Feedback every Tuesday
Mongols	–	Four horses
San Diego Builders	–	Four-hour house assembly
SpaceX	–	Rocket in four years
Apple service	–	Solutions at the Genius Bar

If you are very small
and you are not very fast,
you are wasting your second
most precious advantage.

Fast

When you think of “Fast,” think:



What other examples of “really fast” have you seen? Have you emulated?

They’re actually quite hard to find (they’re rare). They’re much harder to emulate (they’re difficult, they take practice, they require a different mindset).

Therein lies great value.

Fast

Blitzscaling: Three approaches

1 Do it yourself

Get on Google. Type in "Blitzscaling." What are the first five entries?

1. _____
2. _____
3. _____
4. _____
5. _____

You'll find Reid Hoffman. You'll find the Stanford course. You'll find most of the clues you need to get started.

2 Reverse engineer (use Uber on next pages as catalyst) your own targets and timelines

3 Build your own playbook (see Blitzscaling, p. 100)

- 24 people (PayPal)
- Three engineers (Uber)
- Customer service move (PayPal)
- Google/AOL alliance
- iPhone – 90% came from outside
- Android (acquisition: Google)
- Android (licensing: Samsung, Amazon)

Fast

Uber

To get a visceral, granular sense of how “Fast” really works, how it really feels, read through the timeline for Uber.

Although it’s an oversimplification, it conveys a sense of how intensely startups work to get their goals accomplished.

Although the timeline doesn’t specify all the parallel processing that’s taking place, you can infer all the behind-the-scenes work going on to make these achievements possible.

Please read it line by line.

When finished, come back to this page and write out your takeaways from working through the Uber experience:

My own takeaways from the Uber experience:

Fast

Timeline of Uber

Year	Month and date	Event type	Details
2009	March	Company	Uber founded as UberCab.
2010	July	Company	Uber goes live for the first time in San Francisco.
	December	Team	Ryan Graves steps down as CEO in favor of Travis Kalanick.
2011	February 14	Funding	Uber announces it has raised $11 million in Series A round led by Benchmark Capital.
	May	National expansion	Uber goes live in New York City.
	December 5	International expansion	Uber expands beyond the United States, starting by expanding into Paris, France.
	December 7	Funding	Uber announces it has raised $37 million in Series B round, including investors such as Goldman Sachs, Menlo Ventures (with Shervin Pishevar leading Menlo's investment), and Bezos Expeditions.
2012	July	Product	Uber announces UberX, a service that uses lower-cost hybrid vehicles.
	July 2	International expansion	Uber launches in London, United Kingdom.
	August	Competition	Lyft, a competitor to Uber, launches in San Francisco
2013	July	International expansion	Uber expands to Asia launches in Taiwan, starting in Taipei
	August 8	International expansion	Uber expands to Africa, launches its first product in Johannesburg, South Africa.
	August 23	Funding	Uber confirms it has raised $258 million in Series C round at a $3.5 billion pre-money valuation, with investors including Google Ventures and TPG Growth.
	August 29	International expansion	Uber expands to India, launching its first product in Bangalore.

Fast

Timeline of Uber

Year	Month and date	Event type	Details
2014	April 7	Product	Uber launches Uber Rush in New York City, a courier service using bicycle messengers to deliver packages. This marks the beginning of Uber's transition into a logistics company.
	June 6	Funding	Uber confirms it has raised $1.2 billion in a Series D round, with a pre-money valuation of $17 billion. Key investors include BlackRock, Google Ventures, Kleiner Perkins Caufield & Byers (with partner Megan Quinn), Menlo Ventures, SherpaVentures (with partners Shervin Pishevar and Scott Stanford), Summit Partners, and Wellington Management.
	July 15	International expansion	Uber officially launches in China, starting with Beijing.
	July 24	International expansion	Uber officially launches in Lagos, Nigeria, expanding its presence to Western Africa.
	October 22 - November 19	Controversy	On October 22, 2014, an article by Sarah Lacy in PandoDaily was published where she sharply criticised the "asshole culture" of Uber and said she intended to delete the app from her phone. On November 17, 2014, BuzzFeed editor-in-chief Ben Smith reported that Uber senior executive Emil Michael "outlined the notion of spending 'a million dollars'" to hire four top opposition researchers and four journalists. He said that team could help Uber fight back against the press by looking into "personal lives, your families". Michael was particularly focused on journalist Sarah Lacy, who accused Uber of “sexism and misogyny". Lacy wrote a sharp response critical of Uber's actions. The controversy was picked up by CNBC, Business Insider, and the New York Times Bits blog. Michael Wolff, the journalist who had arranged for and invited Smith to the private dinner where the controversial remarks were made, wrote a lengthy piece about the controversy, stating that Uber executives had believed that the event was off-the-record, but that he (Wolff) had failed to communicate the information to Smith.

Fast

Timeline of Uber

Year	Month and date	Event type	Details
2014 (cont.)	December 4	Funding	Uber confirms it has raised $1.2 billion at a $40 billion pre-money valuation in a Series E round. Key investors include Qatar Investment Authority, Valiant Capital Partners, Lone Pine Capital, New Enterprise Associates, and SherpaVentures.
	December 8	Controversy	An Uber driver in Delhi allegedly rapes a passenger when driving her home late at night.
	December 8	Product	Uber expands UberFRESH in some parts of the Los Angeles area to include dinner delivery during weekdays.
	December 16	Funding	Chinese search technology company Baidu announces a $600 million strategic investment in Uber, also classified as a continuation of the Series E round, thereby bringing the Series E total to $1.8 billion.
2015	January 21	Funding	Uber gets $1.6 billion from Goldman Sachs in debt financing.
	January 22	International expansion	Uber launches its first product in East Africa, in Nairobi, Kenya.
	February 2	Team	Uber opens robotics research facility In Pittsburgh to build self-driving cars. In May, Uber poaches 50 employees from Carnegie Mellon's National Robotics Engineering Center.
	February 14	Competition	Didi Dache and Kuaidi Dache, the two biggest players in the low-cost app-based taxi hailing market in China, announce a merger into Didi Kuaidi. The merged company would be significantly larger than Uber in China.
	February 18	Funding	Uber raises an additional $1 billion in its $40 billion pre-money valuation Series E, increasing the total Series E money raised to $2.8 billion (after adding the first $1.2 billion and the next $600 million raised from Baidu). The additional investors are Times Internet, Foundation Capital, and Accelerated IT Ventures.

Fast

Timeline of Uber

Year	Month and date	Event type	Details
2015 (cont.)	April 28	Product	UberFRESH, which launched in the Los Angeles area in August 2014, rebrands itself as UberEATS. The rebranding is linked to an effort to rapidly expand to other areas. The service is already available in New York City and Chicago and plans to expand to many other locations.
	June 17	Legal	California Labor Commission deems Uber drivers as employees.
	July 15	Legal	Administrative judge recommends that Uber be fined $7.3 million and suspended from operating in California.
	July 31	Funding	It is announced that Uber has completed a Series F round, raising $1 billion at a $50 billion pre-money valuation (so a $51 billion post-money valuation). Key investors are Microsoft and Bennett, Coleman, & Co, Ltd., the parent company of The Times Group, India's largest media conglomerate.
	August 19	Funding	Uber raises $100 million in private equity from the Tata Opportunities Fund, a fund of the Tata Group in India, with the goal of using the money to help it double down on its India operations.
	September 9	Competition	Chinese Uber competitor Didi Kuaidi, the entity formed through the merger of Didi Dache and Kuaidi Dache, raises $3 billion to move more aggressively in its battle to maintain market dominance against Uber in China.
	December 3	Funding	Uber announces that it is raising $2.1 billion at a $62.5 billion valuation.
	December 3	Competition	Uber competitors Lyft (United States), Didi Kuaidi (China), Ola Cabs (India), and GrabTaxi (South-East Asia) (all of which have Softbank as an investor) announce a global technology and service alliance.
	December 9	Product	UberEATS, Uber's food delivery service, is spun off into a separate standalone app, and now offers all-day delivery in Toronto. The new app is not available for other regions.

Fast

Timeline of Uber

Year	Month and date	Event type	Details
2016	March 1 and 15	Product	On March 1, the new UberEATS app with all-day delivery launches in Los Angeles, California. On March 15, it launches in Chicago, Houston, and San Francisco, and announces plans to launch in a number of other US cities in the coming months.
	April 12	International expansion	Uber launches in Buenos Aires, Argentina amidst claims of illegality and taxi protests.
	May 7–9	Local retreat	On May 9, Uber and Lyft cease operations in Austin, Texas. This is in response to a city ordinance upheld by Austin voters on May 7 that would require drivers for Uber, Lyft, and other transportation network companies to get fingerprint checks, to have their vehicles labeled, and to not pick up and drop off in certain city lanes.
	May and June	Product	Uber announces that it is changing its app to inform riders of the price of their ride when they book it, rather than simply providing a surge multiplier. The move is prompted by the observation that UberPool users, who do see the ride price upfront, are more likely to continue using the service. Price changes triggered by destination changes will be sent to riders in real time. Changes to routes due to traffic or other reasons not under the rider's control will not result in a change to the price charged upfront. The move is not an end to surge pricing but rather a change in the way the surge pricing is communicated to customers. The change, officially announced in late June, had already been rolled out at the time of announcement in several cities, and had received some commentary in May.
	June 9	Product	Uber opens up the Uber RUSH API to developers. The goal of this API is to make it easy for merchants to integrate the use of Uber drivers into their delivery system. The tool has been used by select small businesses since October 2015, and the opening up to the public is to encourage more widespread adoption.

Timeline of Uber

Year	Month and date	Event type	Details
2016 (cont.)	June 30	International expansion	Uber launches in Kiev, Ukraine.
	July 24	Local retreat	Uber leaves Budapest, Hungary.
	July 28	Legal	The Chinese government issues guidelines to make ride-hailing services, such as Uber, legal in the country.
	August 1	competition, mergers	Didi Chuxing (formerly Didi Kuaidi), the dominant player in China's ridesharing market, agrees to buy Uber China, Uber's business in China. The Uber brand will be retained, but Didi would "integrate the managerial and technological experience and expertise of the two teams." Uber reportedly lost $2 billion trying to make inroads in China.
	August 18 (announcement)	Product, automation	Uber announces plans to launch service with self-driving cars in Pittsburgh, Pennsylvania, where its robotics research facility, built with employees poached from Carnegie Mellon University in 2015, is located. The cars are modified version of the Volvo sports utility vehicle equipped with Uber's technology for self-driving. Cars will have drivers at the wheel, monitoring the vehicle, as required by law. The move is seen by commentators as the first step in Uber's ambitious goal of replacing its entire fleet with autonomous vehicles.
	September 16	Product	Uber begins mapping UK streets in an effort to identify the best pick-up and drop-off points from its own images.
	November 2	Product, user experience	Uber launches a redesigned rider app, with a simplified user flow that focuses on identifying the destination first, then shows ride options with prices, and then gives driver contact information and allows riders to make adjustments such as split fare and get more information about the destination. The app also connects better with the user's current location, real-world identity, favorite places (such as work and home) and integration with services such as Foursquare and Yelp for destination-specific information, in what is seen as an attempt to pull users into spending more time in the app.

Fast

Timeline of Uber

Year	Month and date	Event type	Details
2017	March	Product	Uber begins beta testing a program in select cities to pick up passengers aged 13 through 17, previously not allowed on the company's terms of service.
	June 6	Team	CEO Travis Kalanick takes summer sabbatical after an investigation into the company's workplace culture.
	June 21	Team	Travis Kalanick resigns as CEO

Please go back to p. 92 and note down all your takeaways, observations, conclusions.

Fast

Blitzscaling

“The competitor that gets to scale first nearly always wins,” says Reid Hoffman, first COO of PayPal, then founder of LinkedIn, and now a partner at VC Greylock. “First-scaler advantage beats first-mover advantage. Once a scale-up occupies the high ground in its ecosystem, the networks around it recognize its leadership, and talent and capital flood in.”

Hoffman coined the term “blitzscale” to describe the phenomenon of scaling a new business to reach a lot of customers (tens of thousands or millions), in multiple markets/countries, in a short period of time (2-4 years). "When you scale at speed, you can capture the market quickly and also outmaneuver potentially global competition,” says Hoffman. “Given the parallels with military and sports strategies, we can call this blitzscaling. Literally: lightning scaling."

Companies need to scale fast if they are in a low-margin business and need millions of customers or transactions to generate enough revenue. Or they need to scale fast because they have developed such a good product it’s already been copied by a competitor who is on the verge of scaling first and creating a new market category (as Amazon, Facebook, Google did).

Blitzscaling is primarily about adding customers and growing revenues, but it’s also about scaling an organization and a culture. Some noteworthy examples:

- In 2001, Google’s revenue was $19mm. In 2002, Google made a deal with AOL, ceding 85% of ad revenue to AOL for Google searches on AOL, with a $150mm/year guarantee. At the time, Google had $10mm in cash, so it was making a big bet. And it paid off. In 2003, Google’s revenue was up to $347mm, thanks in large part to the AOL deal.

Fast

Blitzscaling

- When Uber was getting established and looking to hire top engineers, it would ask recruits, “Who are the best three engineers in your firm?” It would then send out job offers without interviewing them, as a way of quickly acquiring top talent.
- Airbnb started in 2007 as AirBed & Breakfast, and went nowhere in its first two years, barely raising any money. But it was working on developing a service and a model for attracting hosts. By 2011, four years after its first air-mattress guests, Airbnb was in 89 countries and had hit 1 million bookings. “The gift the Samwer brothers (one of our early large competitors) gave to Airbnb was the reason to scale fast,” says co-founder Brian Chesky. “We went from just a US company to an international organization within a year.”
- When PayPal transactions started growing 2-5% a week in early 2000, customer complaints went through the roof. And there was no customer service department, besides the people answering phones in the office and getting yelled at. Since Silicon Valley was not exactly the place to launch an earnest and efficient customer-service group, PayPal convinced the governor of Nebraska to bring the Silicon Valley/internet revolution to Omaha. He and the mayor held press conferences about PayPal opening a customer-service office, prompting a flood of job applicants. “For four weekends straight, we flew out about 20% of the company to interview them,” says Hoffman. “Within six weeks, we had 100 active customer-service people fielding e-mails.”
- LinkedIn launched with 15 countries on its drop-down list. The next day, the company started receiving e-mails from people whose countries were not on the list. “It was an interesting geographic lesson for me, because I wasn’t aware that the Faroe Islands was a country until we got a complaint,” says Hoffman. “So I went and read a little history and said, OK, add it to the list. It’s real.”

Fast

Blitzscaling

Three Phases of Blitzscaling

Eric Schmidt, CEO of Google: “It’s easy to double. You can kind of see how doubling works – you can imagine adding a person to each team, adding a country, adding a product line. But it’s very hard to quadruple every year. Quadrupling is much less clear.”

For established companies with cash or valued stock, acquisition is always an option to enter new markets lightning fast. To get into mobile, Facebook bought Instagram and What’s App, and Google bought Android (and later licensed it to Samsung). For companies with a platform, partnership is an option. Apple attracted multiple partners to develop the iPod, and cut two years off its development time.

Who created the iPod?

User interface	Pixo
Miniature hard drive	Toshiba
Music content	Major music labels
Reference platform	PortalPlayer
Computer software	SoundJam
Clickwheel	Synaptics
Overall design and coordination	Apple

Fast

Blitzscaling

For startups, the path is indeed “less clear” and there is no playbook. But there are requirements – creativity, a willingness to take a risk, money, and urgency – when the timing is right.

Reid Hoffman’s Stanford class on blitzscaling (CS183C) lays out a framework for timing your leap. (Google: “Reid Hoffman Stanford CS183C” in order to see videos of the lectures, slides from the course, and a guide to participation).

PHASE 1: Development of a core group of people and a winning product. It’s hard to scale unless people see your product or service and say, I want that! “It’s better to have 100 people who *loved* us vs. 1M people who *liked* us,” says Airbnb’s Chesky. “All movements grow this way. The problem with Silicon Valley is when you build an app you are expected to make the app go viral and reach millions of people. This is the worst way to think about it – it’s much better to get 100 people to love you.”

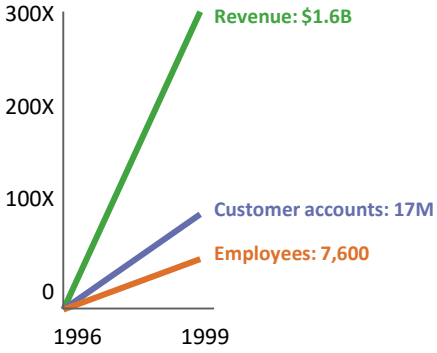
In terms of hiring, you want to start slow with a small group and get the product right before you start to ramp up the number of employees and begin to deal with organizational dynamics. “Every successful project I have worked on within Google over the past 10 years has started off with 1-2 people working on an idea together,” says Google’s Schmidt. “Gmail was started by two people, Android was a small team. Windows was started by one person, UNIX was two people, Java was started by one person, Linux was started by one person, and I could go on and on.”

Early-phase startups don’t blitzscale. They keep their heads down and maniacally build a great product with great people.

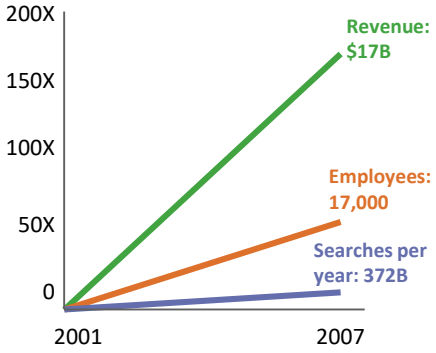
Fast

Blitzscaling: US

Amazon



Google



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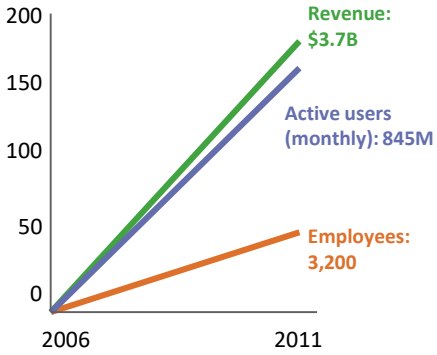
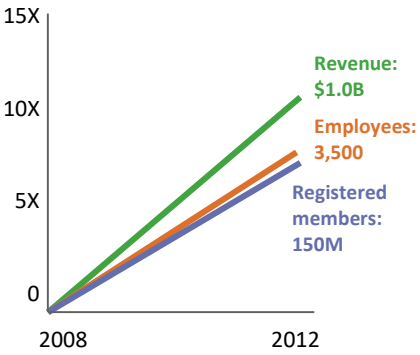


LinkedIn



Source: Harvard Business Review, April 2016.

Fast

Blitzscaling

PHASE 2: Scaling the organization. If the first stage of business building is finding people to innovate and build a product and identify a market, the second is to hire people to support the innovators (sales, customer service, legal, PR, etc.) – as well as managers who improve efficiency.

There's a big difference between a "household" organization with 15 people, a "tribal" organization" with 150 people, and a "village" organization with 1,500 people (let alone a city organization with 15,000 people). Developing and maintaining a culture while scaling requires passionate leaders who can communicate.

Blitzscaling organisations often seem on the verge of collapsing in chaos. "The thing that keeps these companies together – whether it's PayPal, Google, eBay, Facebook, LinkedIn or Twitter – is the sense of excitement about what's happening and the vision of a great future," says Hoffman.

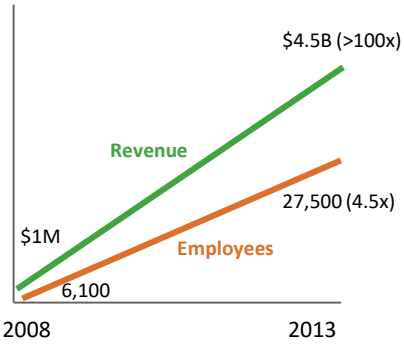
Airbnb's Chesky: "When I personally lived in Airbnb homes for a year, it sent a huge message to the team that working at Airbnb wasn't a job – it was a calling. Part of having a strong culture is when people believe in what you are doing. This is only possible if you are living the product.

Marissa Mayer, former CEO of Yahoo: "If you were at Google, even if you took away all of the logos and all of the company info – you would still know you were at Google. Same thing with Facebook."

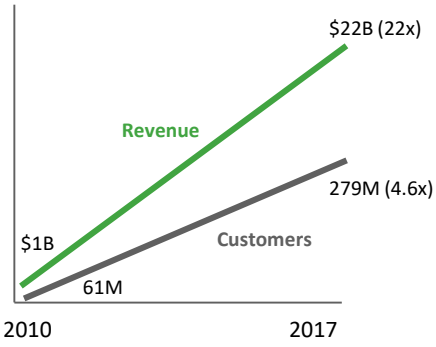
Fast

Blitzscaling: China

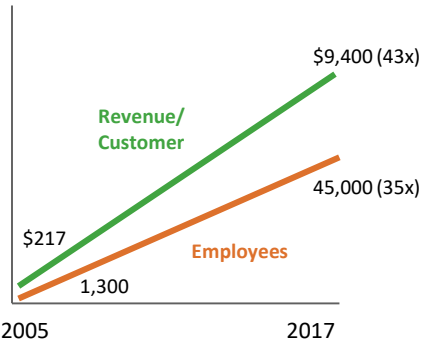
Tencent



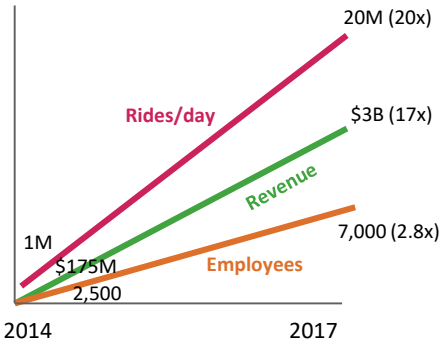
Alibaba



Baidu



Didi



Fast

Blitzscaling

PHASE 3: Scaling the business to reach tens of thousands/millions of customers in a wide range of markets. You have a good product that has been tested, which means you probably have strong competition because it will not go unnoticed. You understand your target customer, who ”loves” your product. You have a team that is passionate and focused. And you have money (most likely, someone else’s money). It’s time to scale – fast.

Blitzscaling will definitely increase your “burn rate,” as you will spend money on travel, advertising, giveaways – anything to attract customers and prove your value proposition. This is often a “bet the ranch” proposition – it either succeeds or fails. You win, lose, or limp along.

"Usually for scale, it's a relative thing, it's competitive," says Hoffman. “If your competitors are behind, you can afford to develop a little more slowly. If you're neck and neck with another startup, you need to expand faster--blitz them. This was the critical stage when Uber and Airbnb could demonstrate that they were able to grow fast and so were able to--and in some ways, had to--raise a lot of money very quickly.”

Fast

Blitzscaling

“MOVE FAST AND BREAK THINGS”

In the age of software and algorithms, when the marginal cost of adding customers or markets is close to zero, scaling is much easier than it used to be in the industrial era, but that doesn’t mean it’s easy. A company of generalists suddenly needs specialists – to run a large-scale engineering department, to raise and deploy capital. An inward-looking and scattered company needs a strong external focus – and story. And you have less adaptability than you did as a pure startup. Facebook, for example, famously shifted from a mantra of “move fast and break things” to “move fast with stable infrastructure.”

Reid Hoffman, Mr. Blitzscale: “Most value creation takes place **not** at the startup phase, when new companies are formed, but at the ‘scale-up’ phase, when a select number of these companies grow at a dizzying pace.”

SOURCES

Economist, “Do You Blitzscale?” Sept, 17, 2016

Tim Sullivan, “Blitzscaling, ‘Harvard Business Review, April 2016

Blitzscaling: Class Notes and Essays (Stanford course)

https://medium.com/cs183c-blitzscaling-class-collection

The First 3 Stages of Blitzscaling, Inc.com,

https://www.inc.com/tess-townsend/reid-hoffman-three-stages-of-blitzscaling.html

See videos of the lectures, slides from the course, and a guide to participation.

Fast

Airbnb: A Profile in Blitzscaling

Airbnb has 3,000,000 lodging listings in 65,000 cities and 191 countries. It is valued at $31 billion, about the same as Marriott Corp., and more than Hilton. In four years, 2007-2011, it scaled from one bedroom listing in San Francisco to 1million bookings in 89 countries. How did this happen – so fast?

Airbnb was started in 2007 by Brian Chesky and Joe Gebbia, two RISD grads having trouble paying their rent in San Francisco. They rented out space in their living room to attendees of an industrial conference, setting up air mattresses and serving breakfast. They started doing the same for other high-profile events where lodging was scarce, and launched the website AirBedandBreakfast.com in 2008. Technical architect Nathan Blecharczyk joined as the third co-founder, and built the website. To promote it during the 2008 election campaign, the founders created special edition breakfast cereals, Obamo O's and Cap'n McCains, and sold 800 boxes at $40 each. That attracted incubator Y Combinator, which invested $20,000 and gave them three months of mentoring toward a fund-raising business plan.

But it wasn't until the spring of 2009, when Sequoia invested $600,000, that Airbnb began its dizzying ascent. That year, co-founder Chesky spent several months living in Airbnbs, to better understand the service he was selling. Even in 2010, the company was only making $200 a week in New York City, until it decided to hire professional photographers to take photos of host sites. (According to Gebbia, "The early, pre-professional photos were really bad. People were using camera phones and taking Craigslist-quality pictures. Surprise! No one was booking because you couldn't see what you were paying for.") That doubled revenues to $400 a week in New York, and eventually had the same effect in cities around the world. And brought in $7.2 million in venture funding.

Fast

Then came the hockey-stick growth curve. In 2011, Airbnb saw 800% growth in bookings, up to 1 million in 89 countries, which led to another $112 million in funding. In addition to good technology, algorithms, photographs, and word of mouth, Airbnb also leveraged Craig's List in two ways. One, it used 'bots to list all Airbnb hosts on Craig's List, which had exponentially more web traffic. Two, it scanned Craig's list for apartment rentals, and emailed the host asking him or her to list on Airbnb as well. Airbnb, with better design and photographs, had quicker uptake than Craig's List. At that point, Airbnb went viral, globally, and hasn't stopped growing.

Airbnb didn't become profitable until the second half of 2016, but it still has nearly all the $3.1 billion in funding it has received, and is now beginning to make acquisitions.

Fast

Internal competition. Use two teams inside.

- RISC vs. CISC (Intel)
- O/S 2 vs. Windows (Microsoft)
- Others
  - Internal competition looks expensive
  - That's because it is expensive
  - But a huge, huge discount in total cost relative to:
    - Failure
    - Lateness
    - Value of missed opportunity

Fast

To achieve maximum speed as an organization, you also **need** some of the other vectors of the asymmetric model:

- Access
- Top 1% (no time to teach or mentor)
- Story (4 kinds)

You can be fast in:

- Transactions (Amazon)
- Development (Merck)
- Project execution (C.C. Myers)
- Hiring (PayPal)
- Etc.

But the epitome of fast is growing and/or globalizing your entire business. The epitome of fast is blitzscaling – getting to maximum scale and/or getting to global in … four years?

Well, Airbnb did. Uber did. You can, too.

Fast

There are 4 types of companies, those with:

1. No story
2. A boring story
3. A good story
4. An exciting story

Which type are we?

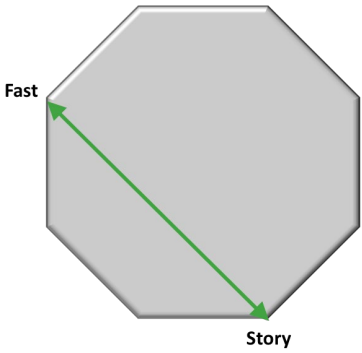
If we are not Type 4, we will not be able to blitzscale. Our interactions with investors, with recruits, with allies will be too slow. We will not have the magic fuel known as "word of mouth."

Blitzscalers struggle at every step; it's the nature of the work, it's a problem-solving business. But, they have the strong wind of word of mouth, of customer excitement at their backs.

Recall the very first time you heard about Uber. How did it happen? How did the conversation go?

Recall the first time you heard about Airbnb. How did it happen? How did the conversation go?

Recall the first time you heard about Magic Leap. Or Blockchain. Or Didi Chuxing. Or Xiaomi.



Fast

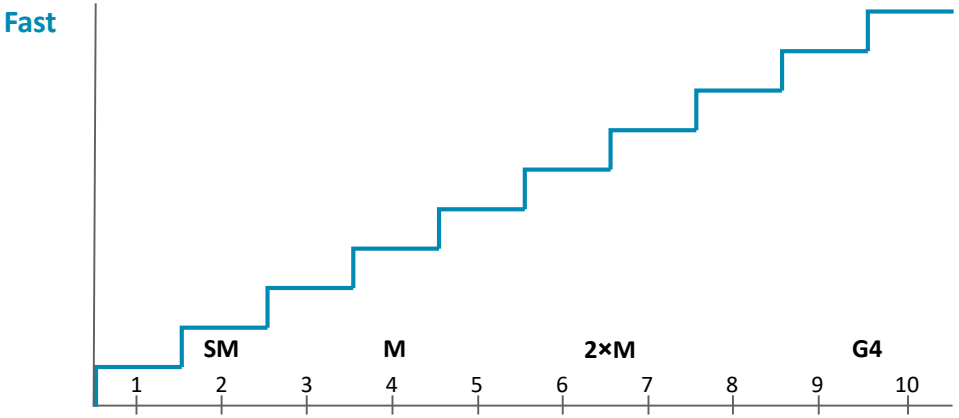
A short course on "Fast": A kaleidoscope of moves

- PayPal – 24 friends
- Uber – 3 engineers
- PayPal – Omaha service center
- Google – AOL deal
- iPod – organizing it
- Chinggis – 4 horses
- Google – buy Android
- Microsoft – buy DOS
- Portuguese caravel
- C.C. Myers
- Merck – parallel development
- Ports only – Portugal
- Ports only – Dutch
- Amazon – one-click
- SpaceX – 4 years/fail fast
- Airbnb – parallel
- Airbnb – algorithms, easy to join
- Amazon – platform, easy to join
- Amazon – AWS, up and running in an hour
- Word of mouth x PR: everyone knows Tesla
- Providence Health – up and running in 45 days
- 10-year info – the Chinggis model. Battle prep – 10 years, actual battle – 5 hours
- Apple store – Genius Bar solves problems within 30 minutes (versus "hours" for call to India)
- Google Search – constantly improving relevance and SPEED

Can I double this list?

Fast

Why do I **want** to rate myself?



SM	=	Submarket speed
M	=	Market speed
2×M	=	Twice as fast as market
G4	=	We can globalize a business in 4 years

Where are we today?

- In 12 months?
- In 6 months?
- In 3 months?

Fast

I've asked you to build a second page of examples of Fail and Fast. Why? To try to get to 50 examples each in the next three months.

Not because of volume, but in order to have a deep vocabulary of how it's done, by the people who do it best. To build new habits of mind, new instincts, new muscle memory. To build a bias towards productive failure (no matter how ego-damaging), and a bias towards velocity.

A great, deep vocabulary is a powerful partner, but it is not enough. Vocabulary minus application equals zero.

Vocabulary – Application = 0

To state it more brutally, an ounce of application is worth more than a pound of knowledge. But, if you cross-multiply a few ounces of application times a pound of knowledge, competitors watch out.

I will not waste your time asking you to build your own vocabulary for strategic frugality, access, algorithm, etc. By now, you get the method, and you know you have to build your own vocabulary in order to break through.

If building your own vocabulary forces you to spend more time talking to colleagues, talking to customers, talking to partners, talking to suppliers – all the better. (Just ask them what are the best examples they've seen. It will be a fun conversation and a fun debate.) No one has ever achieved a breakthrough asymmetric model without a lot of relevant conversations with a lot of smart, tough-minded people.

Fast

Write a short note/essay to yourself:

What is the relationship between Vector 2 (Fail) and Vector 3 (Fast)? Don't use more than the box below.

Fast

LUNCH #3

1. How fast are we?
   - Transaction
   - Hiring
   - Product development
   - Regional growth
   - Global growth
2. How fast could we be?
3. What's stopping us?
4. If we were twice as fast as market, what benefits would that bring?
5. What's the relationship between "fast" and "fail?" "Fast" and "big?"

FRUGAL

Many service firms have tried to work for startups. They were attracted not just by the challenge of the work, but by the prospect of being paid in equity instead of cash. They believed that by being paid in equity or options, they would overcome the "client stinginess" problem.

They all learned something very interesting: For startups, equity was **much**, **much**, more expensive than cash. In fact, equity was more expensive than blood.

Look no further to understand why the smartest startups are so incredibly cheap, so unwaveringly tight-fisted. As one said:

> "We squeeze the nickel so hard, you can hear the buffalo groan."

"We do, because we have to."

"Frugal" is even harder to understand than "Fast." The very best players do **not** start with the question: "How can we save money?"

When we save a million dollars, how will we invest it for our customers?

Frugal

They start with: Where are we **underinvesting** in the customer?" **Then** they have:

1. The real reason for saving money, and
2. A sense of how much they need to be saving

The single best teacher of strategic frugality is John D. Rockefeller. I won't tell you why. I don't want to rob you of the pleasure of finding out. Here's how:

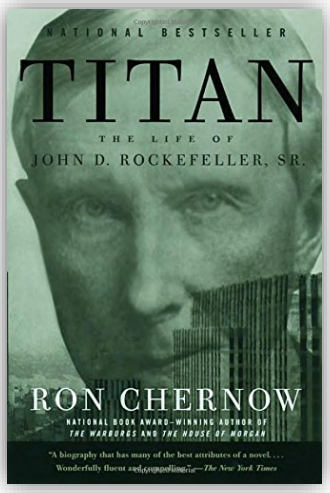
1. Buy *Titan*
2. Read the first 116 pages
3. On page 116 he says:

   "They didn't know the secret sources of our strength and profitability."

4. Spend three days on the internet, and re-read the first 116 pages to try to figure out what he was alluding to, what was he talking about.
5. Don't stop till you get to at least 24 specific items.

Those three days will give a great MBA: on cost-reduction, proprietary information, negotiating leverage, getting the best talent, revenue maximization, etc.

Frugal



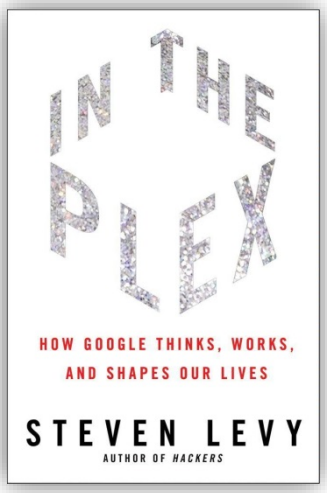
- Read to p. 116
- Do puzzle on p. 116

"They didn't know the secret sources of our strength and profitability."

What *were* the secret sources of Standard Oil's profits?

(3 days)

Frugal



- Please read pages 183 to 189
- A century after Rockefeller, Google applies exactly the same mindset of strategic frugality to its way of working

If you are not willing to read …

- 116 pages on Rockefeller
- 7 pages on Google

… you will never become an asymmetric competitor

Frugal

- Google data centers
- Amazon — One-click, no phone Kindle – no warehouse
- IKEA — Redesign for ultra-low cost
- GE — Maximum asset productivity
- Amazon — "Scarcity forces invention" mantra
- Rockefeller — Find every wasted penny

* * * * *

- First question ≠ How can I save?
- First question = Where are we underinvesting?

My own examples of companies that are strategically frugal

-
-
-

What I will do to create this vector for my business

-
-
-

Frugal

Frugal evolves to 10× frugal

- Rocket cost – SpaceX
- Chinese smartphone makers ($600 → 60; they're halfway there)
- Amazon delivery
  - 48 hours → 5 hours
- Frugal = money frugal, time frugal, attention frugal
- It's a deep-seated way of thinking

Frugal

10× examples

- SpaceX – Rocket cost
- Amazon – Delivery time
- China – Smartphone cost
- IKEA – Delivery cost
- Zara – Time to copy
- Airbnb – Units without capital
- Alibaba – Inventory without capital
- Uber – Tens of thousands of cars without capital
- Amazon – Millions of partners
- Apple – Tens of thousands of developers
- Toyota – Cycle time for changeover (8 hrs. → 2 mins.)

↓

Can I find a dozen others?

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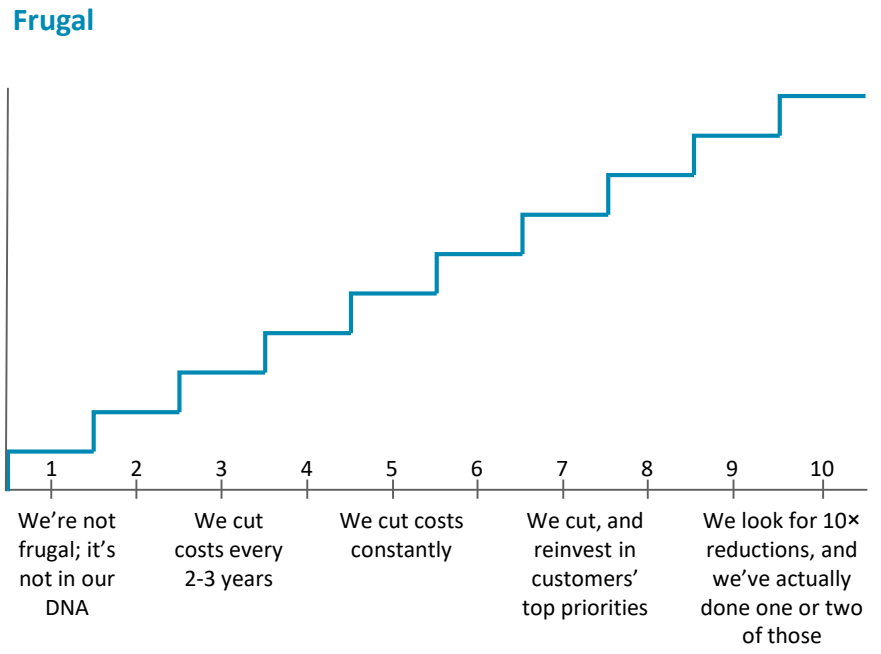
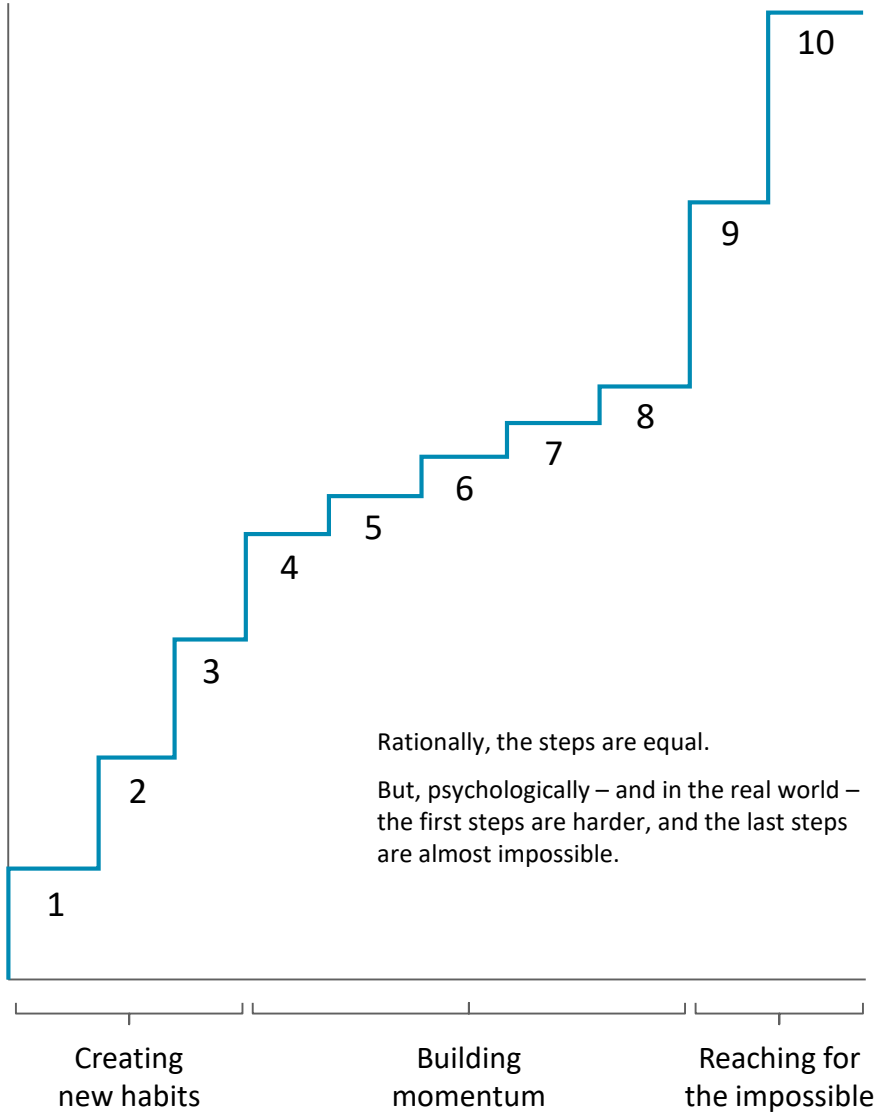
Frugal

Why do I want to rate **myself**?



The true shape of the staircase



Frugal

LUNCH #4

What is strategic frugality?

Start with:

1. Where are we **most** underinvesting in the customer?
2. Where are we underinvesting in our best business opportunities, the 30% return/30% growth business?

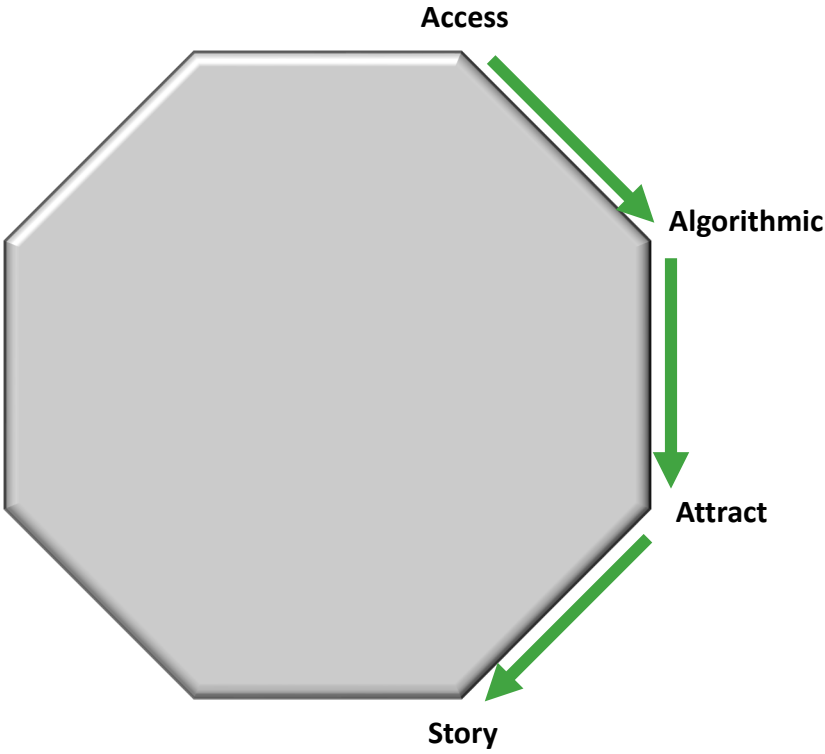
Only then, ask:

3. Where are we spending resources unnecessarily? Where could we do things **much** more cheaply?
4. Cut **those** costs and **immediately** reinvest them in:
   - Most important customer issues
   - Highest return business opportunities

Then continue, and ask:

5. Where can we achieve 10× improvement in the cost of our operations?
6. Where can we achieve a 10× improvement for our customer's cost, capital, cycle, time?
7. What are we waiting for?

The Other Four Vectors



ACCESS

Why own?

Why own expensive assets? Why own, if you can access the assets of others? Why own, if you can access broadly, efficiently, and quickly?

Ask Airbnb, Uber, Didi Chuxing, Alibaba.

These are just the most obvious examples. There are a dozen other good ones. Find them.

If you are still having this conversation with me, you are saying:

Hey, wait a second, this is not a new idea!

You are correct. McDonald's did this in the 1950s. Toyota did this in the 1960s. Microsoft did this in the 1980s.

In fact, you are more correct than you think. At a strategic level, all of these ideas are at least 2,500 years old (going back to Alexander on one side of the globe, and Sun Tzu on the other). If I only knew Egyptian history well enough, I could probably prove these ideas are at least 5,000 years old. But I can't, so I'll settle for 2,500 years – for now.

Do our partners love to work with us?

Access

Access not only saves you capital. It helps you move more quickly. It helps you accomplish more in less time. It helps you attack bigger customer problems.

In fact, access is very similar to frugal – it is easy to do it incorrectly. In frugal, the first question is not: "How can I save?" The first question is: "Where am I underinvesting in the customer?"

In access, the first question is not: "How can I have assets without spending capital?" The first question is: "What skills and capabilities do I need to do a better job for the customer?"

Most companies are like **one** great ship. If you teach yourself the art of access, you will have an entire fleet behind your ship.

Access is, of course, very tough to master. It is difficult enough to herd cats inside your company. It is 10X more difficult to herd cats outside it.

Just think about all the negotiations you have to do. Dozens, hundreds. Thousands? In the case of Amazon, millions.

That's why the best asymmetric value creators understand they have to create a platform to make efficient interaction possible. Think of iOS, Amazon's retail platform, GE's Predix, Didi Chuxing's urban transport platform (second largest platform in China after Alibaba). There are dozens of others.

Access

Some of the world's leading platforms.
When will we build our own?

- iOS
- Android
- Amazon online store
- Apple on-line store
- Priceline digital search platform
- Predix
- Kindle
- Echo/Alexa
- Alibaba.com on-line e-commerce B2B
- TaoBao B2C
- eBay
- Tesla EV licensing; charging stations network
- Uber car-hailing platform
- Airbnb hospitality platform
- Didi Chuxing car hailing, taxi, limo, bus platforms
- QQ (Tencent)
- Mayo Clinic knowledge base
- Watson
- Illumina applications database

There's a misconception that small and medium-sized businesses are too small to build a platform. Not true. They can't invest as much as bigger players, but they can do a much better job understanding the minimum needed to get started, the minimum needed to do a great job for the customer.

And they can move more quickly to make it happen.

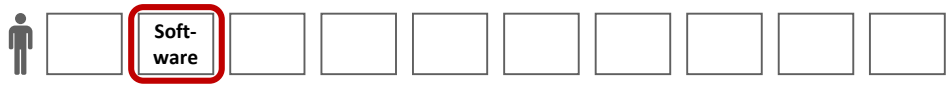
Access

- We hate dependence
- We **need** capabilities
- Many dimensions: partners, rooms, cars, merchandise
  - E.g. Alibaba has zero inventory
- Must have **platform**
- Mindset is Access, not own.
- Save billions to reinvest elsewhere

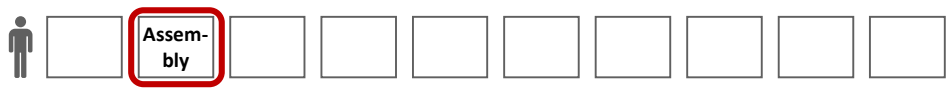
Access

"Access" precursors

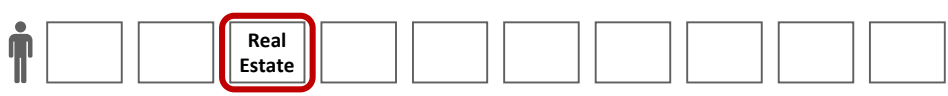
Microsoft



Toyota



McDonald's



Rich do everything

Poor need to focus

They were all poor to start with

Access

Precursors

- Microsoft – Developers
- Toyota – Suppliers
- McDonalds – Franchisees
  - Capital
  - Sweat
  - Ideas

Modern

- Amazon
  - 1.0MM resellers
  - 1.2MM associates
  - 600 AWS resellers
  - Hundreds of Alexa developers
- Apple – 10,000s apps developers
- GE – > 300 partners
- Air Liquide – Dozens of universities
- Airbnb – 3,000,000 units
- Uber – 100,000s of cars

My Ideas

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What I will do to create this vector for my business

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Access

It's hard/impossible to create access without great business design. Why? What does having a great business design mean?

1. You have great customers that potential partners lust after
2. You have great profitability that you can use to reinvest in the business (e.g. to build a platform)

There is an art to "access." Rod Hochman, CEO of Providence Health (Seattle), says he spends **his** time thinking about "what's in it for my partners?" If they're motivated, the partnership can work wonderfully. If not, everyone's time will be wasted.

Access = clear vision of big customer problems × organization × necessary technology × platform

As you already know by now, access is not just about engaging skills and assets and capabilities your company doesn't own in order to do a much better job for your customers. Access is also **frugal**. It would cost you a fortune to replicate those skills or assets – a fortune better spent elsewhere.

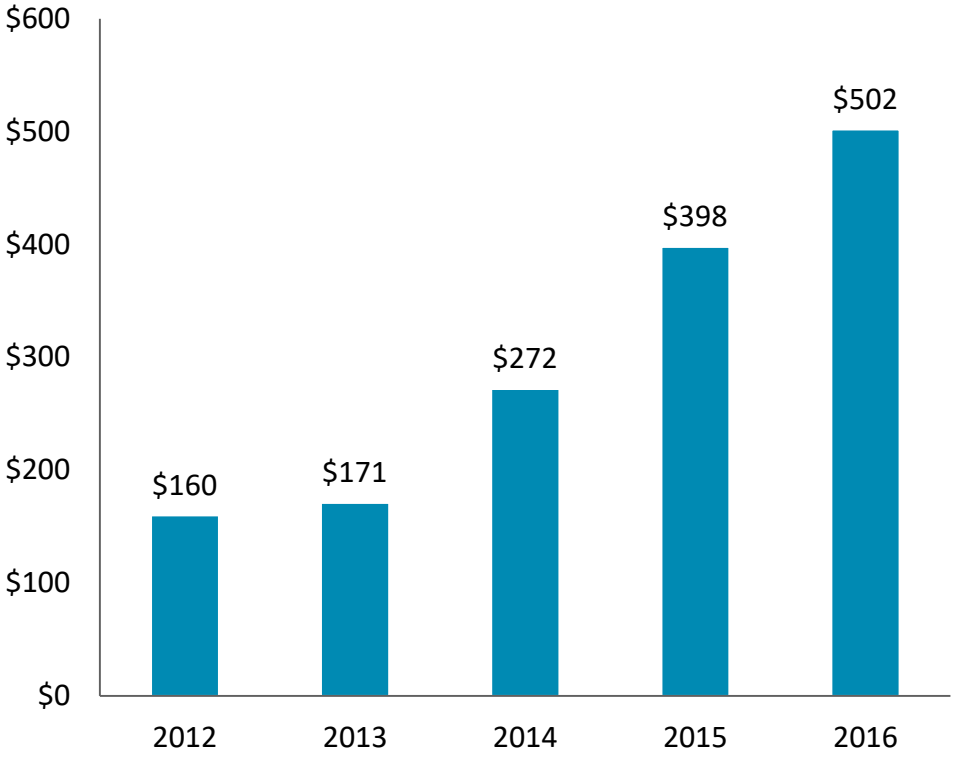
And access is **fast**. It could take your company months or years to acquire those skills or assets. Depending on your market and your position in it, those delays can also be prodigiously expensive – costing you tens or hundreds of millions in opportunity cost.

Access is a skill worth developing, practicing, mastering.

Access

Alibaba

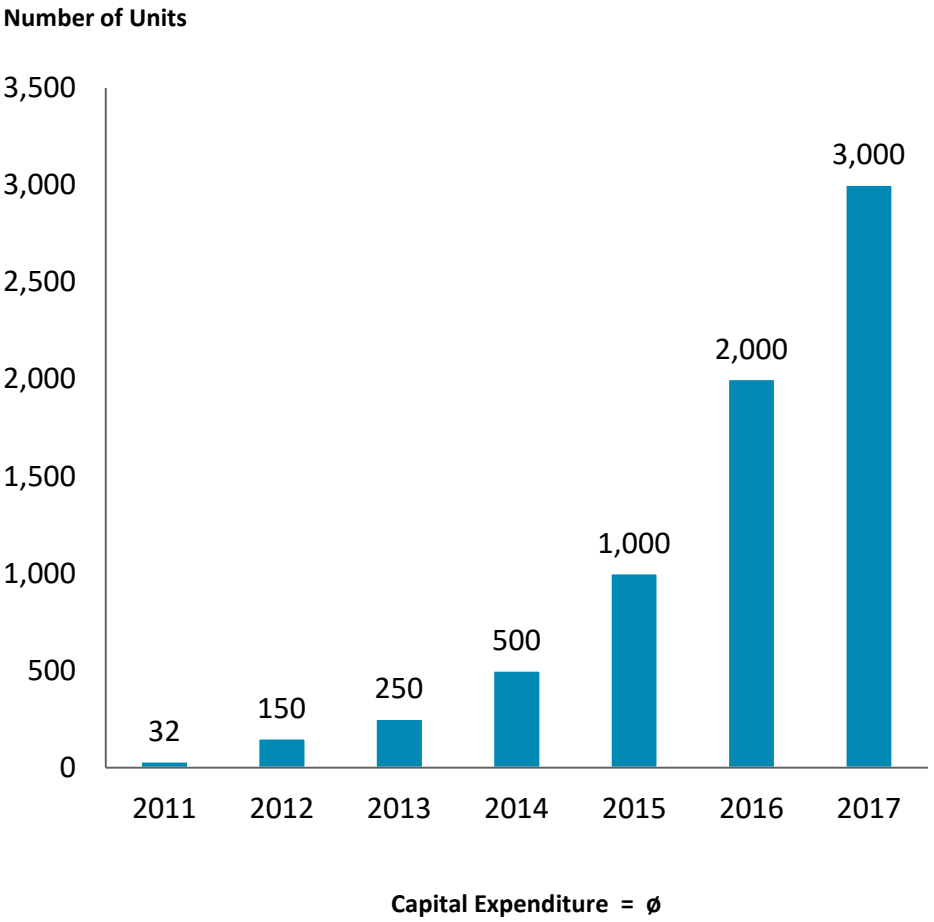
Gross Merchandise Volume



Inventory Expenditure = ø

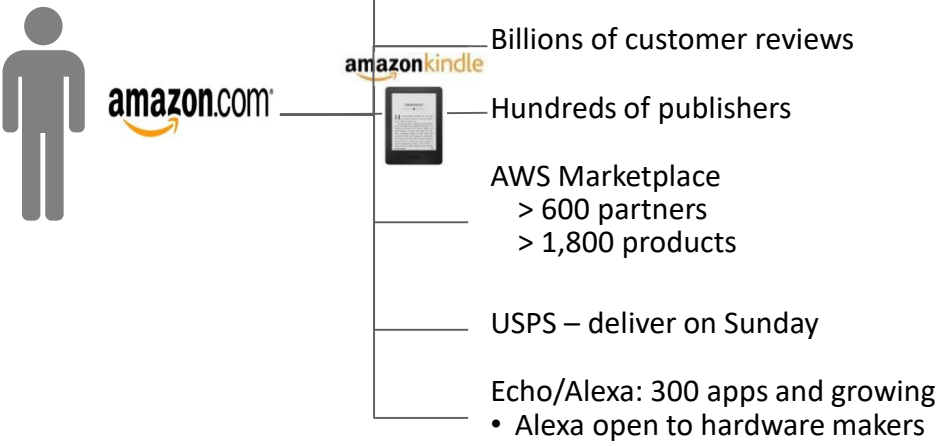
Access

Global Airbnb Listings (in billions)



Access

External energy



Walmart to compete?

Access

Are you the captain of a ship?

“Use the ordinary force to engage …

Access

Or are you the leader of a fleet of skills, capabilities, allies, and assets?

… Use the extra ordinary force to win”

– Sun Tzu

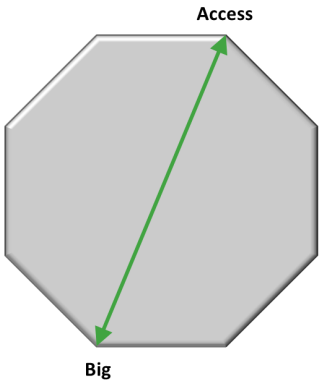
Access

Some very tough truths

- These days, it's very unlikely you can solve the biggest customer problems alone.
- You need – and want – access to partners, assets, allies, skills, and capabilities.
- If you need many partners, you need smart contracts to be very efficient.
- If you need very many partners, you need a platform to make all those multiple interactions feasible and efficient.

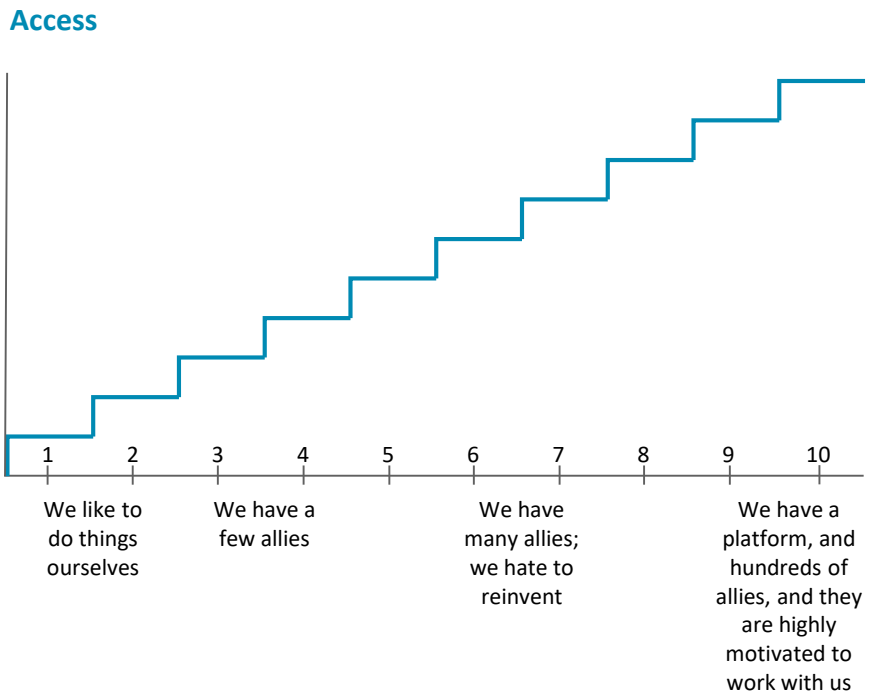
And a platform, in turn, requires a set of algorithms, and a group of very talented people to create them and make them work.

> *"Boulders on eggshells"*
>
> *– Sun Tzu*



Access

Why do I want to rate myself?



Where are we today?

- In 6 months?

Access

Caveat (The Exception)

Using other people's assets is a great way to scale your business without a major investment – and most of the time it makes sense. Why tie up money in capital assets if you can rent or borrow them?

When does it make sense to own? Consider Google, estimated to operate close to 1 million servers that work hard 24/7/365. It's much more cost efficient for them to run their own servers than to rent storage and data analytics in the cloud, in large part because the size of their data analytics teams won't shrink. That's obviously an extreme case, but there is a good argument for large companies to maintain direct oversight of their core assets.

LUNCH #5

1. How many allies and partners (formally) do we have today?
2. How many of those relationships are actually working to create new value for customers?
3. How many are dormant? Why?
4. What new relationships will we create this year? **Why**?
5. Do we have a platform (process, or contract, or technology, or all three) to make alliance and interaction easier? If not, how soon can we build one?
6. What's the relationship of:
   - Access to big?
   - Access to frugal?
   - Access to fast?

ALGORITHMS

How many companies used computers 70 years ago? How many companies work without computers today?

How many companies used algorithms 15 years ago? How many companies will survive without algorithms 10 years from today?

We are all comfortable thinking about factory automation. We all need to become literate in knowledge automation.

Algorithms can apply to a product (e.g. Google, IBM's Watson, Airbnb), or to your processes (e.g. Amazon). Tomorrow's best value creators will use algorithms in **every** aspect of their business.

Why guess, when you can know?

Why not think fast, instead of thinking slow?

Algorithms

Algorithms are of two types. Some you have to work to improve. Google's engineers run thousands of customer tests (we are all participants in those tests, even though we don't know it) to find ways to improve search result relevance and speed. They make over 550 improvements in their search engine – every year.

The second type of algorithm is self-learning. The more data it eats, the more decisions it makes, the more feedback it gets, the better it becomes. IBM's Watson falls into this category.

When it first competed on the TV program, Jeopardy!, it was an embarrassment, a major **failure**. In three years, it became unbeatable.

Algorithms

- 0 → 100%
- +550 improvements/year (Google)
- Get to self-learning stage (Airbnb)
- Product **and** whole value chain
- Robots for information
- Toyota example: worker next to robot

Algorithms

Companies are transitioning from zero algorithms in their business to 100 percent of their value chain. They constantly make improvements, and push algorithms to get to the self-learning stage. They want algorithms to give them leverage in their value chain and in their product portfolio. They know that algorithms are essentially robots for information. And they are very, very careful in how they develop (or buy, or license) algorithms for their business.

Toyota provides an example. In the 1970s, when everyone was rushing to introduce automation to auto manufacturing, Toyota did not. The leaders said:

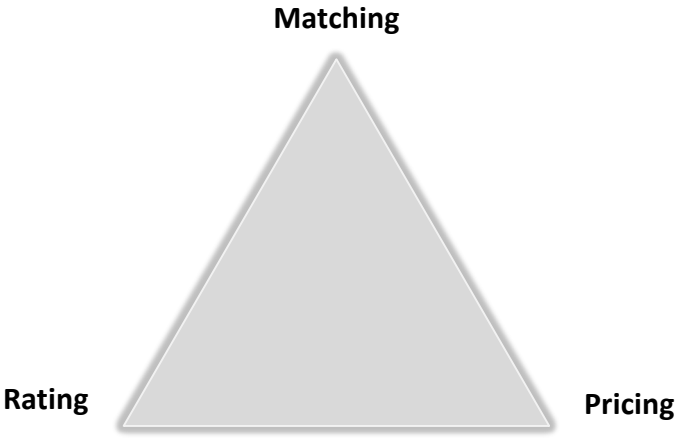
> *"Fix the process* **first**. *If you automate a bad process, you'll just lock in a cost disadvantage."*

They improved, streamlined, simplified the process, and **then** automated.

Today, they are applying the same mindset to algorithms for robotics. A robot spends months working next to a worker. It learns. Kinks are worked out. It learns to do the right things, in the right way, at the right time.

Algorithms

Airbnb algorithms



Airbnb machine learning approach:

- Improves matching over time
- Improves pricing over time

Algorithms

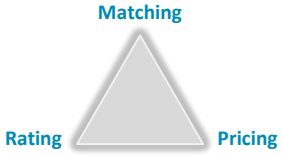
Example algorithms along each step of the value chain

Distribution	Sales & Marketing	Pricing	Production	Logistics	R&D
Smart routing	Auctions	Dynamic pricing	3D printing	Smart ordering	Virtual testing/ simulation software
Volume allocation	Search engine optimization	Revenue management	Intensive robotics	Smart inventory management	Virtual modeling and prototyping
Immediate delivery	Recommen-dation algorithms/ cross selling	Surge pricing	Factory automation	Automated warehouse/ robotics	
	Brand sentiment analysis		Internet of Things	Predictive maintenance	
			Production planning		
			Performance tracking		

What repetitive thinking tasks do we do that an algorithm should do for us?

Algorithms

- Google – 550 improvements
- Amazon – Every process
- Airbnb



- Uber – Matching, rating, pricing
- Tesla – Car = algorithms
- SpaceX – Rocket = algorithms
- GE – Industrial internet engines

My own ideas on highly effective algorithms

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-
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What I will do to create this vector for my business

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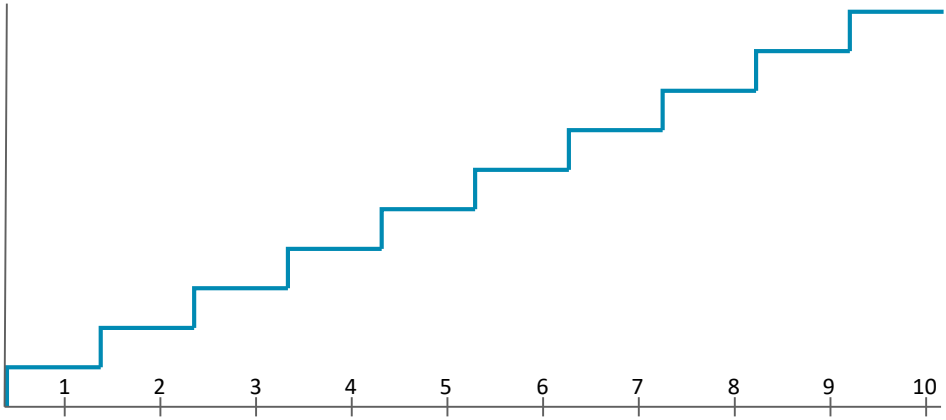
> *"He who does more calculations wins"*
>
> – Sun Tzu

Algorithms

Why do we look **forward** to rating ourselves?

Algo



We have none

We have a few

We have a few, and we improve them

We have many, and we improve them quickly

We have algorithms

- In our products
- In our entire value chain
- We improve them all the time

Where are we today?

- How soon can we get to 10?

LUNCH #6 – ALGORITHMS

You know what to do

ATTRACT

The players in the 99th percentile don't need mentors, teachers, support. They just need impossible problems to solve. They love and need those problems the way the rest of us need oxygen.

Sometimes you can get a few of them to work in a team. They challenge each other, they ask harder questions, they test things more quickly, they want to break through. And they do.

Working on such a team, working with such a team is one of life's greatest pleasures. I highly recommend it.

The problem is a deeply personal one for all of us. Is my company good enough to **attract** the very best? Are we good enough for others to want to join us? Is our level of competence high? Are the problems we're trying to solve big enough, and tough enough and meaningful enough? Is our vision the vision of a mouse, or the vision of an eagle?

Are we ethical?

Do the very best people want to become part of our team?

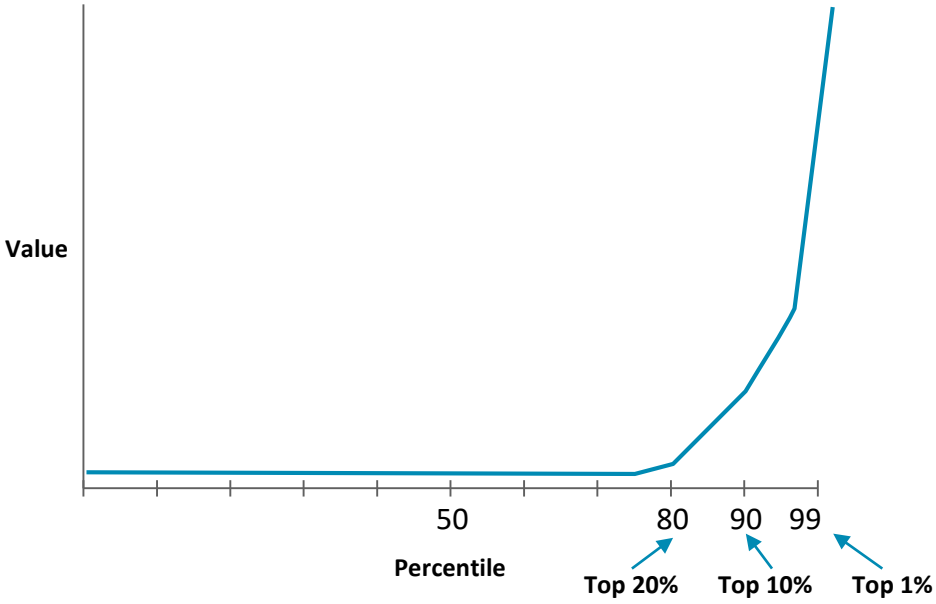
Attract

What are the economics of talent?

How much value can a 50th percentile player add?

- 80th percentile?
- 90th percentile?
- 99th percentile?

The answer is quite shocking. It looks like this.



Attract

> *"A top-notch engineer is worth 300 times more than an average engineer."*
>
> – Laszlo Bock, Head of HR, Google

Asymmetric competitors never have enough time, or resources. But they always have the time to invest in **finding** and attracting the best people. It is their lifeblood.

They love their customers, and do everything possible (and impossible) to create great value for their customers.

They think of their coworkers in exactly the same way. They love their people, and do everything possible (and impossible) to create great value for their people.

One CEO put it simply: "I, no **we** have to provide as great a value proposition for our people as we provide for our customers. End of story."

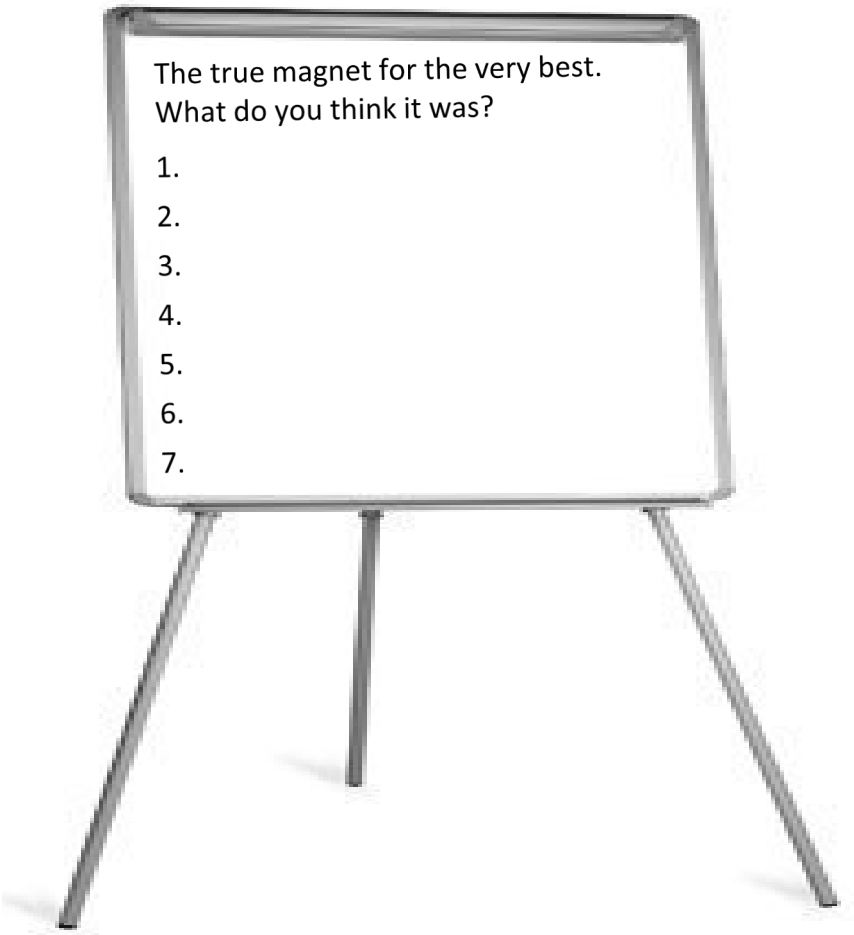
To learn how to love your people, read about Wegmans (Chapter I in *Demand*).

To learn how to think about your best people, read Rockefeller's approach in *Titan*. Hint: Rockefeller was able to offer highly valuable stock. But, he was the first to say that the true magnet for the **very best** was not the money. What was it?

Attract

Please stop. Don't go forward till you've filled out these seven lines. Give yourself half an hour. Savor it.

I can assure that you will see yourself in the answers to this deceptively simple question.



Attract

What do you think it was? Rockefeller's view:

1. Play on a great team
2. Be challenged by others
3. Learn faster
4. Experience the great pleasure of winning
5. Learning how good I can be
6. Impact on economy
7. Making lives better

When our employees interview new recruits, what kind of new hires do they attract?

Attract

- Acid test for us personally
- How good is the value proposition for talent?
- Can we attract the top 1%?
- Not just startups
- Hochman did it (Providence Health – regional hospital); hired from Amazon, Microsoft, NASA
- GE – doing it on massive scale
- Rockefeller: Not just money, but
  - Challenge
  - Fascinating business
  - Part of great team
  - Team develops you
- Tesla, SpaceX – excite best engineers

My own examples of companies and organizations that attract the best

-
-
-

What I will do to create this vector for my business

-
-
-

Attract

Caveat (Plan B)

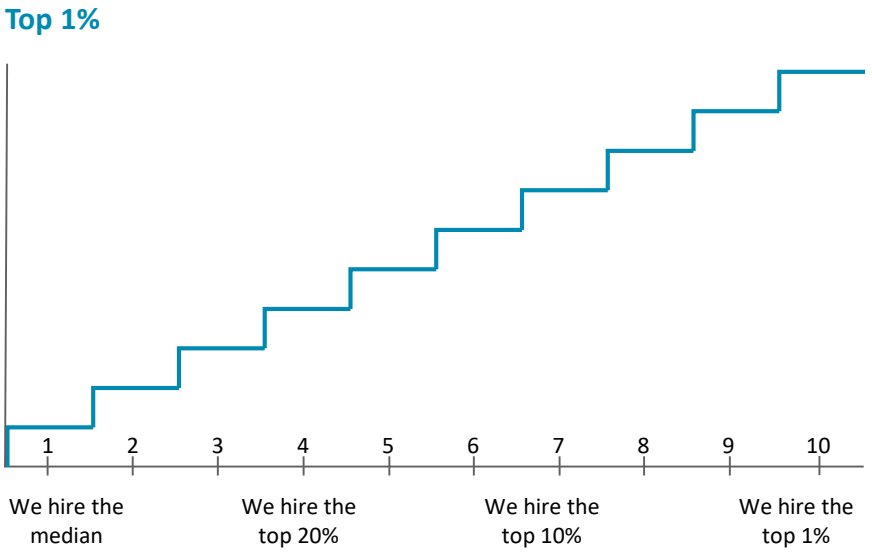
It's ideal to attract top 1% talent. You can innovate and build a system 10X faster. But, it's not always possible to attract the top 1%. Perhaps your story is not good enough, your idea not big enough, or your problem-solving not complex enough. Or maybe you're not located in a hotbed of talent.

What then? Until you develop the big idea with a great story that will attract the 1%, you focus on building a culture of fast/fail/frugal that will attract talent from the top 10% and 20%. You construct mechanisms that provide leverage to your employees to make them more effective. The money you save in lower salaries goes into training. You can always get more from your top people, whatever their talent level, with the right incentives and a culture of agile innovation. But it takes focus and leadership.

> What can I do, what mechanism can I create to enable our workers to become radically more effective?

Attract

Why do we look forward to rating ourselves today, **and** in 6 months?



Today, we hire the top __%.

In 12 months, we will be hiring the top ___%.

LUNCH #7 – ATTRACT

You know what to do

UNIT 8200

Unit 8200 is Israel's NSA, its cyber-security intelligence agency. It deals with signal intelligence, surveillance, decryption, and analysis of massive amounts of data. Its job is to anticipate, predict, prevent, and disrupt attacks. Its job is to save lives. It's in a very, very tough business. To do its work, it recruits the top 1% of graduating high school students.

8200 looks for students who are self-starters, who teach themselves, who don't need mentors. When they start work, they are given impossible problems, with meager resources, and no preconceived notions. For example, if other teams have failed to solve the problem, no one tells them so that they come at the problem from a new perspective. Where others have failed, they often succeed. Fresh eyes, different angle of attack, fresh point of view. For young, tough, energetic 18-year-olds, working at 8200 is like stepping into the filming of Mission Impossible, and living in that film for the next four years.

Every 18-year-old in Israel must serve in the Israel Defense Forces (IDF) – three years for men, two years for women, so 8200 has a recruiting advantage. But it doesn't wait for applicants to come to it. It starts scouting talent early – when students are 14 to 15 years old. It really wants to know who the very best students are. 8200 accepts applications, but it also sends out invitations – pretty insistent invitations.

8200 not only scouts; it develops. Magshimim is a program for 15- to 18-year-old high school students. It teaches computer skills, how to work in teams, how to manage projects.

It's tough to get into. 2,000 apply; 500 are accepted. It is seen as a feeder for 8200, but it's no guarantee. You have to perform to be invited. But, the flip side is that hundreds of graduates come into 8200 with a high level of preparation, ready to hit the ground running.

Unit 8200

First step, though, is to pass the multi-layered entrance process. Online exam, psycho-social testing, testing of problem-solving skills, subject matter testing, personal interviews. Most of the interviewing is done by the younger members of the Unit. As one senior officer says: "They know what to look for. They look for people they would want on their teams."

Consequently, the criteria for admission are not just high smarts and high work ethic. These are essential, but far from enough. What else matters? Well, for starters, problem-solving gusto, working well with a team, imagination, out-of-the-box thinking, courage, tenacity, risk-taking (external and internal).

External Risk: When you have to take a risk to save lives. Internal Risk: When you have to tell supervisors what they don't necessarily want to hear, but what's critical to read the situation accurately, and to save lives.

With that combination of characteristics, it's little wonder that recruits are thrown into the heat of cyber battle on day one. It would be a big mistake, however, to think no training is involved, even if the training is unconventional. One example? Recruits are called into a room, and over a few hours are exposed to incoming slices of information. Short narratives of something that has happened, something that is happening. A few stories turn into dozens; sometimes over a hundred fragments of information are passed on to the team. The instructors observe and wait.

Suddenly, one of the team members shouts: "War is about to break out!" The instructors call a halt to the exercise, and explain the situation, the context from which the fragments of data emerged. War did break out. The question was: How soon could you have known?

Unit 8200

It's a great simulation, especially since the signals, the facts, the fragments of data were real. How is it possible that 8200 would let such details of its training methods be revealed? It's probably important to understand that we're dealing with a situation of controlled distribution of information. Just as a famous CEO of a very successful company will tell journalists a great story, and will reveal two or three of the unique things his company does. He never, however, reveals the other eight or nine variables of his company's success equation.

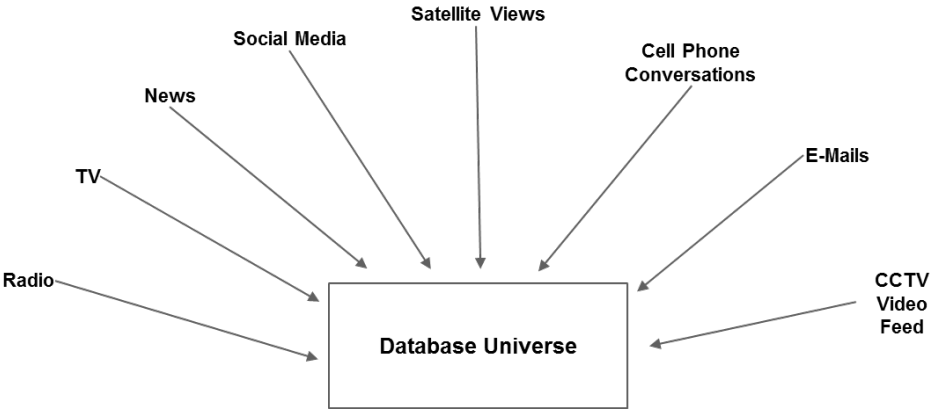
Scouting, development (Magshimim), a diet of impossible problems, and meager resources, a special kind of training – all this produces an extraordinary warrior. And, as it turns out, an extraordinary business builder.

Cascade effects. Unit 8200 has some 5,000 people working in it. Every year, about 1,000 enter, and about 1,000 leave (after their four-year stint is done). What do the graduates do? They go to school (now well-prepared to extract the very most from their higher education), and they tend to build new, high-tech businesses.

During their four-year tour of duty at 8200, most soldiers work on 15 to 20 really tough projects, of which 3 or 4 might represent the seeds of a new business opportunity, typically in areas such as cybersecurity, big data, analytics. A disproportionate number of 8200 graduates go on to found or participate in the building of new businesses. There are approximately 5,000 high-tech companies in Israel. Forbes estimates that 1,000 were founded by alumni of 8200. With an alumni network of 17,000, there's a powerful new business-building force at work in the Israeli economy.

To understand the business-building potential of 8200 grads, it helps to know the nature of what they do.

Unit 8200



Information is drawn from multiple sources into an expanding universe of data. From one point of view, this activity is haystack generation – vast volumes that make it even harder to find the golden needle. But then, team members write search programs, algorithms, and other search devices to extract precious, often predictive nuggets from this chaotic, growing universe. It's as difficult as 1, 2, 3:

1. **One e-mail**: Programs to find the one e-mail in a million that tells you of a planned attack.
2. **Two phone calls**: Programs to find patterns, such as a phone call placed every Thursday at 7:30am and 4:30pm.
3. **Three views**: In a process called fusion, to meld multiple views into a piece of priceless insight. Example: street-level photo of car, the cell phone conversation originating in the car, a satellite view of the car's pathway through the city.

Unit 8200

What businesses can these skill sets relate to? Cybersecurity is the leading one (420 of Israel's 5,000 technology firms are cybersecurity companies); others include big data analysis, and analytic companies of all varieties. Applications include manufacturing, sales force analyses, customer analyses, etc.

The depth, intensity, and precision of the signal decryption and analysis activity creates vectors into many domains of a modern economy. A partial list of companies formed by 8200 grads gives a sense of the breadth of economic yield this activity provides.

ICQ	Leadspace
Checkpoint	EZchip
Imperva	Onavo
Incapsula	CyberArk
Cybereason	PrimeSense
Viber	FST Biometrics
NSO Group	Radware
Palo Alto Networks	Hyperwise Security
indeni	Adallom
NICE	Argus Cyber Security
AudioCodes	BioCatch
Gilat	CyActive
Waze	Wix
Intuition Robotics	SalesPredict
Indegy	Stylit
Outbrain	Converse

Unit 8200

The next phase in the evolution of that force is already evident. Nadav Zafrir, former head of 8200, retired in 2013. Within a year, he formed Team8, a venture capital firm plus incubator. His mission: to improve the success rate of startups in his country. How? Three factors are put to work to raise the odds of success: a syndicate of customers, management efficiency, and talent growth.

Team8 is radically more proactive in the venture process than conventional venture capital firms. With regard to point 1 (syndicate), it engages in deep, months-long conversations with its syndicate members – customers, investors, and such leading technology companies as Microsoft, EMC, Dell, Oracle, Cisco, and many others. The purpose of these extended discussions is to identify – with precision – the cybersecurity pain points these companies experience, to zero in on the biggest problems worth solving. "We might spend as much as 12 months working this issue to make certain we are working on the right, the most valuable problems. Then, we spring into action."

With respect to point 2 (management efficiency), Team8 creates conditions in which startups can share real estate, can share research and development, can share resources wherever possible. Reinventing the wheel is one mortal sin. Spending money unnecessarily is another.

With respect to point 3 (talent growth), Team8 is proactive in finding and recruiting great talent for its startups, not only among 8200 alumni, but amongst great university graduates who had worked at 8200. Its activity has grown to a level where it helps its startup companies by recruiting new talent at a rate of 8 new hires per month.

Zafrir also notes that the talent growth process is a bit different in Israel.

Unit 8200

Consider what happens when an 18-year-old enters college. Disorientation, new friends, new courses, a lot of freedom, political debate, extracurricular activities, too much freedom, searching for a major, a mission, a goal. How much of the potential four years of higher education is wasted, or not taken advantage of?

Compare that situation to that of a 22-year-old who has completed four years of intense, demanding, constantly challenging military service in Unit 8200. That young person approaches higher education with a few important characteristics:

- Leadership
- Maturity
- Sense of mission
- Ability to master complex new material quickly
- Ability to work in teams
- Critical thinking/independent thinking

Who will extract more value from four years of higher education? Is it any surprise that the 22-year-old 8200 alum could well extract three to five times more value than the untested and unhardened 18-year-old high school grad? And they can apply that richness of learning experiences to building teams and companies and industries.

When you consider this contrast, it's a bit of a shock. Rich, safe countries don't have to make sure that a high-quality, higher education is fully taken advantage of. For small, always at-risk countries, you can't afford to waste that precious resource. This system goes a long way toward making sure that this precious resource is fully mobilized.

Unit 8200

If the US gets one unit of economic performance from a college education, Israel needs to get four to five units of performance. And it probably does.

Even as Team8 is getting off the ground, two other developments in the evolution of the Israeli system are taking shape: EISP and the Negev Cyber Center.

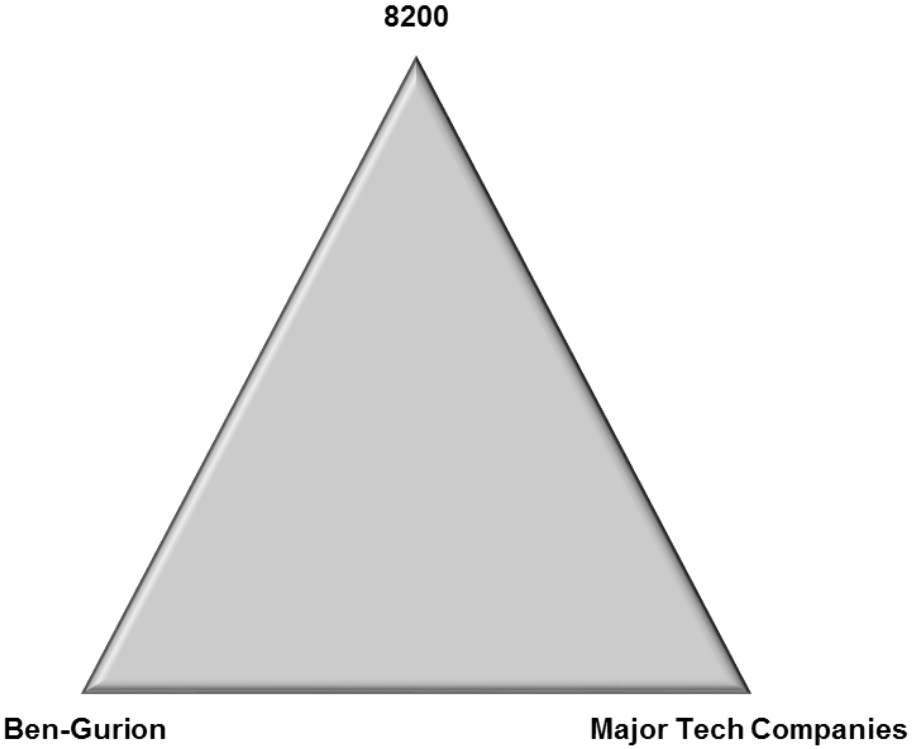
In 2011, a group of 8200 alumni formed the EISP (Entrepreneurship and Innovation Support Program). 8200 alumni help to mentor and support new graduates in their business-building process. Many apply, few are chosen, but the selectees receive a lot of help from experienced 8200 graduates in getting their business off the launching pad.

In 2015, construction started on the Negev Cyber Park. The Park will be home to:

1. Ben-Gurion University
2. A lot of major high-tech firms (EMC, Microsoft, Oracle, Cisco, Deutsche Bank)
3. Unit 8200

The first tenants were the tech companies, quickly followed by Ben-Gurion. 8200 will move in this year. The already good links amongst academia, business, and 8200 will be strengthened, information exchange will be accelerated.

Unit 8200



It's as if – in the US – you moved the NSA next to MIT or Stanford, next to a corporate campus that housed the likes of Amazon, Google, Apple, Netflix, Facebook, and others.

Quite a potent combination.

Unit 8200

When you step back and take the long view, a single strategy (focus on finding, attracting, and developing the very best) has had an extraordinary long-term cascade effect:

1. 1,000 new businesses
2. An alumni force of 17,000
3. A new, sophisticated center for interaction (the Negev Cyber Center)
4. A systematic process (Team8) to keep improving the odds of success in the toughest economic activity in the world – getting startups to successfully scale-up.

* * * * *

- How good are we at attracting the best?
- How early do we start our process for scouting talent?
- How unique and how effective are our methods for training our talent?

* * * * *

EXTRA CREDIT

If I am not in the top 1% of my class, can I become a top one-percenter by:

1. Constant training (the Mongol “train every day” challenge)
2. Intensive reading (the Warren Buffett “500 pages a day” challenge)
3. Constant conversations with smarter people (Richard Brown of Eurostar talks to over 500 customers a year)
4. Fearless experimentation to get better (à la the Amazon alumni working at Providence Health)

Story

STORY

The market is dying for a good story. A great story. Always.

Ask yourself: **Why** do people go to the theater? The opera? The movies? Why do they read novels?

Despite the rise of algorithms, business is not about mathematics. It is about people. Flesh and blood. Triumph and tragedy. Heroes and villains. It is, despite our best efforts, about the unexpected. The ball always takes a strange bounce. We always have to be prepared to react and respond.

Risk is ever present. We, who run businesses, hate it. The audience who follows our progress love it.

"How will they manage the crisis this time around?" They watch with bated breath. "What will they do? How will they handle it?"

Great companies create great stories.

Asymmetric competitors hammer out the best stories.

Stories are the sonic boom in the attention economy. They are short, easily transmittable. Most importantly, they are true. Journalists want to write about them. Customers want to talk about them.

Story

- The market is always dying for a good story
- One sentence
  - Easy to transmit
  - Energizes team
  - Excites customers
  - Can’t shut up about you
  - Saves $100MM (or more) in advertising
- Story = sonic boom in the attention economy

Story

Reasonable, rational managers don't like the idea. They want to produce great functionality for customers. They don't want to be forced into an emotional domain. They're not comfortable in it.

To them I say: "I feel your pain. I understand you. But I also have to warn you. In a world of asymmetric competition, if your competitor has a great story and you do not, you will lose."

So, let me appeal to your rational side. A great story, the great story you and your team create, will save you $100 million in advertising costs. Probably more.

It will help you develop and grow more quickly. It will make the best talent **excited** to work with you.

And too many other benefits to name.

So many that it makes it worth it for the rational manager, for the rational team to ask: "How can we learn to work on the emotional half of the equation?"

The first thing you'll learn is that it's not the emotional **half**. It's the emotional **90 percent**.

Story

The hardest vector

Ten examples

- Tesla
- Apple
- Airbnb
- Netflix
- Pixar
- SpaceX
- Amazon
- Starbuck's
- Xiaomi, Le Eco
- Google

Regionals

- Providence Health
- Wegmans

My own examples of great stories that made a difference in the business

-
-
-

What I will do to create this vector for my business

-
-
-

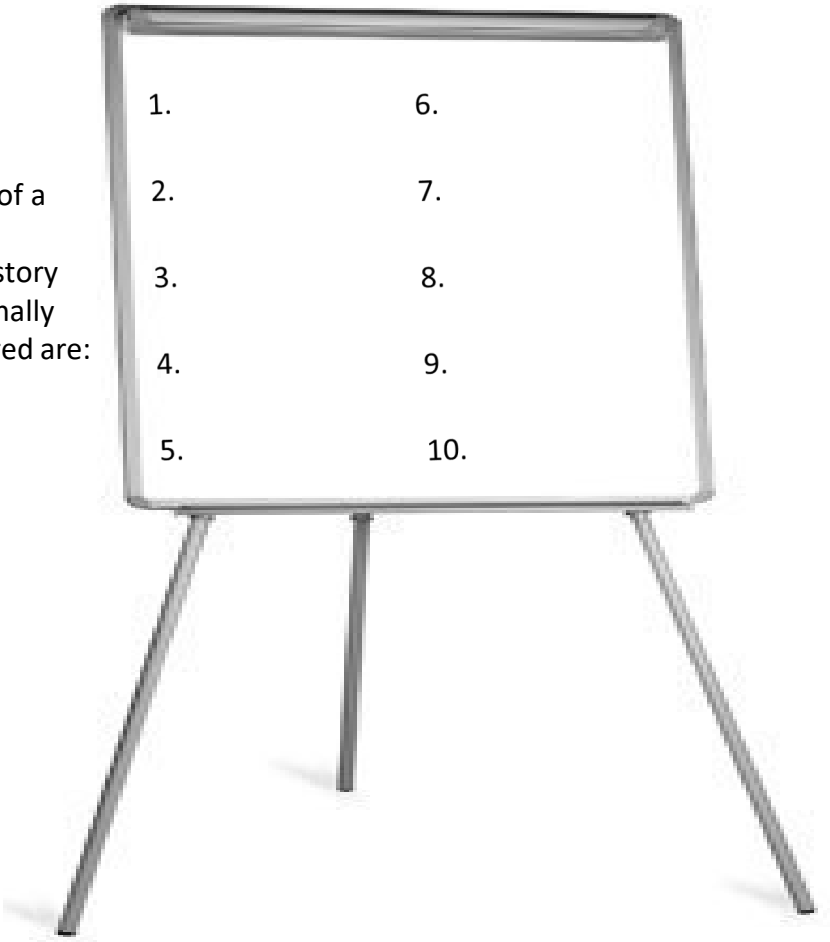
Story

Think of it asymmetrically:

You have it; I don't. Who wins?

Story

The best examples of a powerful company story I've personally encountered are:



Why did I love them?

How many people did I talk to about them?

How does my own company's story compare today? Next year?

Story

Taking on great challenges, overcoming obstacles, coming up with new ways to delight customers, doing things that are good for the planet … these are the hero stories of our age. They attract attention, they attract press coverage, they inspire us.

And we are always looking for more.

So, how do I – how does my team – develop a **story** that inspires, transmits easily, and that everyone wants to talk about?

Here's a thought. Choose a **big**, valuable, challenging problem. Because it's big, you'll **fail** often, but you can **fail** quickly.

Move so quickly, so unconventionally, it will draw everyone's attention. Be legendarily cheap, in your operations, but be legendarily abundant in gathering **allies** to your cause.

Apply the science of **algorithms** to your business. People will think you're a magician.

Doing great things will **attract** great people. Focus on helping them to stay.

Story

Be different, be asymmetric. The **story** will emerge from that struggle, that experience. Work on events and announcements that will get your message across. Don't be shy, don't be modest. Modesty and obscurity will not help you attract the financing and the **allies** you need to get the job done.

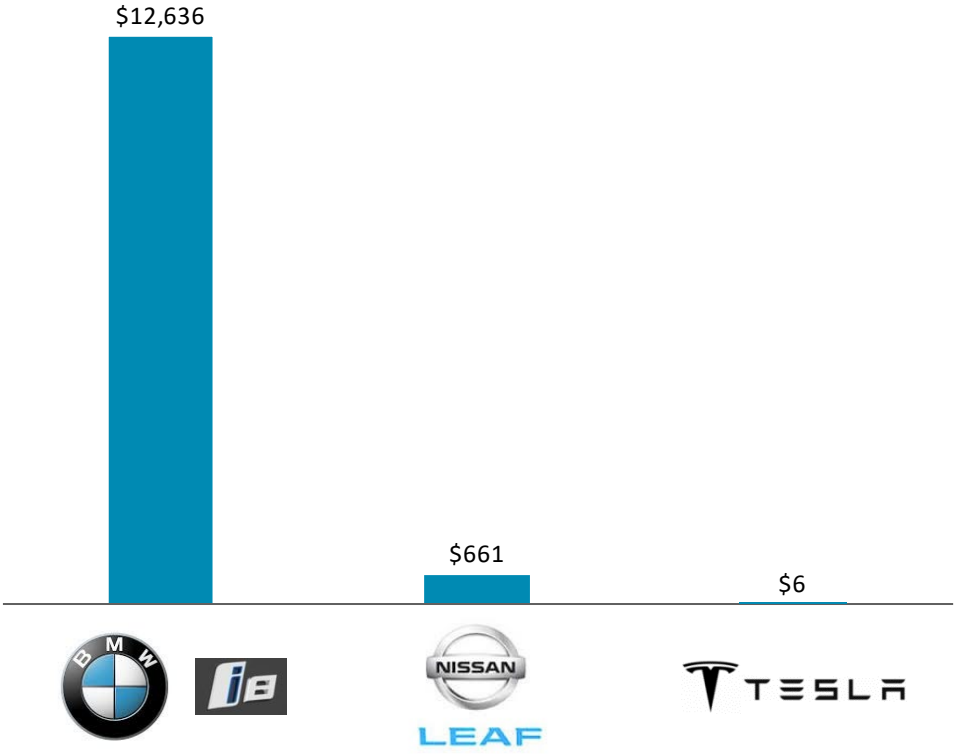
And always keep front of mind that those **allies** include your customers. Whether recommendation writers for Amazon or Netflix, whether people who pay $1,000 to get on the waiting list for a Tesla 3 (all 500,000 of them, who then provided Tesla with half a billion dollars of financing), whether the apps developers working for Apple, whether the government agencies sponsoring SpaceX projects … these are all groups that made a large contribution to the success of these asymmetric competitors.

And, these customers all feel very, very good about it. And they all talk about it. And they would all do it again.

Story

What's the value of a great story?

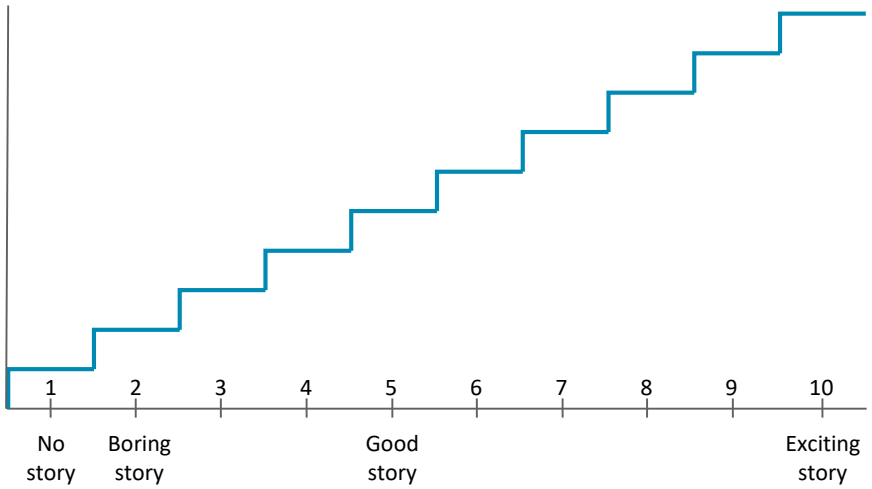
Advertising spend per car sold: Electric cars



Story

Why are we eager to rate ourselves right now, and in 3 months, and in 6 months?

Story



LUNCH #8

1. What is our story?
2. How concise can we make it?

Story

How concise can you be?

The ultra-short story is an artform. Here are the three shortest stories I know:

"He almost didn't make it," said the doctor.

"It was God's will," said Mrs. Schicklgruber.

"What will you name him?"

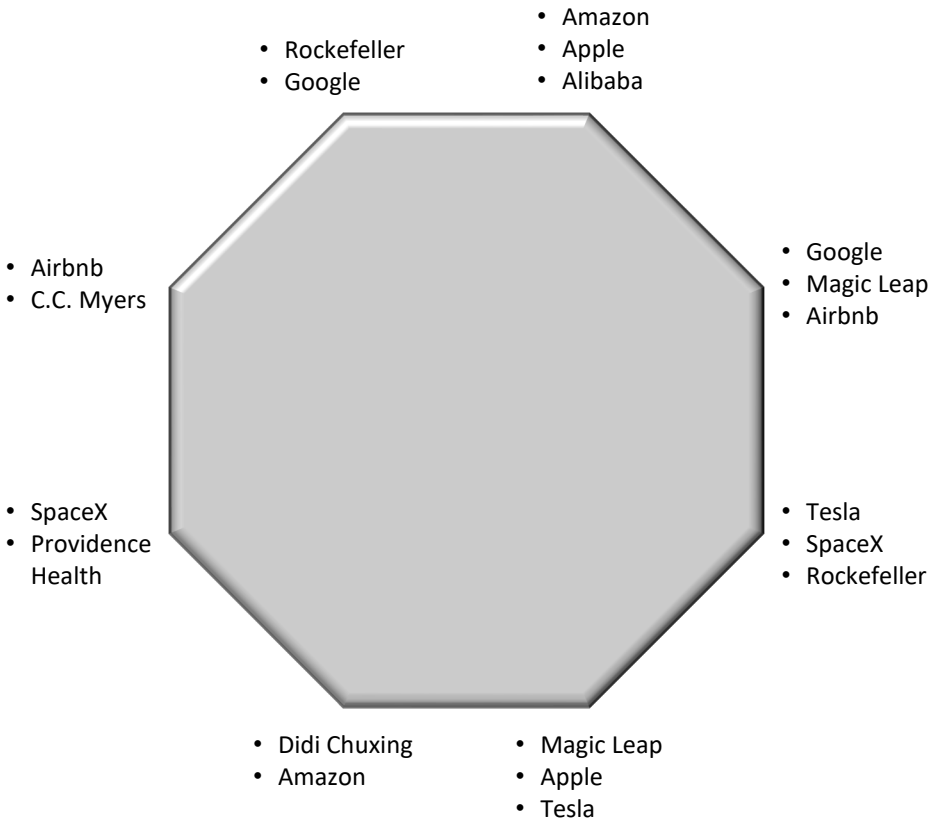
"Adolf," she replied.

For sale. Baby shoes. Never worn.

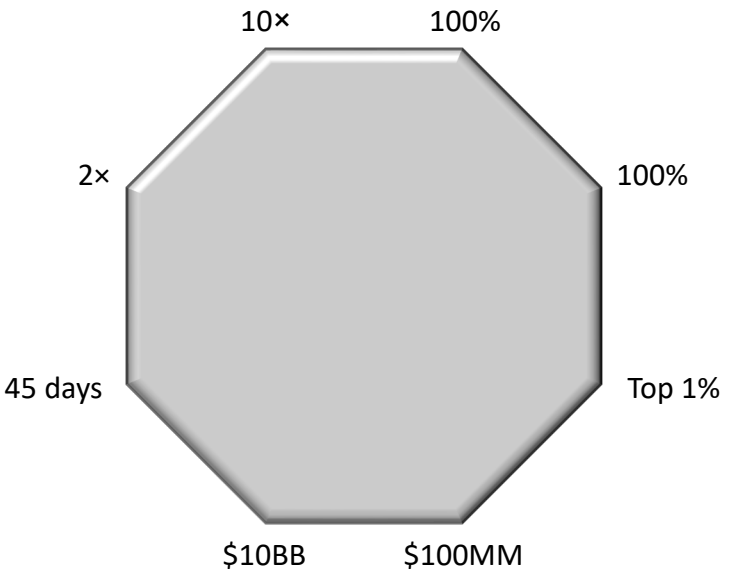
Think different.

Please add a few of your own.

The asymmetric model: Some iconic examples

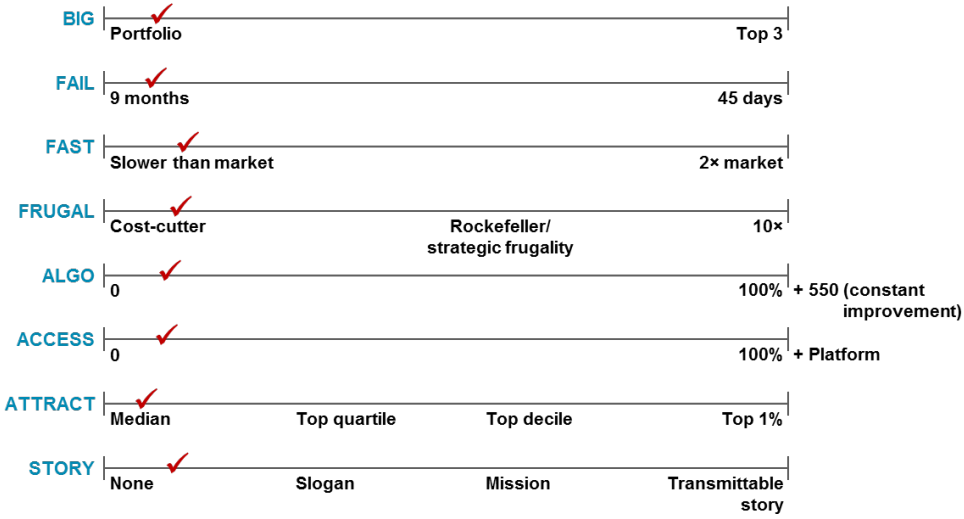


Some example numbers



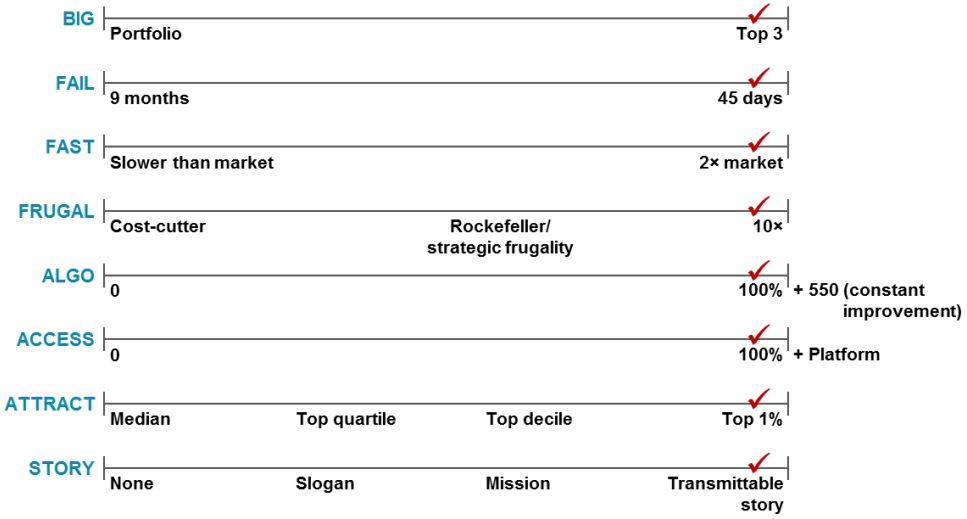
- Are we working on a $1BB problem, or $10BB problem?
- Do we get into market early, fail quickly, revise, revise, and win? (Providence Health: 45 days vs. 9 months)
- Do we move twice as fast as the market?
- Do we look for and find 10× cost improvement opportunities, for customers and for ourselves?
- Are we 100 percent accessed to allies?
- Are we 100 percent algorithmic in our products and value chain?
- Do we attract the top 1%?
- Do we use story, instead of wasting hundreds of millions in advertising?

I can rate myself along every vector



Most companies start with most of their checkmarks on the left.

The asymmetric competitor



I can move

<u>All</u> the checks

<u>All</u> the way to the right

Are we proud of our team?

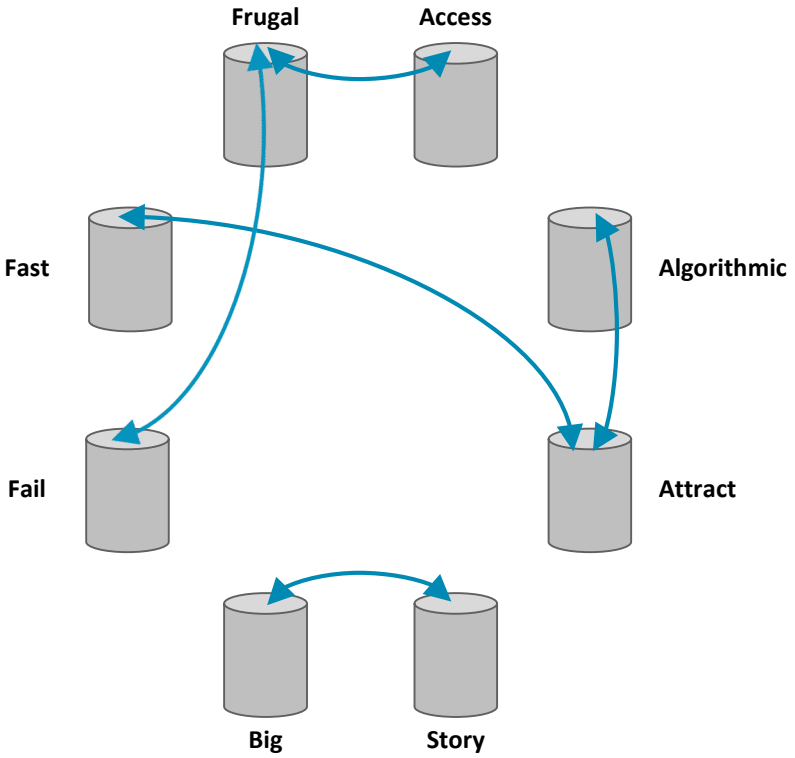
Are we proud of our company?

Are our customers proud of us?

CONNECTIONS

Are the vectors of the asymmetric model free-standing? Or are they connected to each other? If connected, how?

Please look at the octagon below, and simply start drawing connections that you see. I'll start:

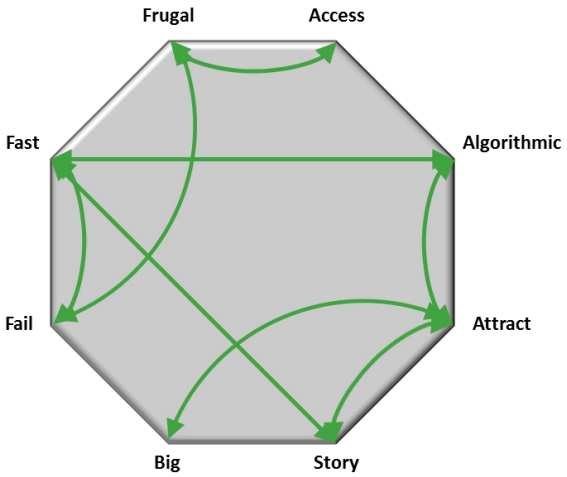


As I start to see more connections, can I perceive the asymmetric business as a genuine, no-kidding, work of art? Maybe so.

Some connections

How do the vectors of the asymmetric model relate to each other?

- Big problems attract
- Fail = fast
- Access is frugal
- Fail = frugal
- Algos are fast
- Algos attract (tools for best talent)
- Story attracts
- Story = fast (builds awareness virally)



- You will find that there are numerous interconnections
- Many vectors have a dual nature, e.g.
  - Fail = transcend market research, *and* fast
  - Access = capabilities *and* fast *and* frugal
  - Attract (1%) = best talent *and* big *and* fast

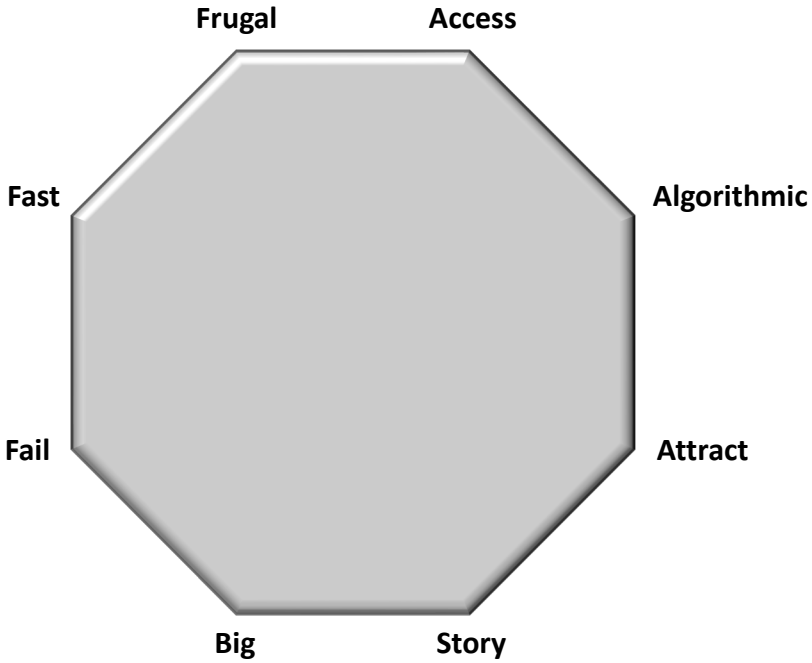
The whole asymmetric system can kick into a strong, self-reinforcing, upward spiral.

Connections

Pause on this page for 10 minutes.

As on the prior page, what connections do you see?

Draw a line between two vectors that you think relate strongly to each other.



- How many lines did you draw?
- What are the most powerful connections?

Connections

I was surprised to see how densely connected, how deeply organic the inter-relationships among the vectors are. This web of interconnections raises the effectiveness of the asymmetric model to a much higher level.

The components of the model reinforce and amplify each other in a way that leads to a self-reinforcing, self-expanding, dynamic, upward spiral.

An upward spiral that can be as unique as a zebra's stripes, a flake of snow, a human fingerprint.

And, in consequence, incredibly difficult to copy. It is quite an unusual, rare phenomenon, that calls to mind one of the most beautiful quotes I've encountered:

> *"Many competitors could try to copy one or two of these things. The difficulty is when you try to create the totality of what we have.*
>
> *You might be able to copy our low prices, but you need our volumes and global sourcing presence. You have to be able to copy our Scandinavian design, which is not easy without a Scandinavian heritage.*
>
> *You have to be able to copy our distribution concept with the flat-pack. And you have to be able to copy our interior competence – the way we set out our stores and catalogues."*
>
> – Anders Dahlvig, IKEA Group President

What's the difference?

- Not just portfolio, but big 3
- Not "develop," but fail, fail, fail, score
- Not market, but 2× market
- Not just cost reduction, but 10×
- Not own, but access
- Not conventional, but algorithm
- Not just top quartile, top 1%
- Not just strategy, but story

All of the value is not in the reading, but in the application.

- Develop your own asymmetric system. It's really, really hard.
- Three key allies:
  - The psychology of scarcity
  - Hard-edged, elegant solution, not brute force
  - Always asking: Is there a 10× better way?

Can big companies do this?

They can, they have, and they will – if not for all of the business – then for a significant part of it.

- Amazon
- Google
- GE
- Providence Health
- Apple
- Air Liquide

Others that I myself have seen:

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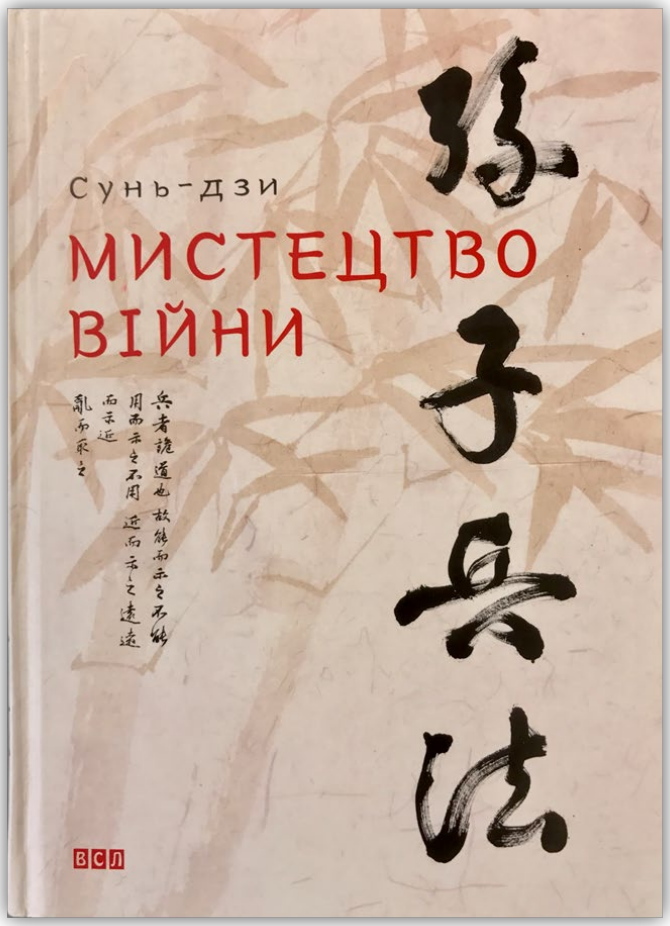

孫子兵法
Сунь-дзи
МИСТЕЦТВО ВІЙНИ
ВСЛ

Exercise to multiply the power of your thinking

Please read Serhiy Lesnyak's translation of Sun Tzu. Ask yourself a difficult question:

> Is Sun Tzu essentially all about asymmetric conflict – or not?
> What is Sun Tzu really about?

It is an honest question. It has tormented me for months, and it has been a very productive torment.

Please begin simply by listing what aspects of Sun Tzu are about acting asymmetrically. A few starters:

1. Get information
2. Find and control the narrow pass in the mountains
3. Draw a line in the sand
4. Boulders on eggshells
5.
6.
7.
8.

Those who use Sun Tzu best read him every two years. They interweave their experience with the re-reading. With each iteration, their skill and insight deepens. You can use this exercise for your next re-reading.

It's a paradox of business that everyone **talks about** Sun Tzu. Few have read him. Fewer still have read him several times. Fewer still, have applied his observations.

ORGANIZATION

The values of the asymmetric competitor

- Intense, almost insane level of customer advocacy
- Deep-seated abhorrence for waste
- Delight in moving quickly
- Respect for great talent
- Imagination
- Desire to solve big problems/create social value

Discuss:

Delighted, excited customers fuel the growth and improvement of the enterprise

Waste is a barrier to progress. Waste robs growth.
Waste deprives customers of new value.
Waste corrupts the organization.

Part of the joy of business is making good things happen. Lethargy, delay (e.g. sitting in the doctor's waiting room for an hour) do not move things forward.

Great talent is a treasure, a pleasure to work with. Great talent needs an extreme environment, an environment of purposeful challenge in order to grow.

Artists have great imagination. Great business people can have even more.

Organization

The paradox of organization

Life evolves. Technology evolves.

Does organization evolve? Are we any better at organizing today than we were 5,000 years ago?

Could, for example, we organize ourselves to build the pyramids today? Could we organize ourselves to build Chartres? Or Macchu Picchu? Or Angkor Wat?

In 1943/44, the Allies organized to prepare the Normandy invasion. How many computers did they use? Could we do the same without computers today?

In the 13th century, Chinggis organized a communication system that spanned 5,000 miles with no electricity, computers, or cell phones. Could we do the same today, with no electricity, computers, or cell phones?

I'm not certain about this, but I suspect that as human beings, our ability to organize has not evolved. Maybe it has something to do with our human nature.

And it is precisely why the asymmetric competitor devotes so much attention to organization. And works so hard to know the precedents that have shown us the way.

Organization

Asymmetric value creators invest their heart and soul in creating a special, unique organization. It is highly frustrating work. It takes great pains, great focus, and deep, emotional energy. It is almost impossible without a strong and meaningful set of values, without an exciting purpose behind which great talent wants to align itself.

The greatest organizational accomplishment of the leader? Creating those values, creating and articulating that purpose, creating a culture around it, and cultivating through stories and personal example, an inner toughness for greater than any rival can muster.

* * *

"We never stop hiring engineers; properly deployed, they can always generate enormous returns above their salary."

"We wrote a book called "How Google Works" and 1/3 of the book is about recruiting."

"On Bob Taylor: The way he funded the ARPANET was he called people up and described the project. If the person didn't say yes right away, he moved on. You need people who get it quick."

– Eric Schmidt, Google

Organization

CULTURE/ORGANIZATION

"[When I personally lived in Airbnb homes for a year] it sent a huge message to the team that working at Airbnb wasn't a job — it was a calling. Part of having a strong culture is when people believe in what you are doing. It's not about a website, an app, a system, or screens — it's about building a mission — creating a whole new world — this is only possible if you are living the product.

There isn't a bad culture or good culture, but there are weak cultures and strong cultures. I wanted to have a strong culture — a shared mission, a way things are done, beliefs we share.

A big part of culture is hiring — who are you going to be spending a lot of time with — and how do you remove people who don't fit within your culture. One of the strongest levers of culture is hiring.

I decided early on to interview every single person. I personally interviewed every employee up till the first ~200 employees."

– Brian Chesky, Airbnb

Organization

Tougher Inside

Most of the method, most of the science of the asymmetric model is rational, learnable. You can learn how to find the biggest customer problems, how to fail, how to accelerate, how to save, how to partner, how to systematize, how to attract, how to create a reality that crafts a story.

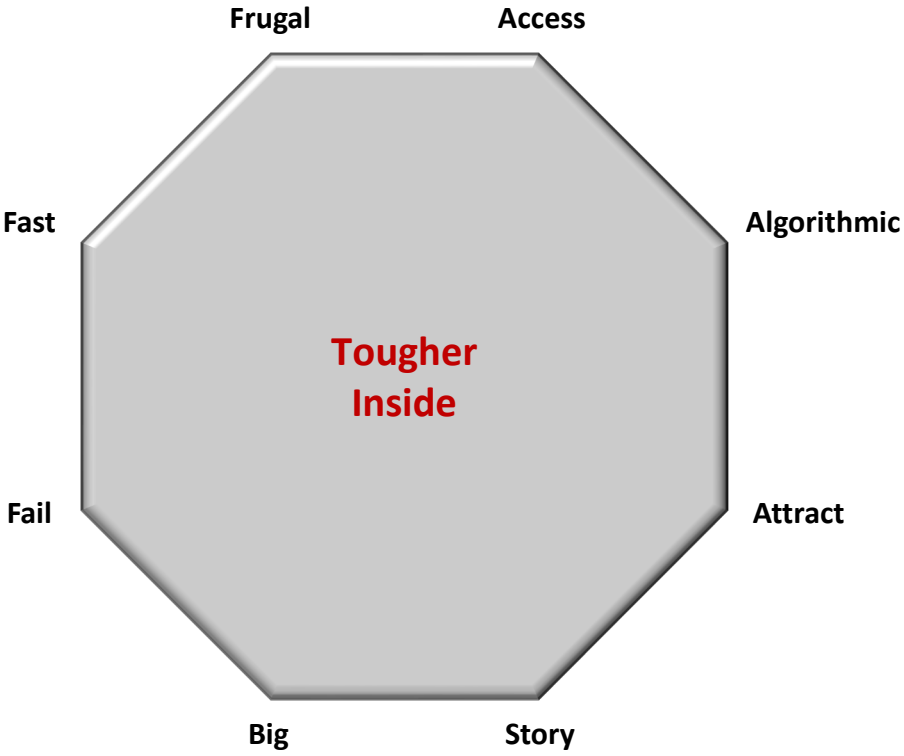
But there is one common characteristic of the asymmetric value creators that is far more a matter of the spirit than of the mind: that sharp-edged, diamond-like inner toughness and inner faith that leads to perseverance, resilience, tenacity, and the drive to prevail.

You can see it in their leaders who don't wilt in the hot glare of public scrutiny. You can see it in their people who don't flinch when they have to overcome the umpteenth obstacle.

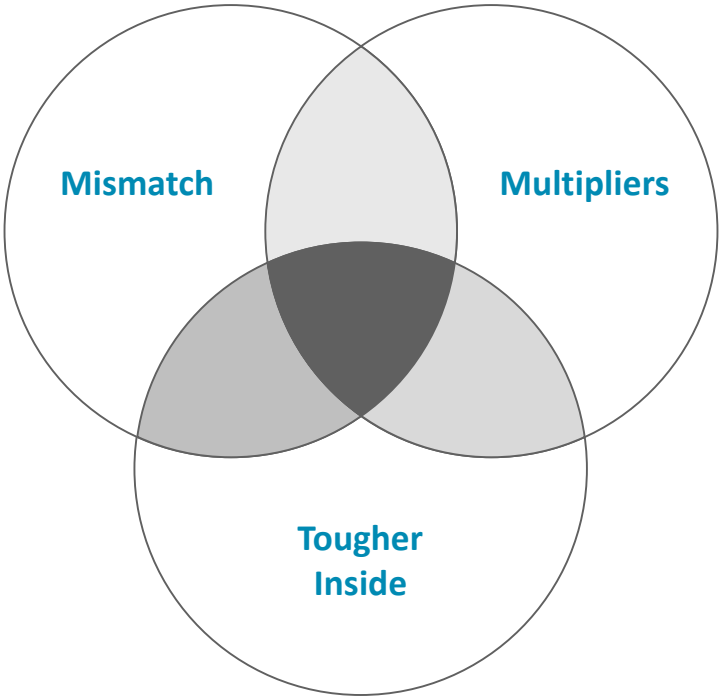
It's not a method that can be learned; it's a character trait to be cultivated. And it was cultivated by many.

By the 17th century Dutch merchants who had to navigate amongst European powers far greater than they were. By Thomas Edison, who kept failing until he didn't. By James Dyson, who does exactly the same thing today. By the Israelis, by the Vietnamese, by the 15th century Portuguese. By Rockefeller whose faith told him he was destined to succeed, and who did everything to make that happen.

By you?


Frugal
Access
Fast
Algorithmic
Tougher
Inside
Fail
Attract
Big
Story

Asymmetry



Asymmetric – A vocabulary of examples

David – Goliath	Toyota – GM
Ali – Foreman	Nokia – Motorola (5 X SW)*
American Revolution	Apple – PC World (2% / 2000)**
Lawrence of Arabia	Mars Pathfinder
Vietnam	Walmart – Sears
Afghanistan	Microsoft – IBM

Thermopylae	Holland (17th)	30,000 sailors
Alexander the Great	Portugal (15th)	10,000 sailors
Vikings	Mongols (13th)	30,000 horsemen
Agincourt (5:1)		
Society of the Assassins		

*In the early 2000s, Nokia had five times as many software engineers as market leader Motorola.

**In 2000, near-death Apple had 2% of the total PC market.

Asymmetric – Fiction

Seven Samurai (6:1)

Magnificent Seven (1960) (6:1)

Pale Rider (7:1)

Magnificent Seven (2016) (30:1)

Kill Bill, Volume 1 (88:1)

You can find asymmetric thinking anywhere, even at the movies.

Even though these stories are stories, they all illustrate the elements common to asymmetric winners. They recruit the right warriors, they plan, they train, they prepare, they surprise, they deceive.

And they all possessed an inner toughness that far exceeded that of their rival.

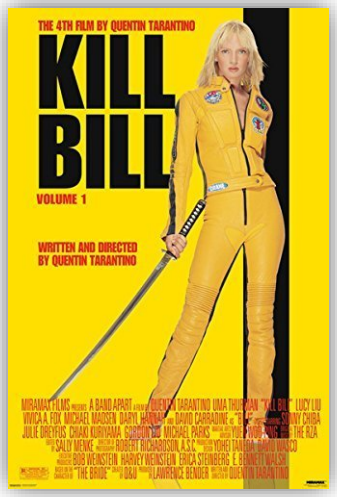
These films – though entertainment – can teach us much. Oddly, our real life examples are actually much more powerful in their results/unit of input than the fictional ones.

Movie Stars …

Seven Samurai (1954)

The Magnificent Seven (1960)

Kill Bill (2003)



The Magnificent Seven (2016)

… or Strategy Teachers?

HISTORY

Studying history is far too much fun and far too profitable to be left to the historians.

But, there is so **much** of it. :)

Truly there is.

In the spirit of asymmetric, I want to invite you to examine just three cases. For the pragmatic practitioner who sincerely wants to help create an asymmetric model of value creation, this may be the most efficient pathway:

1. Study the Portuguese Maritime System, 1415 – 1580
2. Study the Dutch Maritime System, 1600 – 1750
3. Study Chinggis' Mongol System, 1206 – 1380

Yes, please do them in scrambled chronological order, as indicated. And yes, do it with two to three colleagues.

Let the facts, and let the spirit of these cases lead you to think and act in a genuinely asymmetric way.

History

I must say there are many aspects of these cases that I detest. I detest mindless slaughter (Case 3 provides plenty of examples. Cases 1 and 2 are not entirely innocent either.) I detest mindless domination. I detest absolutism.

But I also stand before a choice. Remain **ignorant** of previously unimagined accomplishments that can be applied to build a good enterprise.

Or, learn them, condemn their bad points, but learn them to apply good thinking to the efforts of enterprises that will multiply good outcomes for customers and for communities.

Asymmetry = Leverage = Multiplication

You can multiply for evil (many, many have), or you can multiply for better outcomes. It would be a genuine tragedy if the best students of multiplication were the former. We should remember – multiplication can be for the rest of us as well.

THE PORTUGUESE EMPIRE: 1430

One of Europe's smallest countries

Portugal

What can 10,000 people accomplish? It depends on how highly leveraged, and how highly asymmetric they are.

Portugal was not one of Europe's big countries. In the 1430s, Spain had 7 million people. England had 4 million. France had 12 million. The population of Portugal?

Approximately 1 million. Portugal was not Europe's smallest country, but it was one of the smallest.

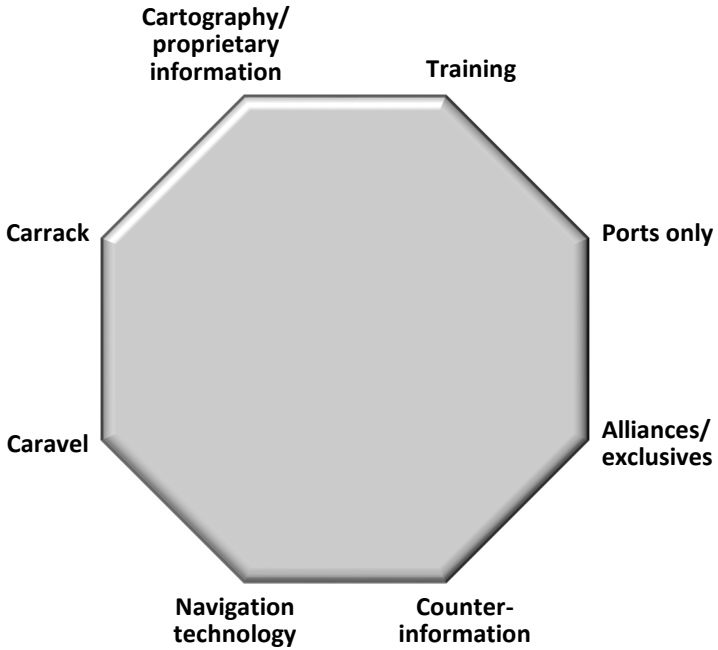
From 1430 to 1542, a few thousand Portuguese sailors built the first global maritime trading network. How did they do it?

The Portuguese developed a specific way of thinking, of doing things, of creating advantages for themselves. Unlike **all** of its peers, the Portuguese model was different: more highly leveraged, more focused on the biggest issues, more reluctant to get dragged into and be distracted by low-value activities. For over a century, the Portuguese asymmetric model was highly focused on economics. It was not only different from its rivals, it was unique.

In a nutshell, the Portuguese classic "small team" generated disproportionate returns by combining a powerful set of elements its asymmetric model of exploration and trade.

Portugal

CAUTION: I have not tried to conform the historical examples to today's asymmetric model. I have tried to see them on their own terms. Some profound similarities, however, are unmistakable: extreme focus, big problems, focus on data, search for allies, constant search for leverage, etc.



Navigation technology. Achieving maximum leverage begins with maximum emulation. The Portuguese took the astrolabe and sextant from the Arabs, refined them, simplified them, and gave their sailors an advantage that lasted for decades.

Portugal

Caravel. The Portuguese developed a new type of craft, the caravel, recognizable by its triangular sails. It's new design allowed Portuguese mariners to tack and sail against the wind, enabling them to sail quickly in situations where others could not. It enabled the Portuguese to reach Cape Bojador (supposedly "the end of the world") in just 30 years.

Source: http://www.incois.gov.in/Tutor/science+society/lectures/illustrations/lecture17/caravel.html

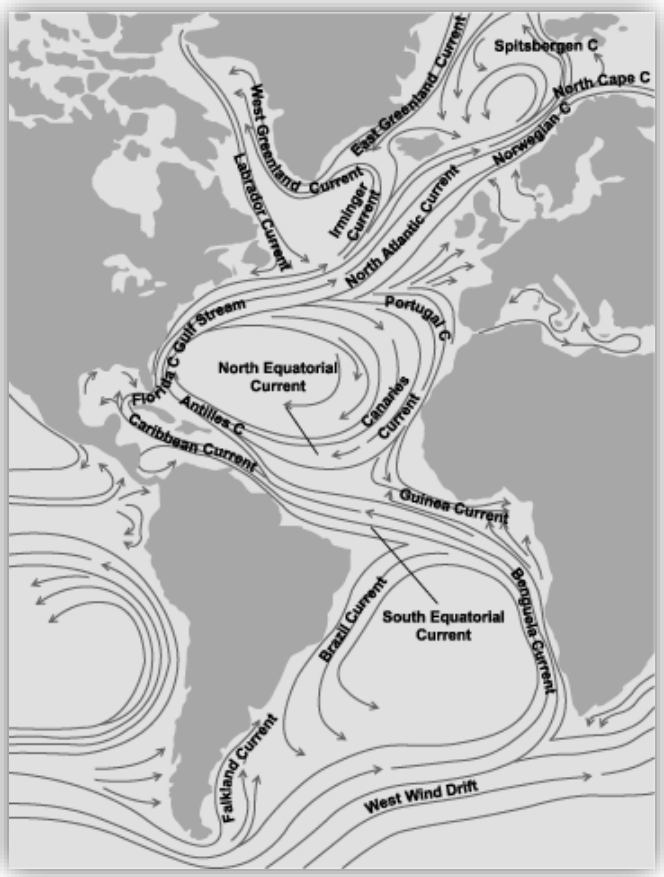
Portugal

Carrack. As they pushed south along Africa's western coast, trade with local rulers and populations exploded. The caravel was great for exploration, but not for bearing freight. By mid-century, the Portuguese developed the carrack, perfectly designed to bring enormous cargoes back to Portugal.

Source: By Francisco Rodrigues - Roteiro de Malaca, Public Domain, https://commons.wikimedia.org/w/index.php?curid=18170481

Portugal

Cartography/proprietary information. Cartography was the most prominent example of proprietary information the Portuguese invested to develop. They had the best maps of land, the best maps of ocean currents, the best maps of ocean winds.

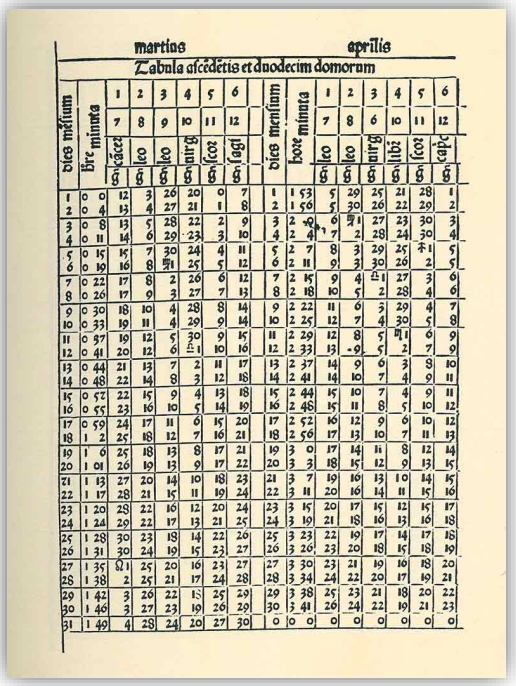


Source: http://arctic-news.blogspot.com/2014/01/global-warming-and-the-gulf-stream.html

Portugal

The quest for information advantage did not stop at maps. It included data for celestial navigation (the Ephemeris), for astronomy, and for languages.

Ephemeris



martius aprilis

Tabula ascedetis et duodecim domorum

dies mensium	hore minuta	1	2	3	4	5	6	dies mensium	hore minuta	1	2	3	4	5	6
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3	0 8	13	5	28	22	2	9	3	2 0	6	♎ 1	27	23	30	3
4	0 11	14	6	29	23	3	10	4	2 4	7	2	28	24	30	4
5	0 15	15	7	30	24	4	11	5	2 7	8	3	29	25	♐ 1	5
6	0 19	16	8	♎ 1	25	5	12	6	2 11	9	3	30	26	2	5
7	0 22	17	8	2	26	6	12	7	2 15	9	4	♏ 1	27	3	6
8	0 26	17	9	3	27	7	13	8	2 18	10	5	2	28	4	6
9	0 30	18	10	4	28	8	14	9	2 22	11	6	3	29	4	7
10	0 33	19	11	4	29	9	14	10	2 25	12	7	4	30	5	8
11	0 37	19	12	5	♎ 30	9	15	11	2 29	12	8	5	♐ 1	6	9
12	0 41	20	12	6	♏ 1	10	16	12	2 33	13	9	5	2	7	9
13	0 44	21	13	7	2	11	17	13	2 37	14	9	6	3	8	10
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15	0 52	22	15	9	4	13	18	15	2 44	15	10	7	4	9	11
16	0 55	23	16	10	5	14	19	16	2 48	15	11	8	5	10	12
17	0 59	24	17	11	6	15	20	17	2 52	16	12	9	6	10	12
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25	1 28	30	23	18	14	22	26	25	3 23	22	19	17	14	17	18
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31	1 49	4	28	24	20	27	30								
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Especially languages. Consider how many different languages the Portuguese encountered and had to work with, traveling from North Africa to Nagasaki.

Source: Public domain. https://en.wikipedia.org/wiki/Ephemeris#/media/File:AlmanachPerpetuum.jpg

Portugal

Training. For a long time, people believed that training for mariners was concentrated at an extraordinary center in Sagres. Historians have since discredited the Sagres idea. That didn't mean, however, that abundant training didn't happen, as the maritime network invested time to teach:

Astrolabe use	Astronomy
Caravel sailing	Ocean currents
Carrack sailing	Ephemeris use
Sextant use	Languages

To name just a few of the disciplines that gave Portuguese mariners leverage and advantage in their explorations, negotiations, and transport of cargo.

Portugal

Ports. When you have very few people, you are wise to focus on the essentials, and nothing else. The Portuguese wasted no time trying to dominate and administer large geographic areas. They were focused on trade. They were focused on ports, and on constructing the forts to defend them. Just as, centuries later, new business models would be highly focused and specialized (Microsoft – software, Toyota – assembly, McDonalds – real estate), so too the Portuguese sought to concentrate on the subset that mattered most. And to be the best in the world at it.

Alliances/exclusives. Modern asymmetric models **all** focus on accessing assets and allies to leverage the work of the organizer. Unbeknownst to modern asymmetric competitors, Portugal provided one of the earliest, and one of the best models. The Portuguese entered into alliances with dozens of kingdoms (Africa, Near East, India, East Asia). Included in this network of partnerships were several exclusives that provided great leverage and great profitability. Of these, Macau and Nagasaki stand out as two of the pre-eminent examples.

Counter-information. Having blazed the trail, the Portuguese had no interest in others following. In the classic Sun Tzu tradition, they proactively used misinformation, false data, false maps, etc. to deceive and deter potential rivals.

Portugal

The combination of a rapidly growing base of hard-earned proprietary information, and the strategic use of “counter-information” helped the Portuguese develop quickly, and to keep potential rivals at bay.

There was a critical need to find an alternative and cost-effective route to the East. The Portuguese, the underdogs, did; the Venetians didn’t. This pattern (upstart does the job, the leader doesn’t) was repeated countless times in the 20th century. Who knew that the roots of value migration stretched that far back into the past?

Who knew that the asymmetric model of value creation stretched that far back in the past?

For we should make no mistake about this. The Portuguese asymmetric model was essentially not about empire, but about value creation. The primary engine of value creation in the 19th century was the factory. The primary engine of value creation prior to the 19th century was exchange. The Portuguese took that engine, and for the first time in history, they took it global. And they did it within a century, and with only a few thousand (highly trained and well-equipped) sailors. They did it not as one of Europe’s big powers, but as one of its smallest countries.

It would be difficult to find a modern organization consisting of 10,000 workers that accomplishes as much.

Portugal

The ball takes a strange bounce

When we succeed, we rush to attribute success to our own virtues, skills, hard work, sacrifices. We won because we were superior.

However, concealed behind every spectacular success is a spectacular, competitive failure. We are not eager to see the huge role that competitive failure played in our success.

I do not want to diminish the beautiful accomplishment of the Portuguese, the quintessential small team. Portugal was a fraction the size of the major European players. It was an even tinier fraction compared to China. And they, with a few thousand sailors explored, and built, and – for over a century – sustained the first truly global maritime trading network, stretching from Rio de Janeiro to Nagasaki.

Yet, I don't want to hide from the fact that the Chinese came ever so close to being the first to create that global network. By 1430, Zhang He's fleets had reached the Cape of Good Hope. Fra Mauro has a famous map purporting to show the first Chinese junk entering into the Atlantic Ocean.

In another 10 to 15 years of sailing north along the west coast of Africa, they could have reached Gibraltar. By the 1450s, the global trading network would have been in place. The entire rationale for Columbus' voyage of discovery would have been negated.

Portugal

In 1972, Apollo 17 was the last US mission to the moon. The US stopped going further.

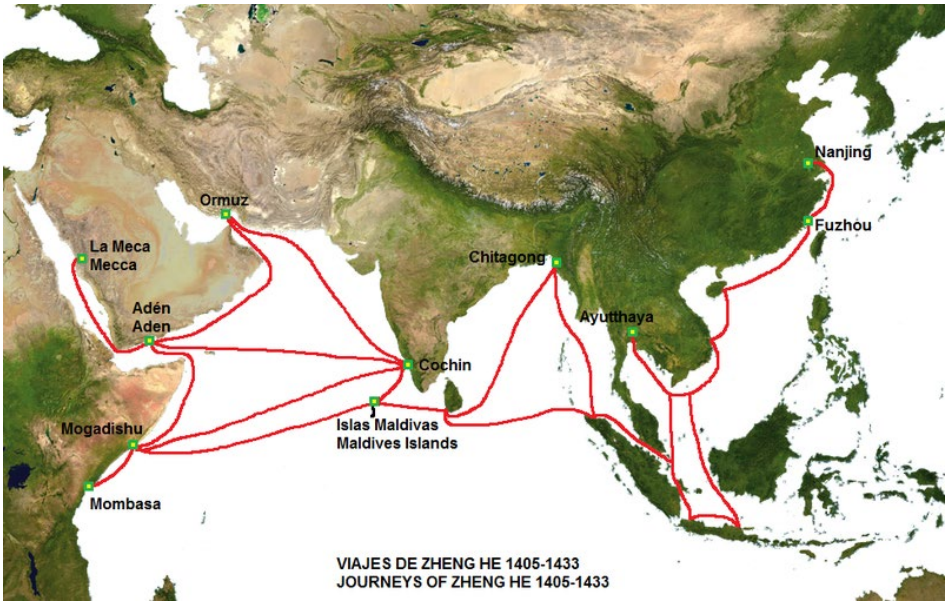
In 1435, the Chinese emperor recalled Zhang He's fleet. The Chinese stopped going further. The Chinese navy was allowed to languish and decay. Resources were shifted to the Great Wall, which had failed to stop the Mongols in the 13th century, and which would fail to stop the Manchus in the 17th century. It was one of the great anti-leverage projects of all time: huge resources, meager results.

The field of play was left open for the Portuguese. And they took full advantage of it, doing the job that the Venetians should have done.

Fra Mauro: First Chinese junk in the Atlantic

Portugal

Zheng He: 1405 – 1433



For three decades, Zheng He pushed West. Then, just before the Portuguese launch, China stopped.

https://commons.wikimedia.org/wiki/File:Zheng_He.png

Portugal

The Venetians? Yes, of course. In the 14th century, they were the center of gravity of the world economy. They controlled the Mediterranean trade. They connected to the Silk Road. They stayed connected to the Silk Road even after the Mongol conquests (Venice made a secret deal with the Mongols: we'll give you valuable geopolitical information; you give us the Silk Road access monopoly. "Done," said the Mongols.)

As a result, Venice continued its ascent through the 13th and 14th centuries. They were the kings of world trade.

The rise of the Ottomans from 1350-1450 blocked the Silk Road. To avoid incurring much higher costs, the Venetians needed to find an alternative way. They didn't. The Portuguese did. They became the kings of world trade. Value migrated from Venice to Lisbon. (And then, of course, to Amsterdam.)

The rules of asymmetric competition were forged in the cauldron of war, where the pressure to think harder is greatest, because it is a matter of life and death.

But, the rules of asymmetric value creation were also forged in the world of economic competition, where people have always wondered how such small teams can generate such enormous results.

Portugal

Inner Toughness?

Remember, in the early 15th century, people thought the world came to an end.

It took not just a caravel, but a massive quantum of courage, of faith, and a host of other attributes that most of us will never experience.

Source: http://scienceblogs.com/startswithabang/2011/09/21/who-discovered-the-earth-is-ro/

Portugal

1580

Portugal

Does leadership matter?

1430 **=** **1961**

Henry the Navigator

"Let's go to China"

JFK

"Let's go to the moon"

Wikipedia.org (public domain)

THE DUTCH EMPIRE: 1600

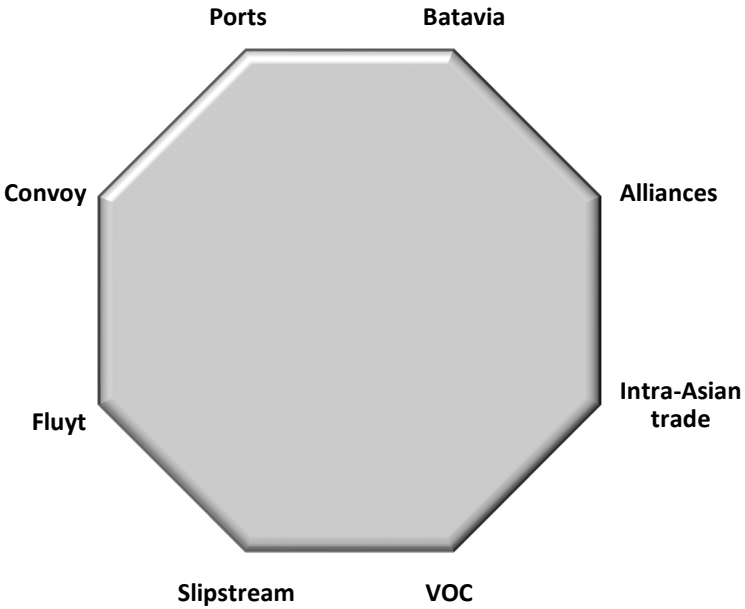
The Netherlands were not much bigger than Portugal

The Dutch

The Portuguese showed the way. You might expect a European great power to compete effectively against the Portuguese, or to try to displace them. They didn't. The countries with 6 to 15 million in population (Britain, France) did not compete effectively.

Little Holland (2MM population) did. And it did so with a mere 30,000 mariners in the first half of the 17th century, at a time when the world economy was far larger than it had been in 1430, when the Portuguese were starting their adventure.

Their asymmetric model was also a work of art.

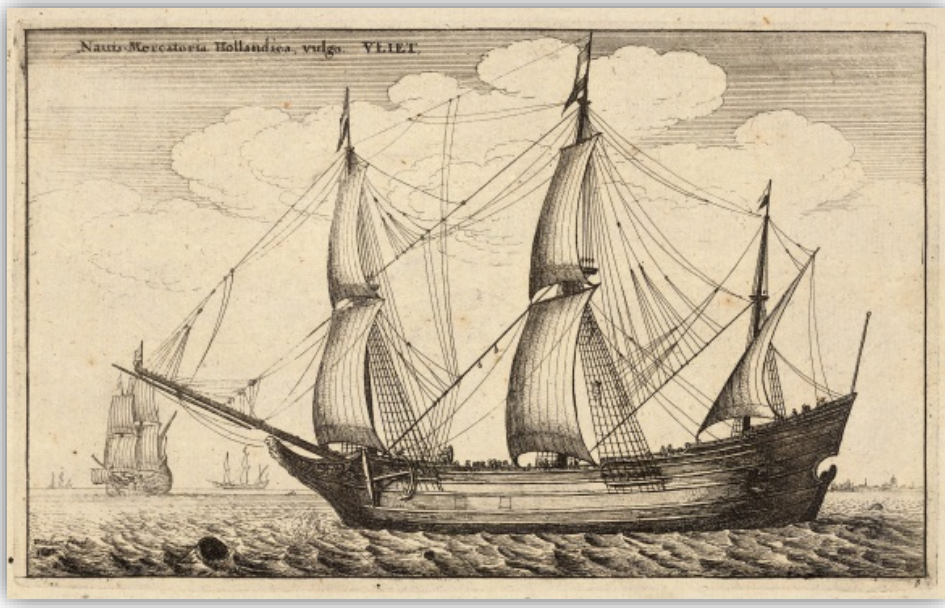


The Dutch

Slipstream. The Dutch developed their own asymmetric model, the first element of which was to slipstream in behind the Portuguese. They, too, had few people. They, too, had to be inordinately frugal wherever they could. They spent zero time reinventing what the Portuguese discovered and developed. They simply shadowed them every step of the way, from Brazil to Nagasaki.

And **then** they innovated, creating enormous leverage at every opportunity. They did exactly what Baidu, Alibaba, Tencent, and other Chinese internet players are doing today.

Fluyt. The Portuguese developed the carrack. The Dutch developed the Fluyt. It was a thing of beauty. It carried twice as much cargo as other vessels of the time, giving the Dutch a tremendous cost advantage over all other rivals.



The Dutch

Convoy. With the growth of trade came the growth of piracy, as inevitably as floods follow rainstorms. Pirates imposed significant losses on merchants. The Dutch neutralized this risk by organizing their shipments not by vessel, but by convoy, well guarded convoy. Losses were radically reduced, and cost of delivery plummeted further.

Chinggis would have his soldiers use four horses – for speed. The Dutch would use multiple vessels traveling together – for security. And for radically lower costs.

In both cases, brilliant **non-technological** ways to provide tremendous leverage to the system.

Ports. If your focus is trade, don't waste time and resources colonizing. The Dutch didn't. With only 30,000 mariners, they couldn't afford to.

Do what matters; skip the rest.

Batavia. The Dardanelles was a stunningly effective control point for trade from the Black Sea to the Mediterranean. Ditto the Suez Canal for the Mediterranean to the Indian Ocean. Ditto the Panama Canal for Pacific to Atlantic.

Batavia was that powerful a control point for the East West trade. It was the Microsoft "Windows" of the 17th century. Everything passed through it. It was what made tiny Holland so disproportionately valuable in the 1600s.

The Dutch

Alliances. The Dutch not only outcompeted the Portuguese, they not only took over many of their alliances, they also created many new ones. They focused particularly on creating exclusives (the clove trade, for example). Like modern-day asymmetrics, access was more important than ownership/colonization.

Intra-Asian trade. Holland's competitors had to transport silver from Europe for thousands of miles to pay for the spices, ceramics, and textiles they bought in the Far East. It was a long, expensive, and dangerous journey.

The Dutch model short-circuited that entire process. The Dutch established a large-scale, intra-Asian trade that cycled Indian textiles, Japanese silver and copper, Chinese tea and silks, and spices from Southeast Asia in a vigorous, high-velocity exchange.

The Dutch then used the profits from this intra-Asian trade to fund their convoys for the long-haul trade to India, Africa, and Europe.

The VOC. Dutch copying of the Portuguese included ports and alliances. Their innovations were the fluyt, the convoy, Batavia, and intra-Asian trade to fund the long-distance trade to the West. Their most consequential innovation, and their greatest source of leverage was the Dutch East India Company (Vereenigde Oost-Indische Compagnie), established in 1602.

The Dutch

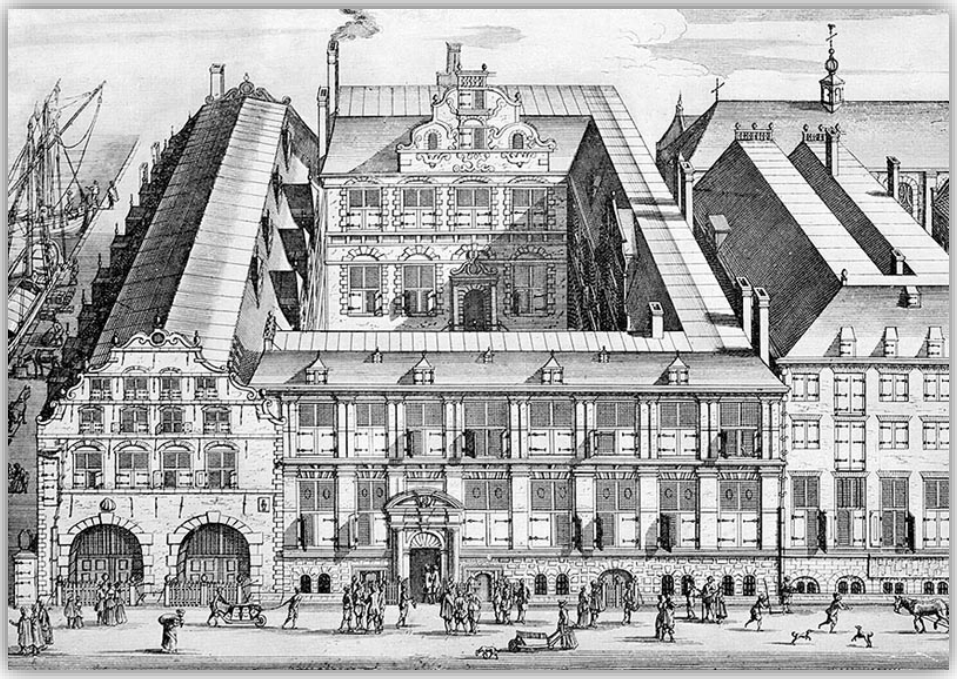
The VOC brought professional management to the activity of global exchange, of global trade. It brought risk reduction, as hundreds of investors pooled their capital by buying shares in the company. It brought liquidity for those investors by enabling the trading of shares on the exchange. And it created a professional, global network of managers and information gatherers that gave it enduring informational advantage over its rivals.

It was the first professionally managed, investor financed, global commercial organization. It fueled the rise of Dutch commerce for more than a century.

Recall that trade, that exchange was still the primary engine of value creation in the 17th and 18th centuries. The VOC brought collaboration, coordination, more rapid communication, greater productivity, and greater scale to the workings of that engine, generating economic benefits for partners in Asia and Europe alike.

The Dutch asymmetric model is one of history's greatest, most beautiful inventions. It competed with the Portuguese, it often displaced the Portuguese, and it quickened the pace of value creation around the globe, making Japanese, Indians, Chinese, Southeast Asians, Arabs, Africans, and Europeans better off through the economic benefits of large-scale, long-distance exchange.

The Dutch

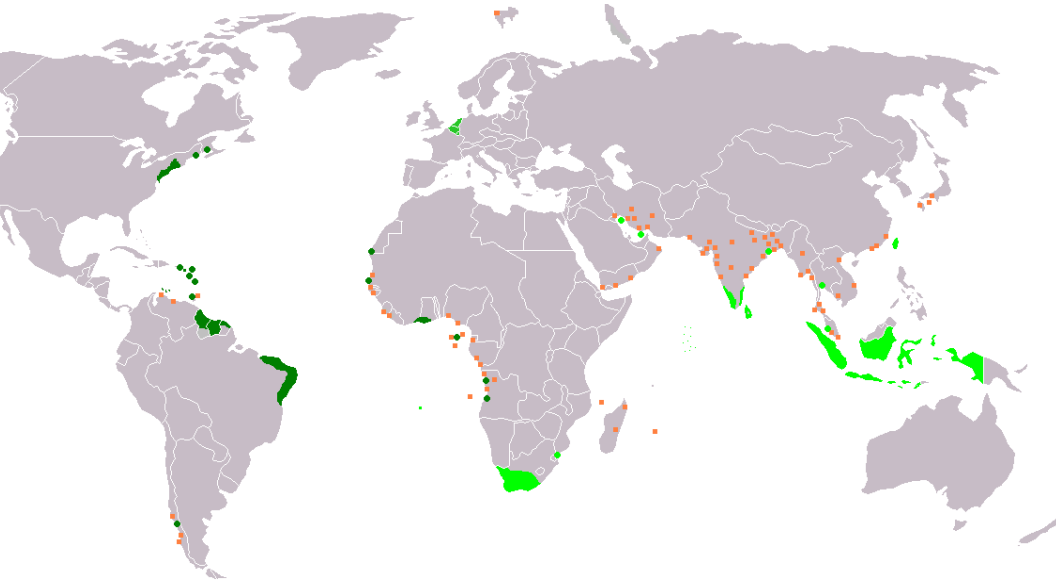


17th-century etching of the Oost-Indisch Huis (Dutch for "East India House"), the headquarters of the United East India Company (VOC) in Amsterdam.

Source: https://commons.wikimedia.org/wiki/File:Gravure_van_het_Oost_Indisch_Huis_(17e_eeuw).jpg

The Dutch

1750



The Dutch

Do you have an asymmetric model for your organization?

If so, compare it to the Dutch. Rate them at 100.

Dutch asymmetric model	100
My asymmetric model	___?

Now, what can you and your team use, not from the specifics of what they did – you're not going to invent a fluyt, or control Batavia (today's Jakarta) – but from their way of thinking:

- Competing differently
- Maximizing leverage, multiplying advantage
- Minimizing risk
- Being tougher inside

… to improve your own model. To make it more leveraged, to reduce its risks, to compete in a different way. To be tougher inside?

Especially to be tougher inside. I don't know whether the Dutch internal toughness pre-existed, forged by the struggle for independence from Spain. Or whether it was forged and tempered in the tough competition with the Portuguese.

What I do know is that it has come down to us to this day. Do you know many Dutch businessmen? Get to know them. They are the carriers of a golden history. And it won't take you very long to recognize that toughness that they still carry inside.

THE MONGOL EMPIRE – 1206

Mongolia, with a population of about 1 million, was one of the smallest countries in Asia.

Chinggis Khan

Technology confuses us. Sometimes it represents leverage; sometimes it does not.

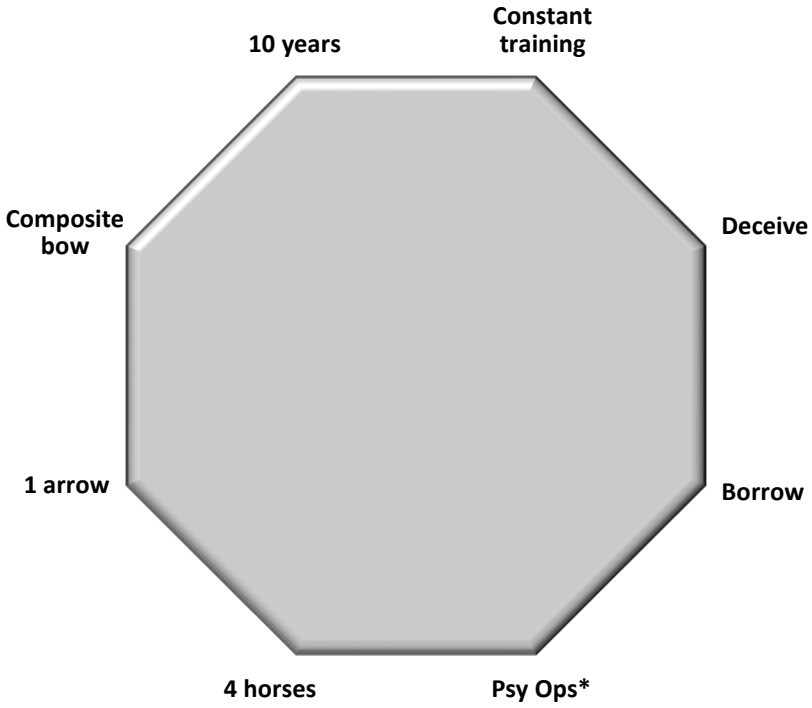
To illustrate the degree to which leverage is not technological, the degree to which it is about clever answers to tough questions, the degree to which it is about mindset, about careful observation, and about thinking a situation through till you develop a sweat, study Chinggis.

It is a difficult assignment. Totally unlike Sun Tzu (in whom a strong sense of morality is unmistakable), Chinggis is a highly controversial teacher. It takes great moral strength to:

1. See him clearly
2. Separate out the terrible ("I am the scourge of God") from the teachable moments
3. Understand the teachable, learn it, and apply it to good purposes.

Chinggis

Now, to learn from the single most asymmetric model every built. And to note how much of it was non-technological. I have never found a more powerful multiplier than Chinggis' octagon.



*Psychological operations.

Chinggis

Give a rider **four horses** (mares) instead of one. You can move an army 100 miles a day. And you can feed it from mare's milk.

One arrow. You have only 30,000 soldiers. Your rivals have hundreds of thousands. Every person is precious. **Never** use a soldier to do the job an arrow can do.

Composite bow. Your bow has twice the distance of the enemy's. Use it wisely. Use it always.

Invest **10 years** to get **information** before you go to battle. Send men disguised as merchants to learn the geographic terrain. The political terrain. Who is strong, who is weak? Where are the conflicts? Which conflicts can be aggravated? Which battles to fight first?

Constant training. Training multiplies your skill. Constant training makes you 5X as good as your opponent. Because you **have** to be. Horsemanship, archery, sword and spear skills, moving in formation, retreating, breaking into small groups, reassembling. Chinggis, himself, set the example.

Chinggis

Deceive. Classic Sun Tzu. Help the enemy think he is strong. Give him unjustified confidence. Retreat. Let him think he is winning. Then, when his lines are elongated and disordered from pursuing you, bring out your hidden reserves and reverse the process.

Borrow. Never spend precious energy on inventions when you can borrow. Chinggis' forces learned and copied siege technology from the Chinese. Some from Arabs. Zero themselves.

Psy Ops. Never fight when you don't have to. Never. Once their reputation was established, they offered cities a choice: submit to us, or be completely destroyed.

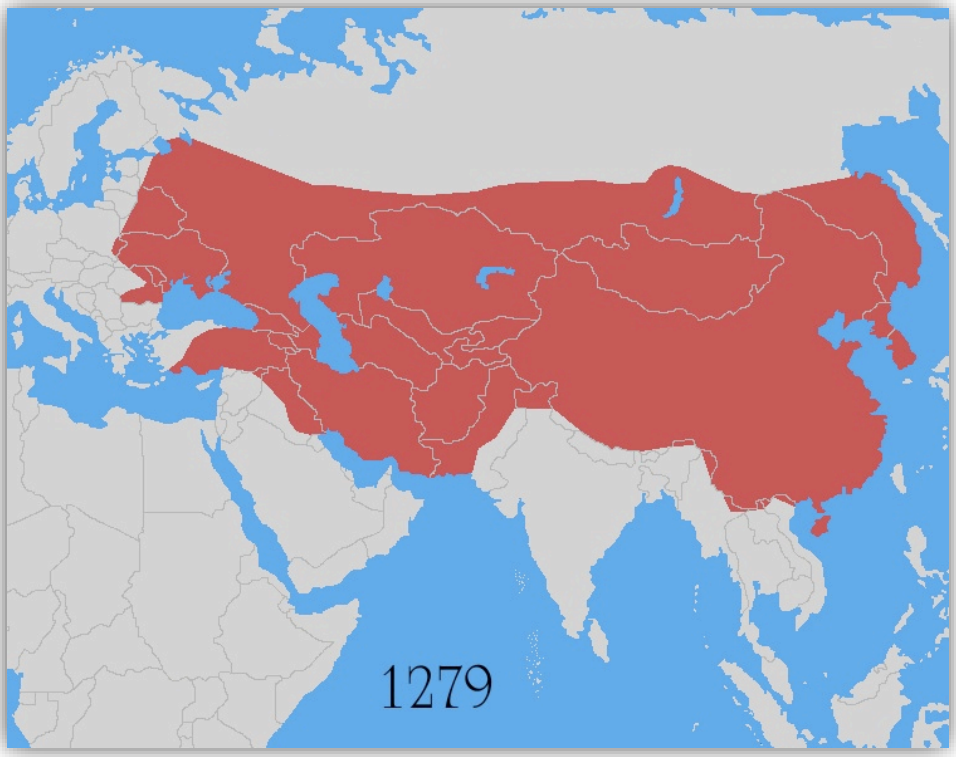
Never fight when you don't have to.

QUICK QUIZ

How many of Chinggis' vectors are technological?

Chinggis

The Mongol Empire: 1279



Chinggis

Chinggis

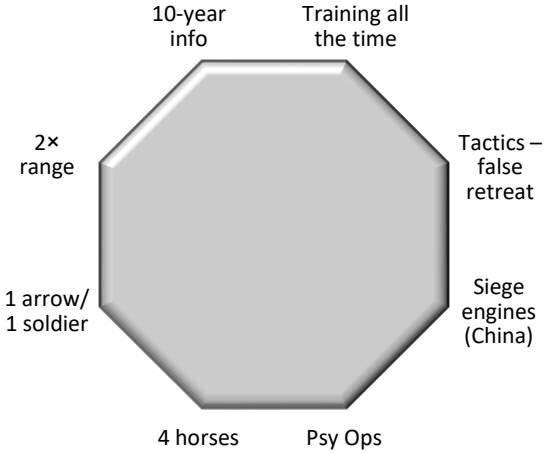
Elon

Chinggis

Using very little to accomplish very much. How?

In the case of Chinggis, it was a self-reinforcing combination of vectors that rivals didn't have.

Chinggis Khan



Elon Musk

What is it in the case of Elon Musk?

Chinggis

Next weekend, consider spending the two days deciphering how Chinggis thought:

Four mares	Mobility
1 arrow, 1 solder	Save every soldier
Composite bow	Twice the range
Constant training	He, himself, set the example
10 years ahead	Send agents to **learn** the relevant reality
Deception	Rival's overconfidence is your greatest ally
Siege engines	**Never** innovate when you can borrow
Psy Ops	**Never** fight if you don't have to

Over the two-day period, consider **why** each of these vectors were developed. How many of them were technological?

Now, compare the quality of that strategic thinking to the quality of strategic thinking in my own company.

If Chinggis is = 100, what are we? 90? 50? 10?

What have we ever done that's an economic breakthrough of this magnitude? How can we build on and extend that breakthrough, to invent others?

Battle of Myeongnyang, October 1597

Yi Sun-sin

13 ships

Japanese fleet

133 warships

“Never had a chance”

- Yi Sun-sin: Korean Admiral (1545 – 1598)
- Second greatest after Horatio Nelson
- Battle of Myeongnyang
  - Korean fleet (13 ships) vs. Japanese fleet (133 ships)
  - Japanese fleet never had a chance
  - In his career, Yi never lost a battle (23 battles)

Sun Tzu's Best Students

Sun Tzu

Chinggis Khan

Yi Sun-sin

Elon Musk

Me?

- Auto
- Aero
- Energy

Koans: The Extreme Competitive Situation

- If you were Walmart, how would you compete with Amazon?
- How does the German Mittelstand compete with China?
- What three moves would double your rate of speed?
  - (Amazon: one-click, no phone service, USPS deal for Sunday)
- What percent of my system is:
  - Technology?
  - Really clever method?

What other koans does my organization need to solve?

-
-
-

War. Statecraft. Commerce.

Art of War vs. *Arthashastra*

Everyone knows *The Art of War*,; no one knows the *Arthashastra*. And that's a tragedy. Kautilya, author of the *Arthashastra*, was the strategic advisor to Chandragupta, first Emperor of the Maurya Empire (321-298 BCE).

Sun Tzu teaches how to win.

Kautilya teaches how to win, how to govern, and why to govern.

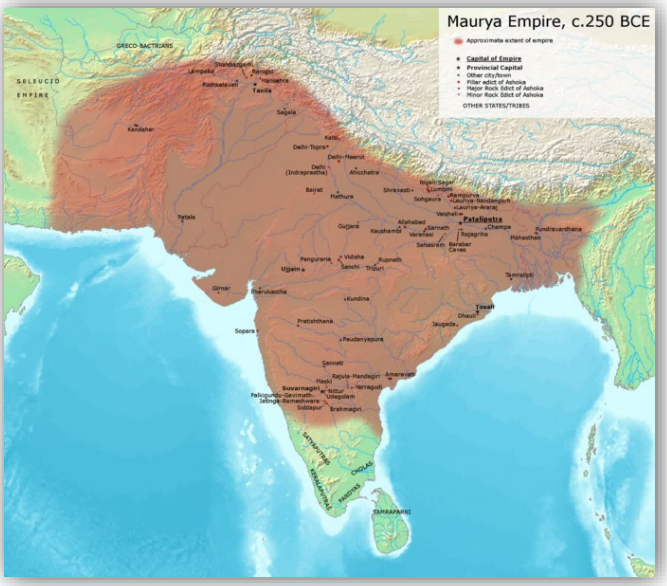
Both Sun Tzu and Kautilya are highly idiosyncratic. Both men, at least by the many legends that surround them, were very tough and often brutal if they needed to be. They were the classical "tough guys" of film and fiction.

But both were highly ethical. For both the most important thing about war was this: avoid it. Prevent it from happening in the first place. Build the kind of strength that deters conflict.

War. Commerce. Statecraft.

Compare Sun Tzu's analysis of war to Kautilya's analysis of war in *The Arthashastra*. In the *Arthashastra*, most of his principles on war are found in books 7-10 and 12-13. It will take a day to read through them. Compare Kautilya to Sun Tzu. It is the best way to reinforce and deepen your knowledge of Sun Tzu. But it will also open your mind to a new way of looking at things that will further strengthen your skill in thinking asymmetrically.

There is much overlap between Sun Tzu and Kautilya. But then, Kautilya goes beyond war to ask: Why do we fight, and how should we govern?



The Maurya Empire, 250 BCE

Source: https://commons.wikimedia.org/wiki/File:Maurya_Empire,_c.250_BCE_2.png

Kautilya = Sun Tzu + Good Governance + Economic Management/Wealth Creation + Fair Distribution

In short, while Sun Tzu focuses on war, Kautilya works on the entire equation: defense, offense, good governance, economic management, wealth creation, fair distribution, fairness in general.

In a sense, he is a combination of Sun Tzu (how to win – always), and Confucius (how to lead well – always).

For the student and practitioner of asymmetric value creation, he is a priceless resource. He reinforces what you learned from Sun Tzu and brings asymmetric ideas into the rest of the equation. He also makes us aware that asymmetric competition happens not just in war; it also happens in commerce, and it also happens in statecraft.

For the asymmetric leader always looking for high impact ideas, you don't have to reinvent. He shows us you can find productive case examples in statecraft as well.

Asymmetry in Statecraft

To understand asymmetry in statecraft, consider Singapore and Israel. How can very small teams generate such big results? Study the last few decades of these two tiny countries and your vocabulary of asymmetric techniques will continue to expand.

You will have to think harder in the process. It would be easy to start with Singapore and rush to the conclusion that you have to be autocratic to achieve extreme asymmetric performance (EAP).

But then, why is EAP possible in Israel, an intensely democratic country, with high-energy internal debates on policy, living on a knife's edge, and thriving economically for decades?

Apparently, it's not as simple as autocracy. There is much, much more behind the idea and the experience. Find it. Find the wellsprings of asymmetric performance.

Further apply the subset of those ideas that are relevant to you for the benefit of **your** customers, **your** employees, and **your** community.

Epilog: Headaches

Thinking about customers and markets: Superposition, composition, opposition

Superposition

Nick Szabo, cryptographer and contract expert (believed by some to be inventor of blockchain technology) encourages "quantum thinking." By this, he means the practice of superposition: holding two diametrically contrary ideas in the mind at the same time. He believes that this is an escape from the non-dialogue, the barking that happens when ideological opposites shout at each other.

These opposites occur in politics, in religion, in law, in economics, everywhere.

Superposition, by its nature, forces us to see the many positives in the opposing point of view. It forces us to think in a more penetrating and productive way. Not black and white, but seeing the white in the black and vice versa.

Seekers of the really big problems need to decipher large groups of customers who divide themselves into often irreconcilable groups. Superposition helps. It's a way of thinking that embraces contradictions – in order to move beyond them.

Composition

Human nature, the mind, seeks simplification. Markets aren't like that. They are messy, complex. Customers come in many types. Think about yourself as a customer. Now think about your spouse. Now think of your spouse's friends. Now think of your friends.

Now, just within this small circle of a dozen or two dozen people, how many different customer types are there? With respect, for example, to beverages. Or to clothes, or cars, or credit cards, or books, or vacations, or movies, or phones.

See what I mean?

Some people (a very few) look at a market and see an aggregation of many different groups, many different clusters of desire and behavior. It's complex, but doable. You've done it yourself. You know there are price buyers (maybe you), quality buyers (you also?), convenience buyers, service buyers, impulse buyers, etc.

People who can look at markets as clusters, as chunks, are also those people who look for the overlaps. For example, there are seven customer types in this market, and they all have two things in common. It is in those overlaps, in those commonalities that the big problems reside.

Opposition

Because none of us are robot smart, and because markets are shifting and fluid, we never get it 100% right. We sincerely want to, but we can't.

A way out of this conundrum is psychologically enervating, but effective: respect, cultivate, nurture the opposition.

In its glory days, Motorola had a fascinating strategic process. Managers would debate a tough, gnarly strategic decision, till time came to decide and move. Management made the decision, everybody aligned behind it.

BUT, one person or team was tasked with writing the dissent. It wasn't an easy task, because it was not enough to say: "We disagree." The dissent had to be carefully thought through, clearly reasoned, supported by the best available evidence. The better it was, the more uncomfortable it made people. It did not stop action (timely action was essential in the rapidly moving mobile phone market), but it forced people to see the full complexity of the reality they were dealing with, and the uncertainties they would need to battle and overcome.

It also did one additional, very important thing. It made people nervous, uncomfortable, attentive. It caused them to search for the tiny winds of change that were the first signals that their strategic decision, though correct at the time, was becoming obsolete.

It helped Motorola stay ahead of value migration for years, for much, much longer than it otherwise would have.

Maybe it can help you, too.

Your secret weapon: Comparisons

Compare:	Catalyst Questions:
• Kautilya vs. Sun Tzu	• Who's the better model?
• Apple vs. Amazon	• What is revenue/customer?
• Tesla vs. Toyota	• Who had top eco-brand in auto in 2000s?
• Tesla vs. BMW	• Where did Tesla's earliest customers come from?
• Airbnb vs. Booking.com	• Can a company without a story beat a company with a story?
• Uber vs. Didi Chuxing	• Who has the better model?
• Alibaba vs. Amazon	• Who has the better model?
• Apple vs. Samsung	• Does emotion/story matter?
• Tencent vs. Facebook	• How much was imitation; how much was innovation?
• Baidu vs. Google	• How much was imitation; how much was innovation?

- It will force you to think much more specifically, much more rigorously, much more clearly.
- A full analysis will take at least 7 to 10 pages.
- Don't do it yourself! Delegate to 2-3 of your best people.

A dozen major asymmetric companies can change an economy.

US is on its way:

- Amazon
- Tesla
- Apple
- SpaceX
- Google
- Airbnb
- Uber
- Facebook

So is China:

- Alibaba
- Didi
- Tencent
- Baidu
- JD.com

Will yours do so as well?

APPENDIX I: Business Design
Precondition to Asymmetric

For a century, from the time of Rockefeller and Carnegie, the prevailing way to win was to invest to get the highest market share. And that regime held till the heyday of IBM, GM, and Sears.

In the 1980s, that changed across dozens of industries: steel, computing, retail, CAD/CAM, aviation, furniture, telecomm, automotive, and many others. The iconic shift was represented by the displacement of the three symbolic leaders of the age of market share:

IBM	→	Microsoft
GM	→	Toyota
Sears	→	Walmart

Size was displaced by design, specifically business design. Product innovation still mattered greatly, process innovation still mattered greatly, but it was the clever business design innovator who captured the value.

Trauma followed. Traditional leaders lost their leadership position:

IBM	US Steel	Motorola
Sears	Kodak	Department stores
GM	Xerox	Traditional grocers
United Airlines	AT&T	Brokerage firms

What is business design? The tough answers to a handful of seemingly simple questions:

- Customer selection
- Unique value proposition
- Profit model
- Strategic control
- Scope

We were all accustomed to the need for product innovation. We needed to learn the new imperative of business design innovation. And just as products have life cycles (and finite economic shelf-life), so do business designs. And business design life cycles were tending to get shorter, not longer.

It was critical for value creators to ask: What is my current business design? How much longer will it work? What's the **next** generation business design we have to move to if we want to succeed tomorrow?

	Today	**Tomorrow**
• Customer selection		
• Unique value proposition		
• Profit model		
• Strategic control		
• Scope		

Business design reinvention was a discipline practiced by newcomers (Walmart, Toyota, Microsoft, Southwest Air, Dell, Carrefour, Bloomberg) and incumbents (Coca-Cola, GE, P&G, Schwab, Swiss watch industry/Swatch, Air Liquide, Hanna Mining/Polymer One, Apple, Dayton Hudson/Target, Disney).

Business design reinventors thrived; others struggled. Or left the playing field.

There are a few important consequences of business design that matter greatly if you're trying to evolve towards an asymmetric model:

1. You have a great, loyal customer base that partners want access to and therefore are eager to work with you.
2. You have high levels of profitability that enable you to make the right, targeted investments in customers, products, partners, and talent.
3. You have a reputation, a brand, a level of respect from outsiders that allows you to emerge as an organizer and as a leader in your domain.

For the whole story of Business Design, read:

Value Migration

The Profit Zone

APPENDIX II: The Hassle Map

Accelerated evolution toward the "big" problems to solve

Hassle maps are perhaps the most efficient pathway for getting to "big problems" quickly.

Asymmetric competitors start with well-defined customer problems, but quickly evolve to larger-scale problems/large-scale solutions.

They begin by working on single-customer/single-issue hassle maps (e.g. Netflix DVDs, Amazon books, Eurostar London-Paris trip, CareMore).

They move on to single-customer/multiple issues (Tetra Pak, Jennifer Stone, Mobile).

Then to solving big problems at the industry level (booking.com, healthcare industry map, GE industry maps).

To get a feel for hassle map thinking, read:

Demand

Hassle Maps – Seeing a movie

Before Netflix

Fight with spouse – what movie to see – "you decide"

Go to store

Search and search – what's that trailer I saw?

Pick three

Go home

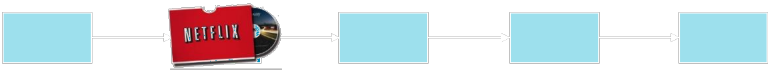
Fight again – pick one

Watch

Forget to return

Return five days later, pay late fee, get mad

Netflix in 1999



Get online; construct queue; get recommendations

Receive films by mail

Watch

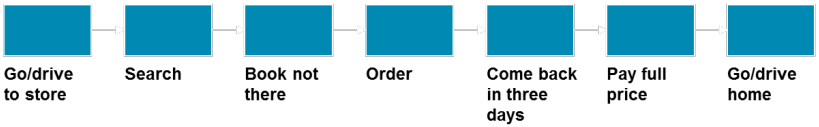
Put in mailbox to return

Automatically receive next film in queue

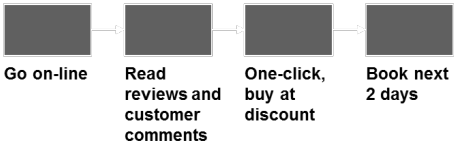
Netflix now

Stream content instantly

Hassle Maps – Buying a book



5 days



2 days
Amazon

2 minutes
Amazon Kindle

Hassle Maps – Going to London

Air

- 50 minutes
- 55€
- 40 minutes (check-in, security, walk a mile)
- WWF act with the bags
- Heathrow: 30 minutes at Customs
- Heathrow → London:
  - 40 minutes
  - 55£
- Extra 160 minutes
- Extra $150

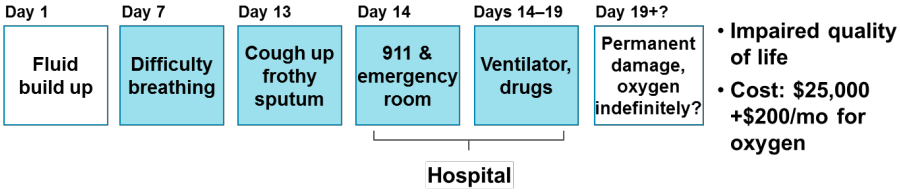
Eurostar

- 10 minutes
- 10€
- 10 minutes (check-in, customs, security)
- Lots of room at end of car
- Done in advance
- St. Pancras to London
  - 10 minutes
  - 10£
- Extra 20 minutes
- Extra $30

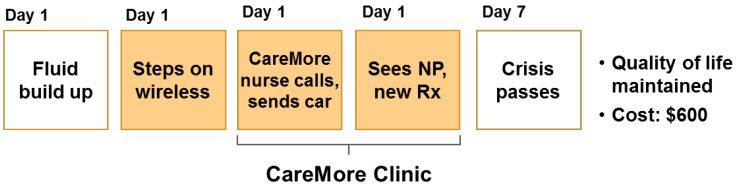
Customer feels

Hassle Maps – Congestive Hearth Failure

Fee-for-service



CareMore



56% FEWER READMISSIONS

Hassle Maps – Packaging

Tetra Pak is a multi-stage, multi-level partner

Channel selection	Supply chain analysis	Equipment selection & financing	Installation & start-up	Operational fine-tuning & process flow	Equipment maintenance and parts	Wholesale and retail distribution process flow
• Determine food packaging and performance objectives: – Product quality – Liters of output per hour – Sustainability targets	• Determine distribution requirements : – Shipping frequency and method – Wholesale and retail shelf space – Weight constraints	• Select machinery and packaging • Provide equipment financing • Management training – 15 "Train the Trainer" centers	• Test machinery and factory process flow • Quality testing with distributors • Hone product quality • On-site ops. and maintenance training	• Increase employee productivity and maximize availability of equipment – Human error accounts for most equipment failure	• Optimize parts inventory management – 4 distribution centers for parts • Optimize QC: Who does what to what equipment, when and how – Access to 65 tech service centers • Periodic factory review – Avoid "if it ain't broke, don't fix it"-mentality	• Periodically obtain feedback – Wholesaler and retailers • Incorporate feedback into next iteration design

Tetra Pak maps every single hassle
(and inefficiency, waste, delay, and yield loss),

at every single step of the process,

and then proceeds to remove them one by one.

Single Customer/Multiple Issues

Hassle Maps – Simplify My Life

Single Customer/Multiple Issues

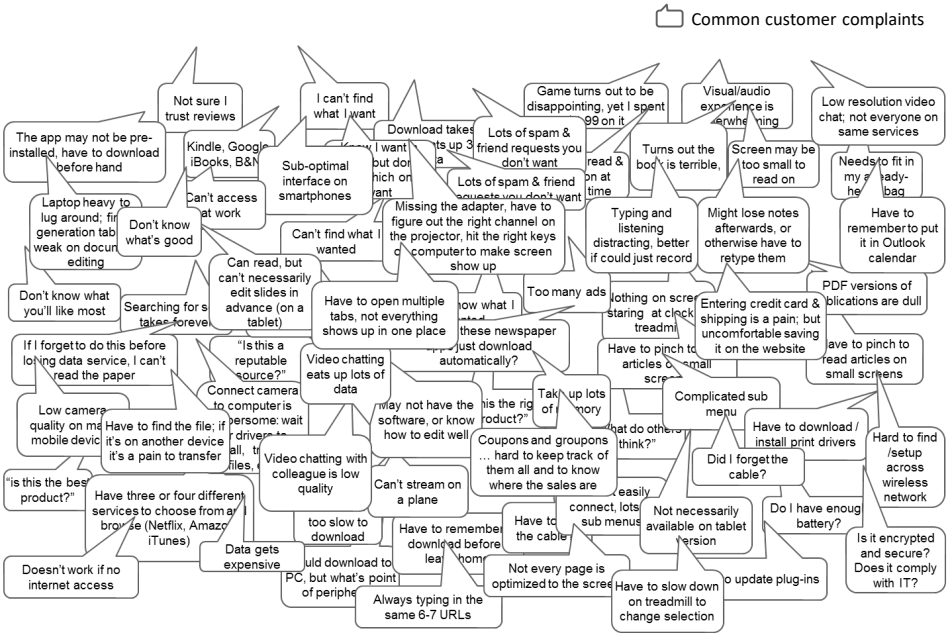
Hassle Maps – Simplify My Life

Jennifer Stone: 50-year-old, small business owner

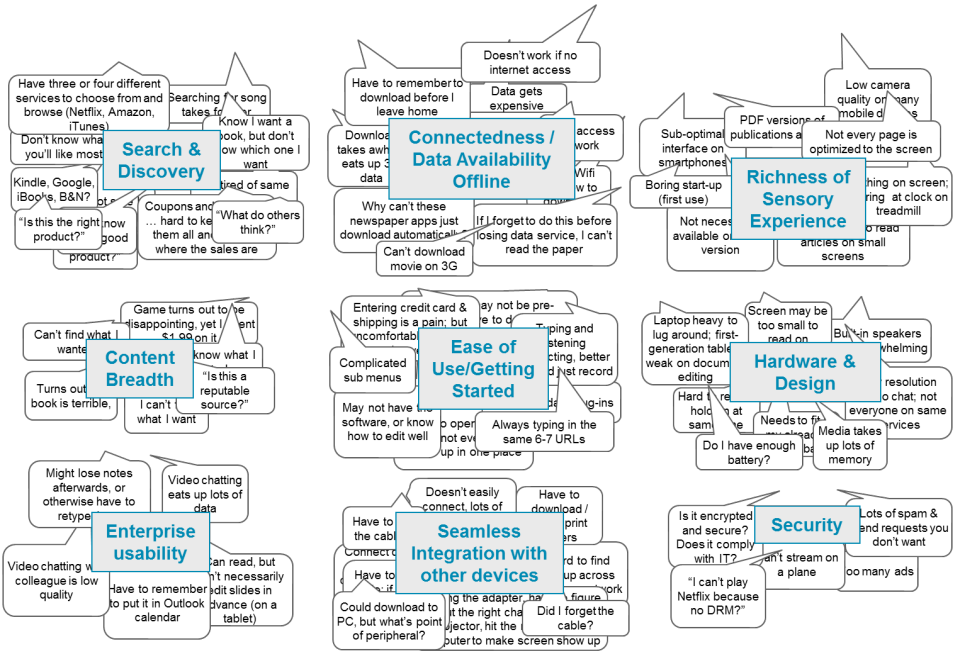
Start simple …

The hassles of mobile technology:

… then add some detail …

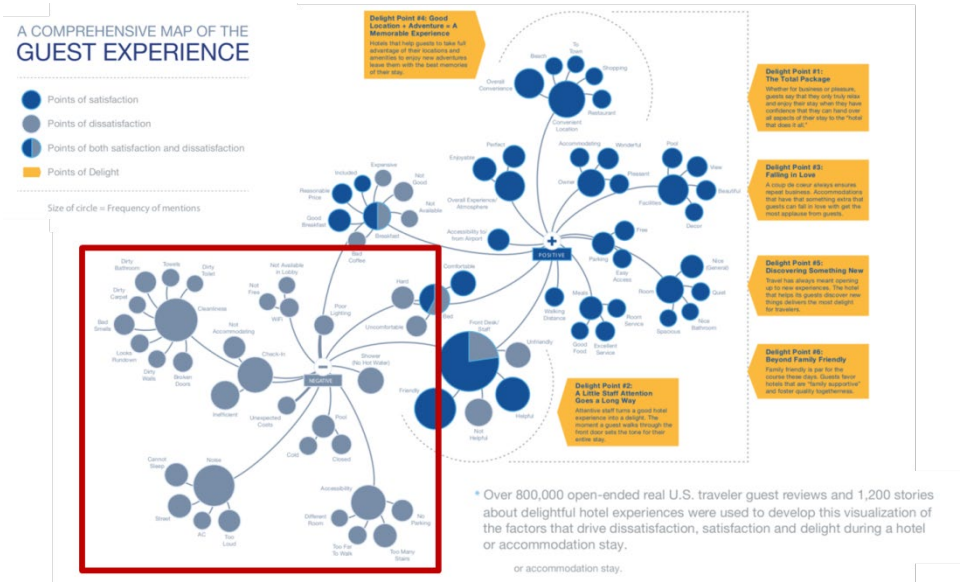


… and a bit more detail by category

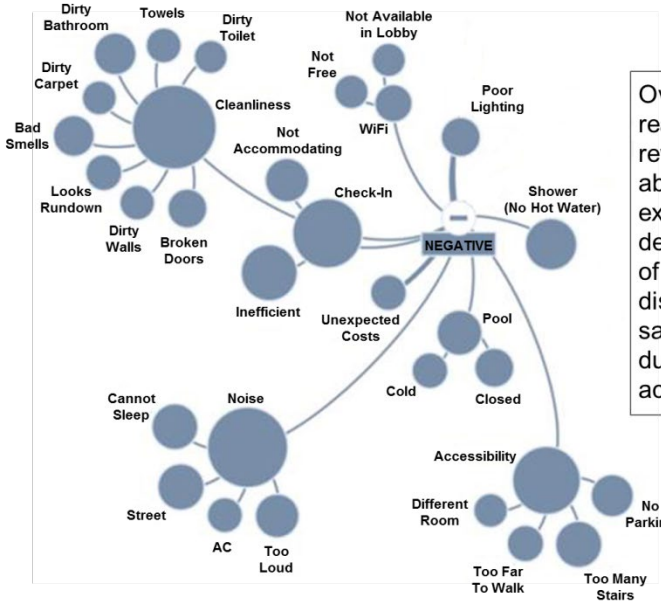


Industry Level

Booking.com has defined an extensive hassle map with satisfaction and dissatisfaction points

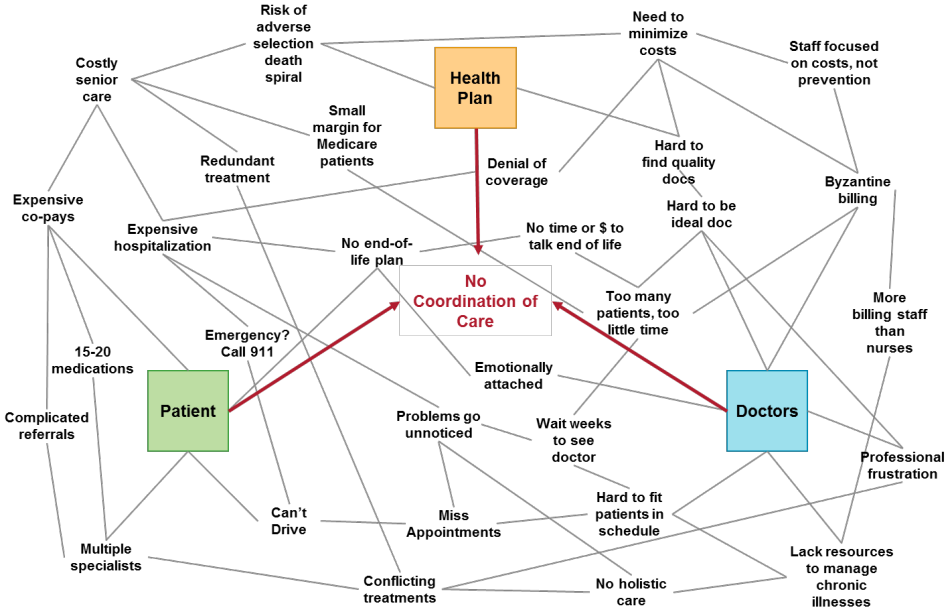


Source: Booking.com

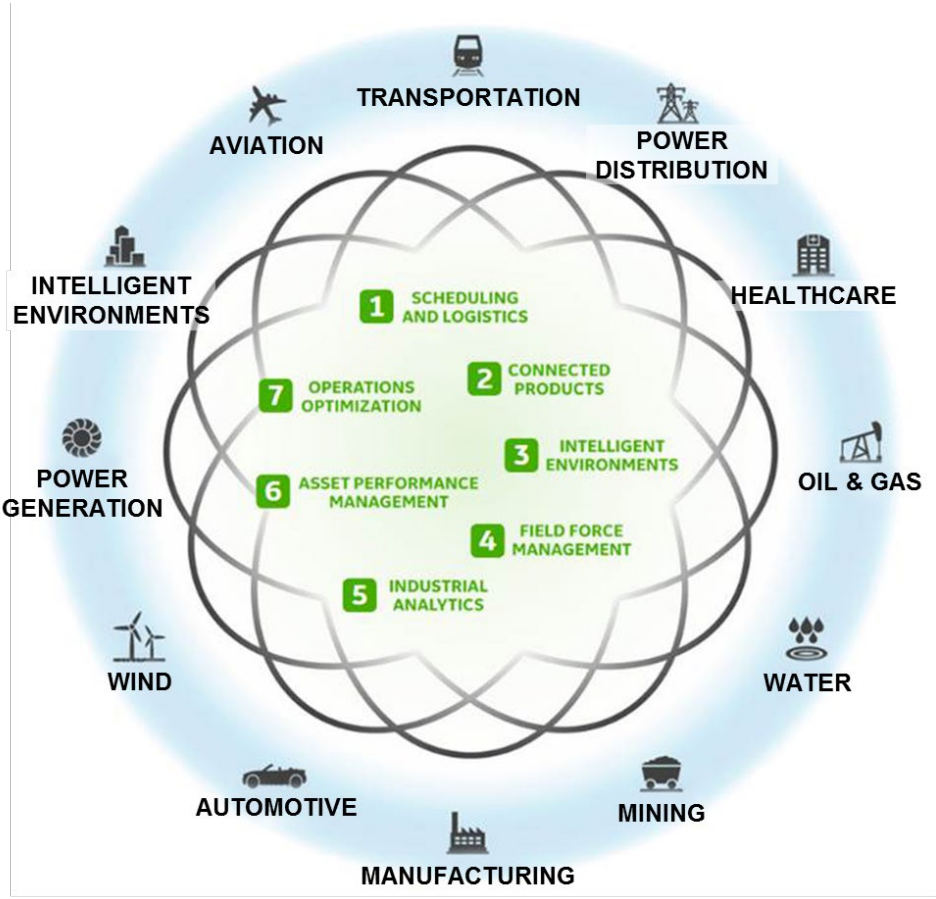


Over 800,000 open-ended real US traveler guest reviews and 1,200 stories about delightful hotel experiences were used to develop this visualization of the factors that drive dissatisfaction, satisfaction, and delight during a hotel or accommodation stay.

Even the toughest hassle maps are opportunities: US healthcare



GE has developed a world-class hassle map for all of its clients



Source: Predix: The Industrial Internet Platform (Platform Brief, June 2016)

APPENDIX III: STARTUP PLANET
An American Phenomenon Goes Global

Everyone talks about Uber. No one talks about Didi Chuxing, China's transportation-logistics superstar. That's a big mistake, but an understandable one, because Didi operates only in China. But it's worth expanding our collective radar screen to take in Didi Chuxing along with Uber. Both companies are in the top one-tenth of one percent of 100,000 startup companies on what is fast becoming a startup planet.

In the next three decades, startup planet will be what manufacturing was in the century ending in the 1970s: the primary generator of growth, wealth, and jobs. Unlike the previous era of innovation – the dot-com era that produced Amazon and Google, but also a lot of over-valued and slightly silly internet companies – this wave of companies is addressing big human and global problems, such as the environment, transportation, education, energy, and space travel. Think Illumina, Space X, Tesla, SolarCity, Ceres, Alphabet, Teladoc, Novocure, Khan Academy, Slingshot, SoulCycle, Fitbit, Slack.

The previous cycles of super-charged venture-backed innovation – integrated circuits in the '70s, computers in the '80s, the internet in the '90s – were distinctly American waves. That is still true today, but to a much lesser degree. Twenty years ago, Silicon Valley and Boston dominated US (and, thus, global) startup ecosystems. Today, in rankings from the 2017 Global Startup Ecosystem Report (Compass) – which tracks the number of startups, their total value, and the number of IPOs and exits – Silicon Valley and New York City are #1 and #2, but London (#3) and Beijing (#4) rank ahead of Boston, and Tel Aviv (#6), Berlin (#7) and Shanghai (#8) are right behind it. Only seven of the top 20 urban ecosystems are in the US, although the bulk of investments and exits are in the US, thanks largely to Silicon Valley. Eleven of the top 20 "blockbusters" (valuation >$10B), are from the US.

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Looking past the top 20, top runners-up (alphabetically) are Atlanta, Delhi, Denver-Boulder, Jerusalem, Helsinki, Moscow, Mumbai, and Salt Lake. Moscow fell out of the top 20, despite ranking #1 in "talent," as did Sao Paolo, due to lack of Startup Experience and Market Reach. That left South America and Africa without a top-20 representative. Nonetheless, the spread of ecosystems and their value (based on funding and exits) strongly signals that the investment-fueled startup engine that began in Silicon Valley in the 1970s is now a global phenomenon.

Ranking*	Number of Startups
1. Silicon Valley	15,600
2. New York City	7,800
3. London	5,900
4. Beijing	7,200
5. Boston	3,900
6. Tel Aviv	2,700
7. Berlin	2,400
8. Shanghai	2,700
9. Los Angeles	4,600
10. Seattle	2,600
11. Paris	2,600
12. Singapore	2,400
13. Austin	2,200
14. Stockholm	900
15. Vancouver	1,100
16. Toronto	2,700
17. Sydney	2,100
18. Chicago	2,900
19. Amsterdam	3,500
20. Bangalore	2,300

*Rankings are based not **just** on number of startups, but on several other factors as well.
Source: Global Startup Ecosystem Report 2017.

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Blockbusters

Unlike manufacturing, which can be tracked with inputs and outputs, the startup-ecosystem engine has economics that are strange and hard to track. They are most like those of the pharmaceutical industry, where a handful of blockbusters (more than $10BB in valuation) provide returns that make up for the billions of investment dollars that don't generate returns. This has been true since George Doriot's ARDC invested $70,000 in Digital Equipment Corporation in 1957 and earned a return of $355 million in 1967. (Doriot was furious when DEC announced its first profits – he thought they should have been reinvested in the business. Has Jeff Bezos has been studying venture history more than the rest of us?)

The venture energy quickly moved to Silicon Valley, where Kleiner Perkins, formed in 1972, emerged as the king of Sand Hill Road in Menlo Park, today's mecca for venture-capital firms. KP eventually invested in Amazon and Google. More recently, Andreessen Horowitz, which started in 2009, also on Sand Hill Rd., quickly ramped up to $4 billion under management. It was the only venture firm to have investments in the top four privately held, social-media companies: Facebook, Twitter, Groupon, and Zynga.

Like blockbuster pharmaceuticals, blockbuster companies are rare.

Startups	> 100,000	
Unicorns	~200	1 / 500
Blockbusters	~20	1 / 5,000

Unicorns are companies valued at $1 billion or more.

Blockbusters valued at $10BB or more.

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The math on blockbusters is scary. In the pharmaceutical industry, 1 in 10,000 preclinical compounds make it to market. Fewer become blockbusters. In the VC world, there are today 175-200 "unicorns" – companies with valuations of more than $1 billion (the number varies as valuations move up and down). That's roughly 1 in 500 of venture-backed startups. There are only 20 blockbusters – companies with valuations of more than $10 billion. That's 1 in 5,000. A recent study of 20 years of Silicon Valley startups found that almost three-quarters of company founders who get venture funding (and they are almost by definition "successful") end up making no money – which implies the same for their investors.[1]

To make the business-creation system self-sustaining, you need blockbusters to pay the bill. "In the venture-capital industry, just picking winners is a losing strategy. The goal is to pick blockbusters, companies that can scale from a team of founders in a garage to a multi-billion-dollar IPO in less than a decade," writes Reid Hoffman, founder of LinkedIn, in a blog post on LinkedIn. "History has shown that it's primarily these outlying performers that create returns for venture investors, so top-performing fund managers focus on companies that have a shot at growing to this size."

To date, only two startup ecosystems have produced blockbusters – Silicon Valley and China. Since its formation in the early 1970s, Silicon Valley has had little competition as the #1 global hub for innovation, startups, and blockbuster business creations. But, over the last 15 years, China has quickly become #2 in the world, in terms of startups, venture capital deployed ($31 billion in 2016), the number of "unicorns" (32, compared to 55 in the US) – and, more importantly, the number of blockbusters (6). In essence, as China shifts its economy toward innovation and entrepreneurship, it has imported the fundamentals of the US startup engine – engineering talent, risk capital, successful mentors, and capital markets – and made it work in a very different environment. The same is true in Europe, to a lesser degree. To date, Europe has produced many unicorns, but no blockbusters, except for Spotify.

[1] R.I. Halal and S.E. Woodward, "The Burden of Nondiversifiable Risk of Entrepreneurship," NBER Working Paper 14219, Cambridge, MA, Aug. 2008

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Europe: A wakeup call?

Startups	16,000
Unicorns	40
Large-scale imitations	0
Blockbusters	1
Great innovative ideas/Startups	?

The competition (and collaboration) between China and Silicon Valley is the defining economic contest and engine of the next decade, and will transform great companies into extraordinary companies. Venture investments are on a sharp upward trajectory in China. In 2015, venture capital investors put $26 billion into Chinese startups; in 2016, $31 billion, according to KPMG. Even more impressive, China raised $230 billion in venture capital in 2015. Asia's total venture capital investment for the year remained steady at US$39 billion, buoyed by large deals primarily in China and India. In comparison, investments in the Americas and Europe were $72 billion and $16 billion, respectively.

In addition to venture capital, the three Chinese superstars from the late 1990s and early 2000's – Baidu, Alibaba, and Tencent, an economic force known as BAT – are valued in the aggregate at roughly $473 billion. BAT companies are becoming known as "kingmakers," investing heavily in India and the US as they look to expand outside of China. BAT is essentially doubling the pool of global investment capital – even as they compete intensely to dominate in their home market. Baidu, for example, has invested $600 million in Uber; Alibaba has invested $650 million in India's Snapchat (e-commerce). BAT could spend $80 billion on mergers on acquisitions in 2016, according to analysts at BNP Paribas.

"In the next five years, there will be more innovation, more invention, more entrepreneurship happening in China, happening in Beijing, than in Silicon Valley," Travis Kalanick, founder of Uber (and former CEO), the world's most valuable startup ($64 billion), said at a 2015 Beijing conference. "We gotta play our A-game in order to compete with the best."

[2] http://www.bloomberg.com/news/articles/2016-01-18/china-hits-record-37-billion-in-vc-deals-in-challenge-to-u-s--ijkim2fs

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In 2015, Didi Chuxing's volume was 3× greater than Uber, largely because Didi is dominant (80 percent or more in some of its businesses) in the world's largest country, and is intensely multi-modal. Didi provides not only for hailing private-cars, like Uber, but also rides in taxis, shuttle vans, buses, limos, and carpooling (through its Hitch service). In China, Didi has the second largest digital platform after Alibaba's Tmall (Alibaba handled more than $500 billion of gross merchandise revenue last year), and it's growing much more quickly. Little surprise that Uber was losing a billion dollars a year trying to compete in China. And little surprise that Uber eventually gave up and was subsumed by Didi, in which it now holds a 20% stake.

Although Didi operates only in China, it, like BAT, is investing to move outside of China. It has built an alliance with Uber rival, Lyft (and invested $100 million), Ola (India), and Grab (formerly GrabTaxi) in Malaysia, Singapore and The Philippines. An Indian Ola user can use the same app in Singapore to hail a Grab taxi – or vice versa – and a Chinese Didi user can use the same app to grab a Lyft in the US. This emerging global alliance helps Didi cover a market area of 3 billion people, stretching from Northwest India to Southeast Asia, home to 20 of the world's 40 megacities. When megacities start looking for partners to help solve three of their top hassles – smog, traffic, and transportation supply gaps – Didi Chuxing is better positioned to solve those problems than any other transportation network manager in the world.

The Uber-Didi battle (which is over in China but not the rest of the world) is one of many Chinese-US head-to-head battles that are emerging from the startup world:

Alibaba, JD.com	Amazon
Tencent	Facebook
Baidu	Google
Xiaomi	Apple
Didi Chuxing	Uber
LeEco (Leshi)	Tesla

It's not hard to anticipate Amazon and Alibaba soon competing head to head for global leadership in retail and B2B. Amazon stocks, sells and delivers its own inventory, as well as that of third parties, while Alibaba is a platform that connects sellers and buyers and outsources distribution. But it handles more gross merchandise volume, more than $500 billion, than anyone in the world, and is aiming for $1T by 2020. It handles 80 percent of online sales in China, where Amazon has a tiny share. And Alibaba founder and CEO Jack Ma has stated his intent to sell everything, everywhere. "We believe the experience of Alibaba Group in China can be applied globally, giving all SMEs the opportunity to participate and compete in a transparent and fair marketplace," Ma wrote in his annual shareholder letter. "We further believe that future economic globalization will allow consumers everywhere to access a truly global purchasing experience. It may take another one or two decades to complete the mission, but we won't quit until we live up to our true mission "to make it easy to do business anywhere."

The Colossal Chinese Investment Spigot Known as BAT

Over the last five years in particular, Baidu, Alibaba, and Tencent (BAT) have been huge international investors in global startups, primarily in Asia and the US. Tencent is the largest, in terms of deals and dollars, followed by Alibaba and Baidu.

Tencent initially focused on gaming and social media, but has recently veered into clean tech and healthcare. Alibaba has focused on shopping services, social media, and ride sharing. And Baidu, which until recently has lacked a coherent investment strategy, has formed a $3B fund (Baidu Capital) for startups, and a more targeted $200mm fund for AI and virtual reality (Baidu Ventures).

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Recent Major Investments

US		ASIA	
TENCENT			
4 clean-tech firms	$1.9B	Didi Chuxing	$6B round
Tesla	$1.7B	China Internet Plus	$3.3B round
NIO	$600M	Flipkart	$1.4B round
Epic Games	$400M	Liangia	$926M round
Riot Games	$400M	Mobike	$600M lead
Essential	$300M	WePiao	$464M
iCarbonX	$155M lead	VIPKID	$200M lead
Fab	$150M lead	Hao Daifu	$200M
Snapchat	$60M round	Hike	$175M lead
WhisperText	$36M	Huochebang	$156M
ALIBABA			
Lyft	$1B round	One97 Communication	$2.75B lead
Magic Leap	$793M lead	Go-Jek	$2B round
Oto	$700M lead	Ele.me	$1.25B round
Tango	$214M	Kakao Pay	$1.2B round
Shoprunner	$206M	Tokopedia	$1.1B lead
Shapchat	$200M	Lazadu	$1B lead
Snap	$200M	Didi Chuxing	$945M
Jet.com	$140M round	Snapdeal	$500M lead
Kabam	$120M	Yiguo.com	$300M lead
Peel	$50M	Weibo	$135M
BAIDU			
Uber China	$2B lead	China Unicom	$1.5B
Velodyne LIDAR	$150M lead	NIO	$600M
Cloudfare	$110M	Yixin	$550M
Circle	$60M	Yinta Capital	$550M
Dynamic Yield	$31M	Womai	$220M lead
Trust Go	$30M	Uxin	$170M lead
Indoor Atlas	$10M	Mia.com	$150M lead
xPerception	undisclosed	Edaixi	$100M lead

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The New Economic Frontier

The nature of startups and venture investing has changed dramatically since the dot-com bust in 2001. This new startup world is redefining the economic frontier for what the modern business model can achieve. Today, founders can leverage multiple mature infrastructures to build new businesses quickly and relatively cheaply. These include the spread of 4G internet, the spread of smartphones and the sophistication of iOS and Android. There is powerful, low-cost software – open source code, thousands of snippets of code that can be combined and recombined, as well as pay-as-you-go software and algorithms. Airbnb, for example, has multiple algorithms – to set prices, to match hosts and guests, to offer dynamic pricing by neighborhood and data, to rank hosts by quality of service and reviews.

Because these companies are so asset light – with far fewer employees, bricks-and-mortar offices, and physical assets (except those shared with their partners) – their economics can be extremely attractive. Algorithms enable a small number of people to generate very large amounts of value. "Accelerating information and communication technology can leverage the efforts of a tiny workforce into enormous investment value and revenue," wrote Martin Ford in *Rise of the Robots*.

	Acquirer	Target	Price	Employees at acquired company
2007	Google	YouTube	$1.65BB	65
2012	Facebook	Instagram	$1BB	13
2014	Facebook	What's App	$19BB	55

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Because computer-engineering whiz kids have been hacking away at code for the last 20 years, there is a huge talent pool of engineers who can create sophisticated algorithms in weeks or months. That allows for rapid and frequent A/B testing of two products with slight or major differences, especially “minimally viable products (MVP). Founders know they have to move fast, and can afford to fail, because they can quickly shift to a new design or iterate until they fine-tune the original design. The trick is to fail fast, learn from it, and do much better the next time.

And, because algorithms work the same way in hundreds of cities or countries, it’s much easier to scale globally than in the past – what Steve Blank (author of “The Startup Owners’ Manual”) calls “micro-multinationals,” what Reid Hoffman calls “blitzscaling.” “The competitor that gets to scale first nearly always wins,” says Hoffman. “First-scaler advantage beats first-mover advantage. Once a scale-up occupies the high ground in its ecosystem, the networks around it recognize its leadership, and talent and capital flood in.” Despite losing money in an effort to scale, startups launched during the 2009-2013 period reached benchmarks of $500 million or $1 billion in valuation three times faster than companies founded in 2000-2003, according to research by Play Bigger, which analyzed more than 500,000 private companies and more than 50,000 VC financing rounds between 2000 and 2015.

For hardware developers, Shenzhen is the mecca, where 90 percent of the world’s electronics are manufactured. "Ordering electronics here is now like service in a restaurant." Eric Pan, founder and CEO of Seeed Studio, a Shenzhen-based hardware innovation platform, told the Huffington Post.[3] Silicon Valley tech accelerators have started to make the move. HAXLR8R (pronounced *hack-cellerator*), a hardware startup accelerator that focuses on robotics, wearables, and Internet of Things companies, went to Shenzhen for one reason: "It's the Silicon Valley of hardware," general partner Benjamin Joffe noted in a video on its website.[4] "If you're an engineer with an idea and you're waiting five days or two weeks to test it, that's no way of being creative," says Will Canine, co-founder of OpenTrons, a company constructing open-source liquid-handling robots in Shenzhen. "When you're creative you want to try an idea and move on to the next idea and then the next idea. That's the kind of dynamic flow that's possible in hardware in Shenzhen that's not possible in the United States."

[3]http://www.huffingtonpost.com/amol-sarva/how-chinas-productivity-c_b_8248100.html
[4]http://www.inc.com/will-yakowicz/shenzhen-city-of-electronics.html

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Both the business and investor mindset is a very different than the prevailing thinking of the dot-com era – first mover advantage, 5-year business plans, marketing strategy to reach a large addressable market, fixed office space with servers and other expensive equipment. Despite some caveats, the “lean” approach has taken the world by storm. In the past, incubators were available to provide office space, equipment, and some mentoring. Today, there are accelerators all over the world that provide advice on design and scaling. The granddaddy is Y Combinator, which helped spawn Dropbox and Airbnb. And this is a global phenomenon, with outfits such as Oasis 500 in Jordan, Startup Wise Guys in Estonia, Rocket Internet in Germany, HAXLR8R in Shenzhen. Seattle-based Startup Weekend, a startup itself, has branches in 100 countries giving entrepreneurs one-hour lessons for $100.

Top Global Accelerators

Y combinator
TechStars
500 Startups
Angelpad
Seedcamp
Capital Factory (Austin, TX)
Eranyc (NYC)
Amplify (LA,)
Betaworks (NYC)
Transmedia Capital Technexus (CHI)
One Million by One Million

Startup Planet

Solving Big Problems (better than government?)

Startup planet is emerging as a force that might be more powerful than government in solving our major problems – such as urban congestion, availability of information, ecology, energy, cost-effective health care, effective education, efficient transportation, and space travel. Even security. "In-Q-Tel, the venture capital arm of the Central Intelligence Agency, has played a key role in keeping the CIA at the state-of-the-art in security-related technology," writes Ford in *Rise of the Robots*.

Peter Thiel, co-founder and CEO of PayPal, and a venture capitalist, has famously encouraged entrepreneurs to pick big problems to solve, problems that matter. Many are actually acting on his advice. Their collective activity is providing a different way to look at the evolution of our long-term economic history:

- Gather
- Hunt
- Farm
- Craft
- Trade
- Manufacture
- Provide services
- **Solve problems**

Startup planet is in the big problem-solving business, governed by the iron rules of pharma-industry economics, scattered across 25 startup ecosystems around the world. Creating more effective startup ecosystems should be a top issue of concern for economists and government policymakers. Moreover, incumbent CEOs should be tuned into and highly literate in startup innovations that are disrupting and revitalizing their industries, so that they can reinvent themselves as 21st century corporations, as centenarians GE, Air Liquide, and IBM are trying to do. Apple tapped into the startup ecosystem when creating the iPod, and later bought Siri to integrate into the iPhone. Amazon bought Zappos to expand its offering to customers and to learn about its superior customer service. Providence Health, in the Pacific Northwest, has set up accelerators and incubators to develop new tech firms that will help to revolutionize healthcare delivery. GE moved its headquarters to Boston to get closer to the tech innovation emanating from MIT and other universities.

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What, at first glance, seems like just so much Brownian motion is, in fact, an effective problem-discovery and solution process. The best startup teams pick big problems, create solutions, and find the critical first customer segments to kickstart the growth curve. Companies need to develop a much larger radar screen to follow and understand the activity of this sector. Executives need to know where the startup ecosystems are, and which ones specialize in products or services or algorithms relevant to business tomorrow. They need scouts in Silicon Valley, Beijing, New York City, Tel Aviv, and two dozen other startup ecosystems around the world.

For governments, the issue is even more pressing. Yesterday, the key question was: How can I attract and retain the best manufacturing and service providers? Tomorrow's question is: How can we attract and retain and grow a world-competitive startup ecosystem? In fact, from a practical perspective, it's a heavy lift to create such ecosystems without focused and effective government involvement. And some governments have done an exceptional job at it.

In 1993, the Israeli government formed Yozma ("initiative"), a $100 million venture fund to co-invest, dollar for dollar, with private, international investors. In addition, the government developed a network of incubators throughout the economy. This kickstarted the venture process, and investment increased 60-fold between 1991 and 2000 – from $58 million to $3.3 billion. The number of startups increased from 100 to 800. Today, Israel consistently attracts nearly $4 billion annually in venture investment, mostly from international sources.

In 2008, using Yozma as a model, Singapore went further. If a startup persuaded a private investor to invest in the company, the government would match it 5:1. The private investor could later buy out the government's investment. Singapore also created a network of incubators to kickstart the process. This Technology Incubation Scheme (TIS) has led to the creation of a network of 14 incubators. Temasek, the state investment company, also provided $90 million to fund four Singapore venture companies. Venture investment in startups increased from $454 million in 2013 to $1 billion in 2014. Leading VC firms, such as Sequoia, set up offices in Singapore.

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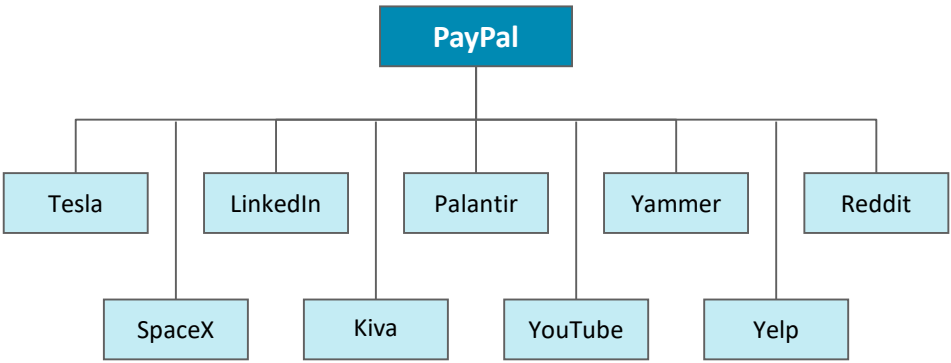
In New York City, Mayor Bloomberg's administration initiated an 11-point plan in 2009 to connect entrepreneurs, VC's and corporate investors. The City also developed extensive data resources, including free broadband for startup businesses, sponsored incubators, and – in partnership with Technion – set up the Cornell NYC tech campus on Roosevelt Island. VC investment rose from a rate of $2 billion a year (2006 to 2010), to $7 billion in the metro area by 2015 (and 700 investments). New York rose from fifth to second in the Compass global ranking of startup ecosystems. Silicon Alley, a cute knockoff name in 1995, is a vibrant reality in 2017. New York City now counts 14 unicorns, with an aggregate valuation of more than $30 billion.

These examples show that focused proactivity can make a big difference, with the caveat that good universities, a high incidence of young graduates, and an entrepreneurial culture and work ethic are foundational to any ecosystem. That said, none of these ecosystems has yet produced a blockbuster startup, which is, in part, a function of the time it takes to develop a fully geared ecosystem.

PayPal Offshoots

Some startups are a little different. They produce interesting second order effects. They produce a cascade.

Example: PayPal



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Despite these global greenshoots, and the hundreds of unicorns forming and reforming, startup planet is still hindered by major barriers and inefficiencies. For every Stanford, MIT, Columbia, NYU, Beijing University, or Technion, there are a dozen other great universities that are not yet fully engaged in the system. A great deal of growth in Europe, was and is strangled by the lack of large scale, later round financing. In China, the government's restrictions on foreign entry deprive a vibrant private-enterprise system from tuning into a competitive, global free-market system.

In the US, and elsewhere, the decline in funding for large-scale, basic science research deprives startups looking to solve big problems from the solutions to those problems. Imagine if Bell Labs or DARPA in their heydays were paired with today's lean startup engine. Governments can also help promote and develop breakthroughs in the sector by opening competitive contracting opportunities for startups (as NASA has done with Tesla).

Startup planet has matured a great deal in the last decade. It has produced some mind-bending outcomes in remarkably short periods of time. If someone had said 10 years ago that a new company starting from scratch would build an automotive competitor, and it would manufacture in the US, they'd be laughed at. If they said a new company would compete effectively against incumbent aerospace giants to carry payloads into space, there would be more laughter. Today, there still are skeptics, but no one is laughing any longer. Quite the opposite, they are searching for the next superhero.

The maturation of the startup sector has created an enormous, global stage for new leaders. Page, Brin, Bezos, Chesky, Kalanick, Musk, Jack Ma, Ma Huateng, Robin Li, Léi Jūn, Wei Cheng. They are world class problem solvers, leading world class organizations. Their people are tested and developed in the intense cauldron of startup life. Their speed and focus produces early successes, and the leaders use those successes to attract great press coverage, which has a huge impact on financing, consumer awareness, and of course, more press coverage – a commodity more valuable than gold in today's marketing universe.

But, the startup system is still highly inefficient, far more hit or miss, far more darts thrown at boards, than systemic or strategic. It produces too many haystacks, too few needles. It still makes big selection mistakes. In 2008, Airbnb could find no one to invest in it. Finally, Y Combinator agreed to provide a modicum of financial support. Why? Because of their sheer determination, toughness, and persistence. Can this effective but wasteful system be meaningfully improved?

Startup Planet

The system has started to improve already. The “lean” movement is causing companies to fail quickly and revise more thoughtfully. Thiel’s Zero to One is causing more leaders to pick big problems instead of trivial ones (although there is still an abundance of those). The venture capital community’s heightened investment in later rounds signals a powerful interest in building up successes, building world leaders, rather than prematurely tossing startups into IPO world.

These improvements are good, but they are just the beginning.

If you trace the evolution of the factory from origins, to large-scale, to “smart” (assembly lines), to “smarter” (lean manufacturing) to “really smart” (the algorithmic factories that are coming soon), you can begin to get a sense of how much the performance of an important sector can improve. There's no reason to wait a century for this sector to achieve that magnitude of performance breakthrough.

So, this is a perfect time to think about, to imagine what the system could be, and to take action to get it there. To understand how removing the current limitations could change its overall level of performance. To see how a few thoughtful and focused actions by universities, corporations and governments could take a system that works well, and actually multiply its problem-solving performance in the decade ahead. By eliminating the barriers, by improving the methodologies, by increasing participation rates for the relevant actors.

The net effect would be to connect the very best talent with the very biggest, most important problems, in a setting that keeps raising the odds of success. It's only then that we'll see what the true total performance of the sector could be. To win tomorrow, universities, corporations, and governments need to put startup ecosystems at the top of their priority list. Tomorrow’s jobs and tomorrow’s solutions are more likely to come from this dynamic, chaotic, restless sector than from any other. Societies and governments need more Ubers and Didis to attack big problems in health, environment, climate change, education, energy, space travel. Startup planet is a primal economic force, just as factories were in the 19th century. There will be many good strategies for relating to and helping build this sector. Passivity will not be one of them.