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What entrepreneurship is not about

Session 1



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**DO YOU THINK ENTREPRENEURS ARE BORN
OR MADE?**



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What are the problems with this quote?

"The great accomplishment of [Steve] Jobs's life is how effectively he put his idiosyncrasies—his petulance, his narcissism, and his rudeness—in the service of perfection."

Malcolm Gladwell - The New Yorker

What went wrong?

listen to the evidence or data
that given by professionals to
correct your path and come up
with a better plan/product





*"We, the jury, find the defendant guilty on
four counts of fraud and one count of
besmirching our beloved tech turtleneck."*

Visionary



Know-It-All, Overcommitted



*Yeah,
I know...*

Risk-Taker

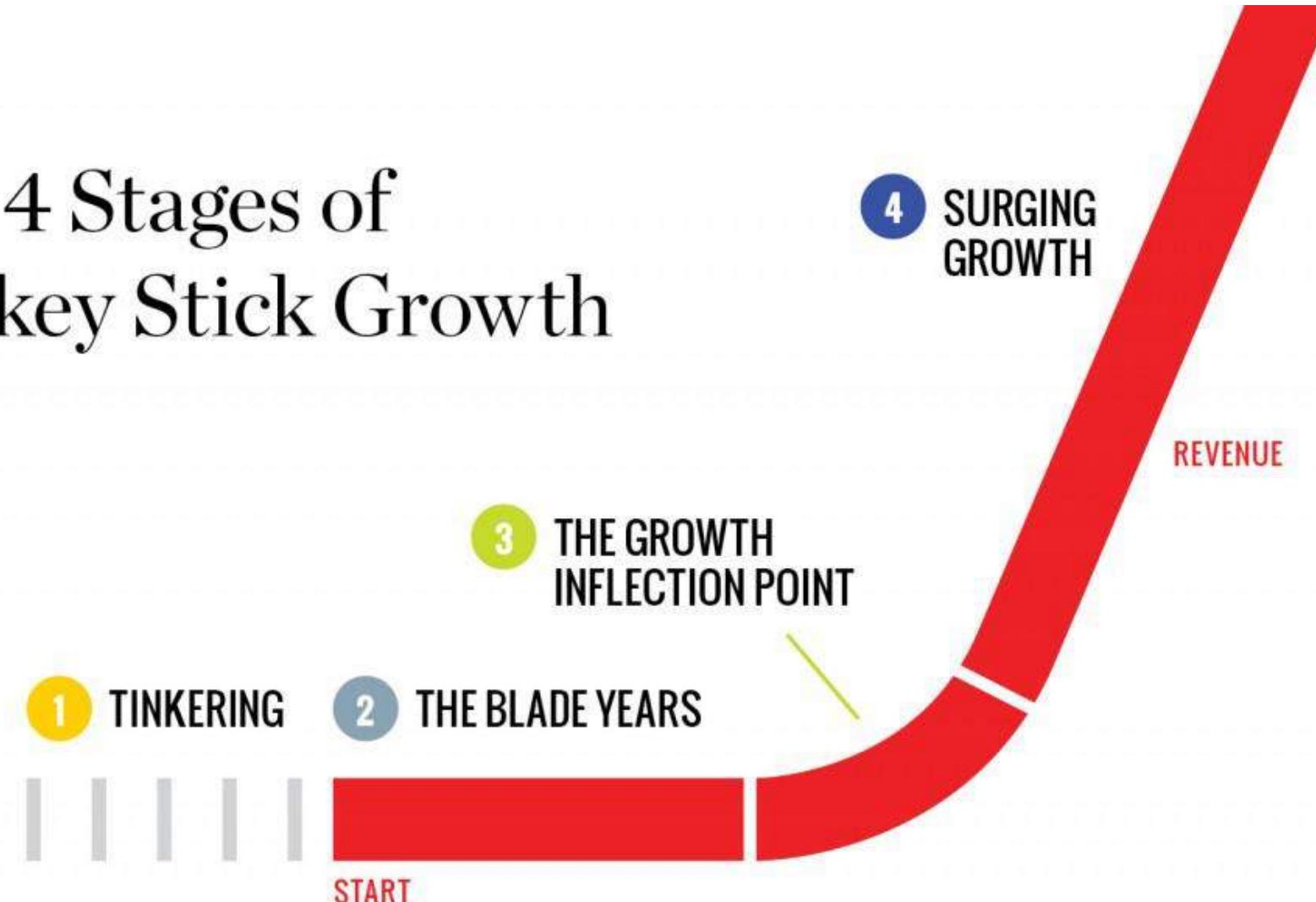


Workaholics



Exponential Growth

The 4 Stages of
Hockey Stick Growth



Optimism or flat-out lie?





Change-the-World-Kind-Of-Mission



One Pathway to Success

DO OR DO NOT.
THERE IS NO TRY.

Text

YODA



What went wrong (again)?



What happened here?



Who are leaders?

The Psychology Behind Effective Crisis Leadership

by Gianpiero Petriglieri

April 22, 2020

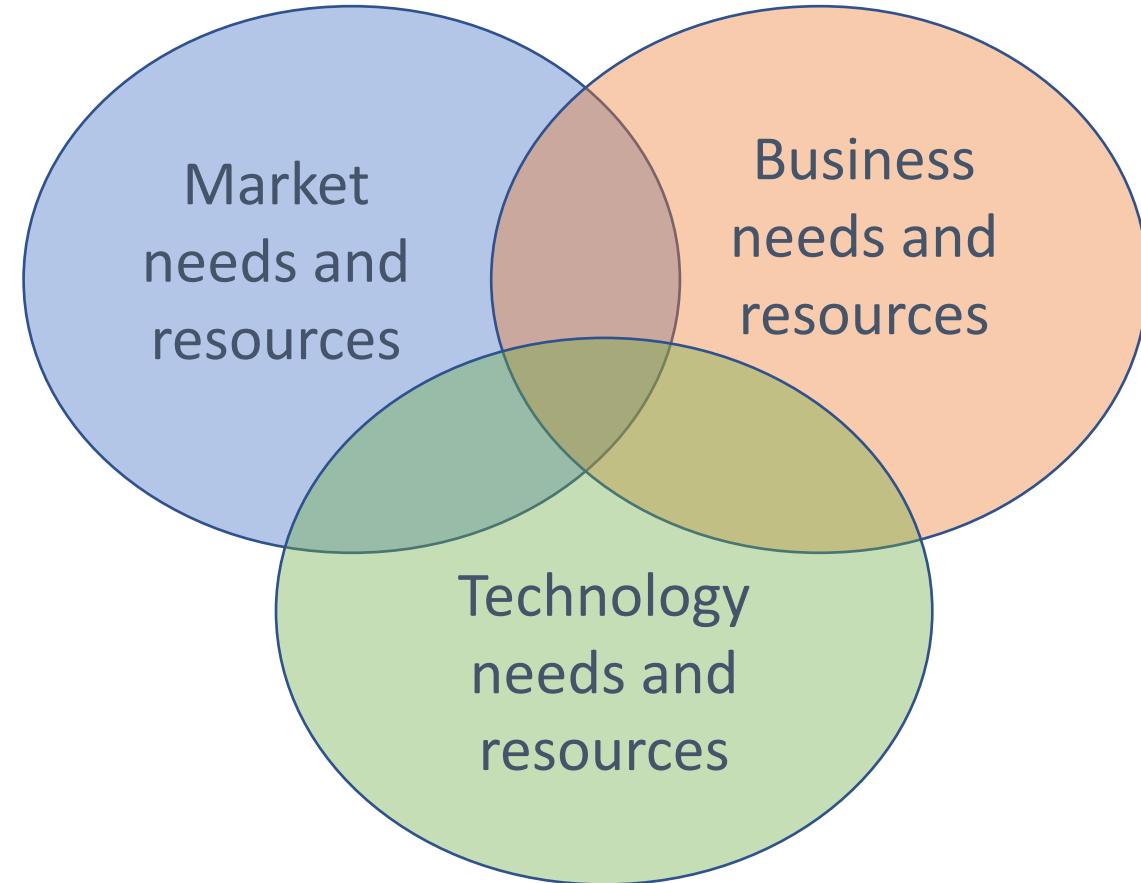


Traits of leaders

- Leaders are adaptive, curious, they are open for experimentation, embrace (and thrive) in complexity and uncertainty, psychological safety to speak up
- They value contributions from others (and feedback), they learn from mistakes and value post-action reflection
- Leaders are a bit like farmers, they don't grow crops, but they create the conditions for crops to grow. Leaders are architects of contexts, who create the enabling conditions for people to do great work.

“It’s not about the box”

(Hargadon, 2003)



Leadership is ...about changing the way people see the world—so that everyone's attention, decisions, and actions move them in the same direction

understanding the markets and their needs and resources.

Understanding your business and its needs and resources. Also knowing technology trends. This goes back to steve jobs showing off his technology with apple, even if they didn't work that well, to people that would aspire them and would want them to invest as well as buy

The power to shape conversations, to frame problems, and to drive participation rests on understanding the needs and resources of all the differing functions.

4 Cs of persuasion

(Conger 2008, Cialdini 2001)



- Rational analysis may not spur or promote action
- Formal authority is often fragile, incomplete, unavailable
- **Credibility** - Make expertise vivid; use informal networks informal networks can be used to connect to many people who don't know about your technology, talk to them over an informal setting such as coffee and inspire/persuade people about your product/new technology
- **Common ground** - Make issues apparent, meaningful
- **Compelling evidence** - Stories decide, not data
- **Connect** - Emotional tuning, resonance

Ted talks usually start off with stories - if you just use generic data rather than use a story in a compelling way it will more likely convince people about your product and the solution you're proposing

Takeaway: How others make sense

A close-up photograph of a lion's face and upper body. The lion is stretching its front paws forward, with its mouth wide open showing its tongue and teeth. Its eyes are closed, and it has a relaxed expression. The background is a blurred, warm-toned landscape.

Need a stretch?



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**WHAT'S THE HARDEST PART OF BEING AN
ENTREPRENEUR?**

Unchartered territories

“When you get a job, there are some parameters on what makes you a good employee. When you’re an entrepreneur, there’s no set path. Those boundaries, those parameters are just not there. There are many opportunities, many decisions, multiple pathways you can take but only a few will be fully pursued”.

(Entrepreneur 1)

No set path to pursue - important point to consider.

for example there's some qualities that are anecdotal based rather than empirically tested. for example, steve jobs being narcissistic is correlation without causation

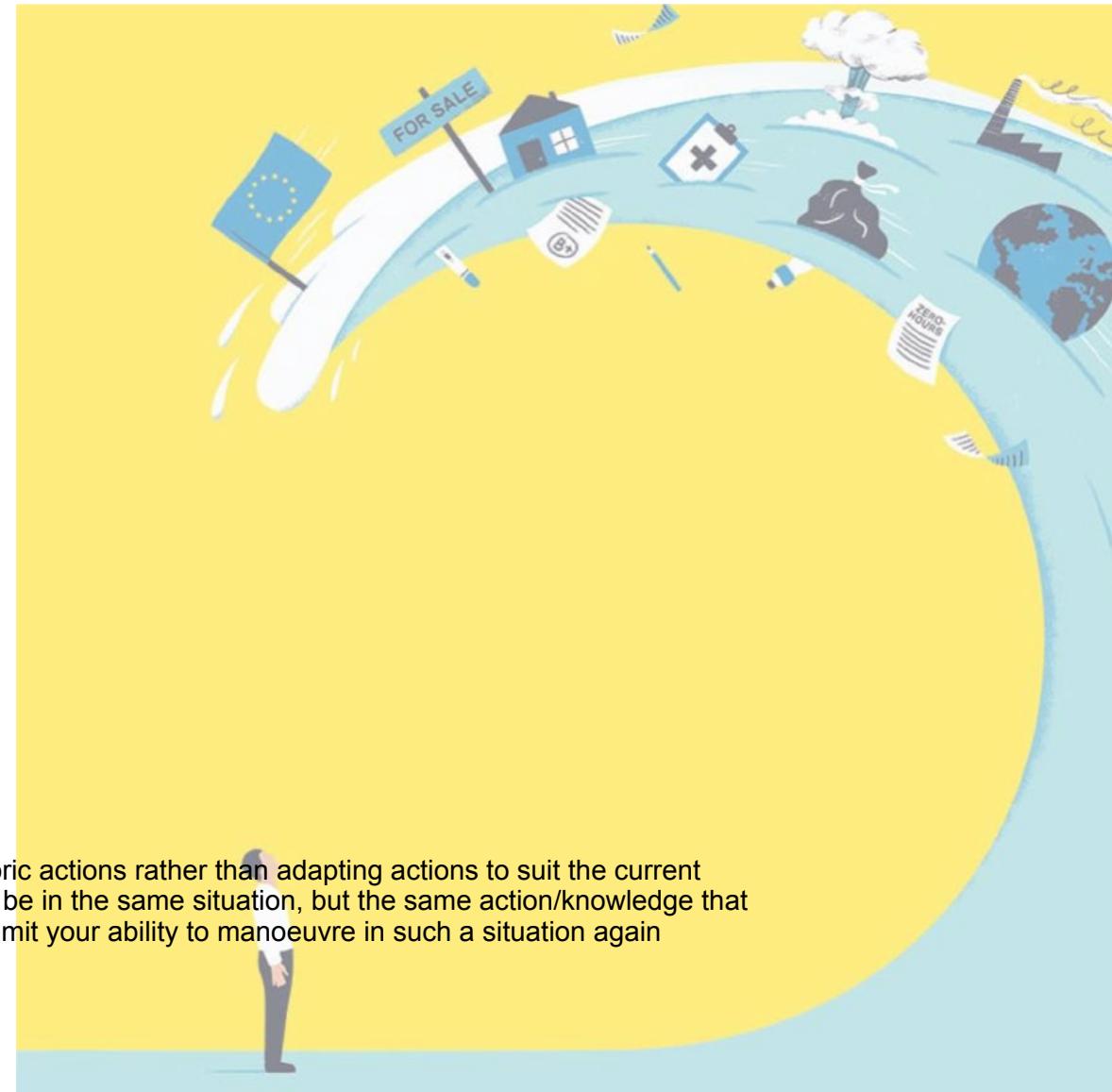
“There’s always something going on”

(Entrepreneur 2)

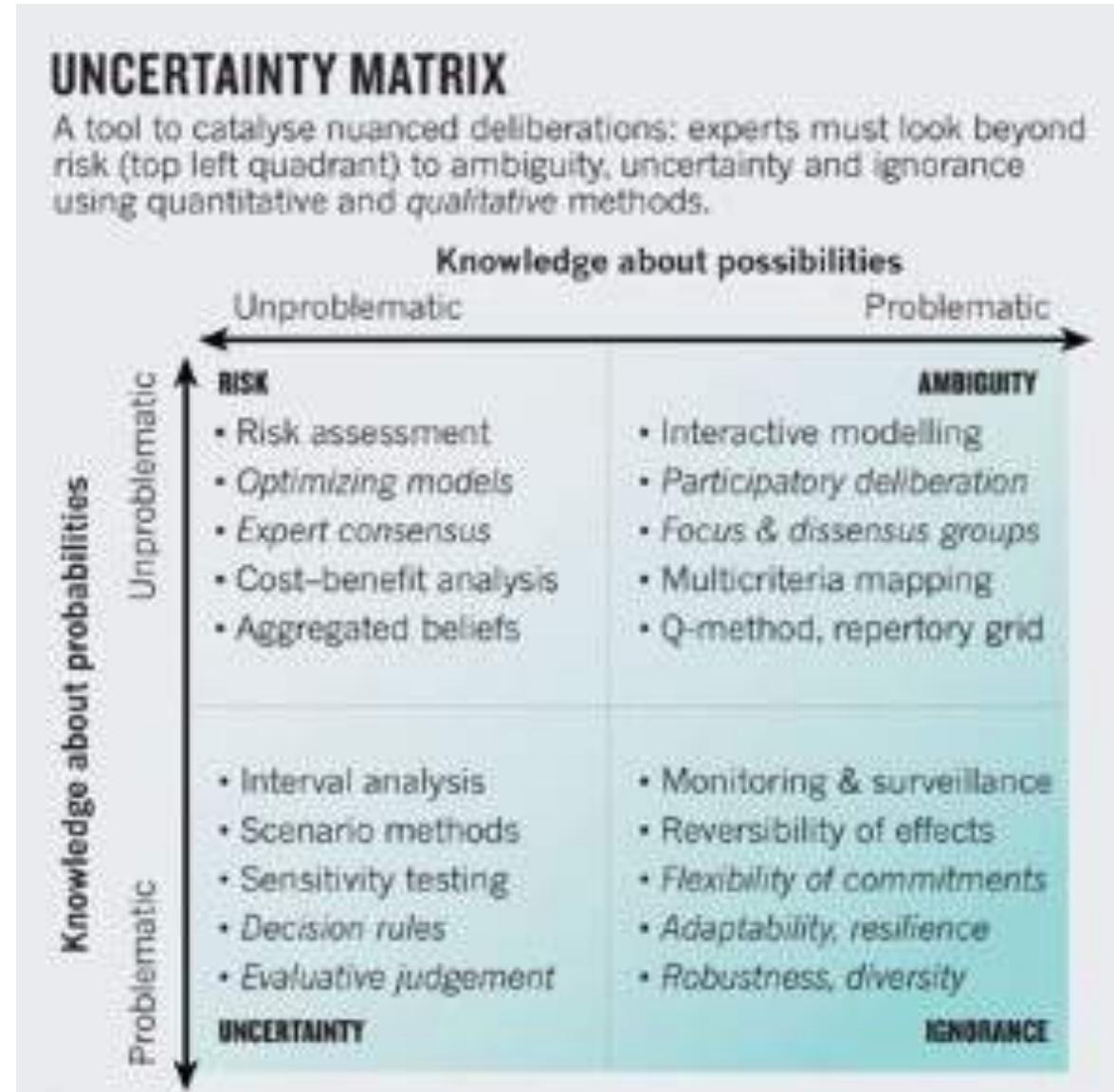
Dimensions of Uncertainty

- What I know
- What I know I don't know – “known unknowns”
- What I don't know I don't know – “unknown unknown”
- Multiple truths – “contradictory certitudes” Rayner, 2006, 2012
- I can't intentionally unlearn what I know – “knowledge curse”
relying on your historic actions rather than adapting actions to suit the current environment. You could be in the same situation, but the same action/knowledge that you have might limit your ability to manoeuvre in such a situation again
Heath and Heath, 2006

This is also another component that makes entrepreneurs better - e.g knowing what they don't know, etc..



Uncertainty and deliberation



In ambiguity

Conventional political-cognitive conception of action as ‘rational man’, self interested, efficiency master

“Robust Action” – six principles in ambiguity

- Judge the situation at hand
- Preserve flexibility
- Be politically savvy
- Use language and rhetoric effectively
- Work multiple agendas

(Source: Ferraro, et al, 2015)

Leaders in midst of ambiguity

(Senge and Sterman, 1992)

- Surface assumptions in a community of participants who have different mental models

this is to help reconcile and consider all different views

- Simplify complex situations – what make sense to the people?
What to prioritise?

Leaders are good at making complex situations simple. They understand situations are complex, unpredictable but you still make decisions and they prioritise

- Frame and direct ambiguity to organizational purpose: ‘Talk with a purpose’

They frame in a way that accommodates many possibilities. they frame problems differently and redirect attention to something else. they redirect in a way that makes people interested and engaged. For example, google’s mission was to ‘organise information and make it accessible to all’ so that they don’t specifically tailor themselves to a specific product but allow themselves room for flexibility in what they end up pursuing

- Challenge and engage your people, jousting with ideas and issues

a powerful tool to accommodate and channel attention. framing yourself as something specific doesn’t allow you to explore other markets



“Act, Then Think”

(Ibarra, 2015)

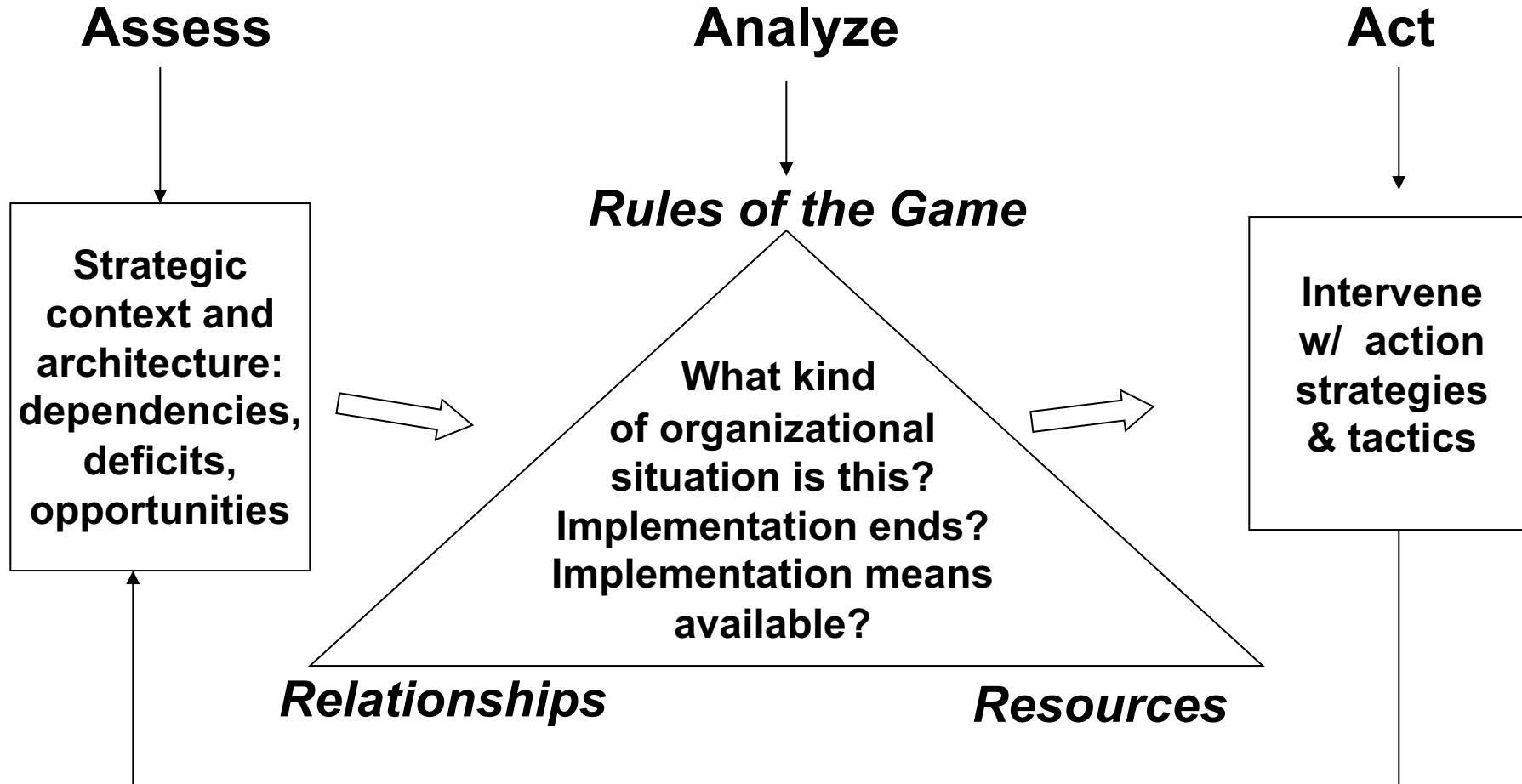
- Turned the “think first, then act” mantra on its head
- Through action and reflection on action, leaders are formed.
- Focuses on learning experiences, not on “vision” or planning
- To be able to think like a leader, you first have to act like one



HERMINIA IBARRA

Assess, Analyze and Act with 3Rs

(Ventresca & Ocasio 2010)



The 3Rs – “Rules”

(Ventresca & Ocasio 2010)

Leaders are very good at understanding the implicit rules that everyone seems to follow

What are the rules of the game?

changes in legislation is a changes in a rule that a good leader has to successfully act upon - for example, changes in environmental laws that led to the creation of EVs, Macdonalds not selling beef in India because of religious purposes

- What does dominant coalition value?
- What categories of identity and language?
- What does “success” look like, and why?
- Who decides? Who has fate control?
- What are “standard” ways things get done?

The 3Rs – “Resources”

(Ventresca & Ocasio 2010)

What are the available resources?

- £s
 - Human capital
 - Social capital
 - Institutional capital
 - Time
 - Attention
- Resources can be tangible and intangible

The 3Rs – “Relationships”

(Ventresca & Ocasio 2010)

Good leaders are good at analysing, accessing and acting on changes in the 3Rs

What are formal and informal ties?

- Who are your co-founders and team members?
- What channels for information, action?
- Social capital and network ties
- Access to pools of resources

Social networks allow for better building of networks, makes it easier to connect with people across the world



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NOW AGAIN: DO YOU THINK
ENTREPRENEURS ARE BORN OR MADE?

Chat with Susanna Kislenko – let's learn about founders

Reminder: Induction on Thursday, Jan 20th,
at 6:30 pm on Teams

Tutorials – preferred schedule:

- Mondays, from 2– 4 pm.
- Starting on Jan 31st (after 2 lectures), Feb 7th, Feb 21st, Mar 7th

REFERENCES

1. Malcolm Gladwell, “[The Tweaker – The Real Genius of Steve Jobs](#)
2. Podcast (on Spotify and other platforms for free): [Danny in the Valley, interview w/ Dr Phyllis Gardner](#)
3. Documentary (available at Amazon Prime for a fee): [The Inventor – Out for Blood in the Silicon Valley](#)
4. Petiglieri (2020). [The psychology behind effective crisis management.](#)
5. Hargadon (2003). “How Breakthroughs Happen: The Surprising Truth About How Companies Innovate”. It’s a book, you may want to read [this review](#)

REFERENCES, p.2

6. Conger, J. A. (2008). *The necessary art of persuasion*. Boston, MA: Harvard Business Press.
7. Cialdini (2001). [The science of persuasion](#).
8. Rayner, S. (2012) [Uncomfortable knowledge in science and environmental policy discourses](#)
9. Steve Rayner (2006), Jack Beale Memorial Lecture on Global Environment, Wicked problems: clumsy solutions – diagnoses and prescriptions for environmental ills. You may want to read [this summary](#).

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11. Heath and Heath (2006). Made to Stick. It's a book, but you may want to read [this article](#) instead
12. Stirling (2010). [Keep it Complex.](#)
13. Ferraro et al (2015). [Tackling Grand Challenges Pragmatically: Robust Action Revisited.](#)
14. Senge and Sterman (1992). [Systems thinking and organizational learning: Acting locally and thinking globally in the organization of the future](#)
15. Ibarra (2015). Act like a leader, think like a leader. It's a book, but you may want to watch this [video](#), where she explains the core ideas of the book

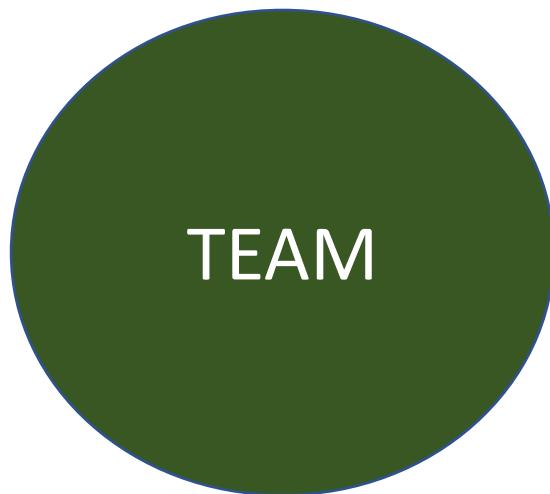
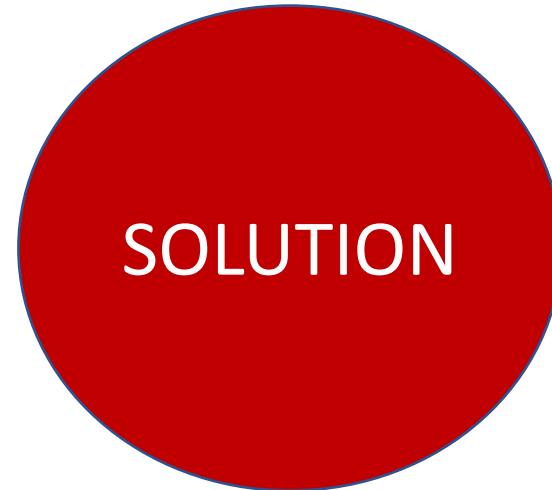
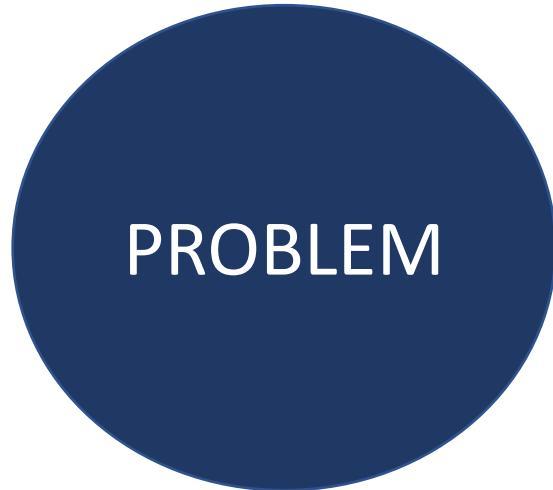


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Entrepreneurship: Where to start?

Session 2

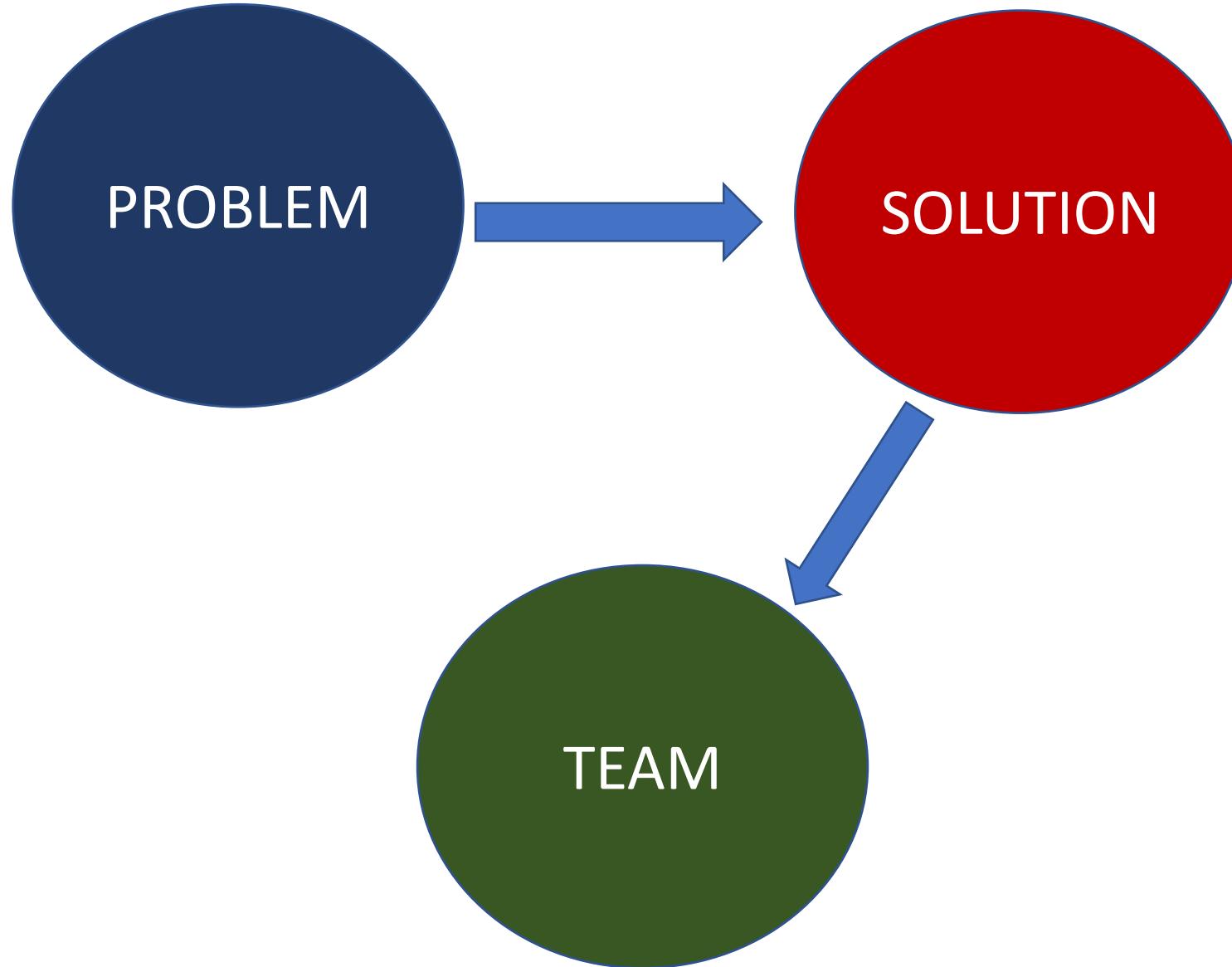
Connecting the Dots



Businesses can either start from a problem, a solution or a team. An example of when a business started from a solution, is medical or scientific advances that may not have been a solution to a problem now but may be a solution to a future problem

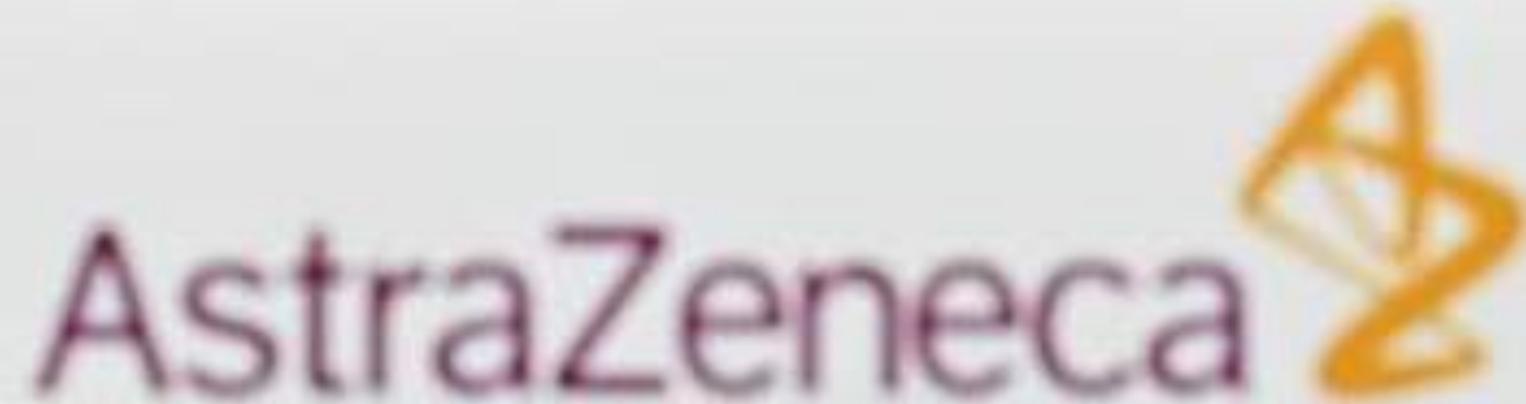
Uber was founded as a solution to a then CURRENT problem (so started from a problem) of hailing a taxi in a crowded city

Starting with a Problem

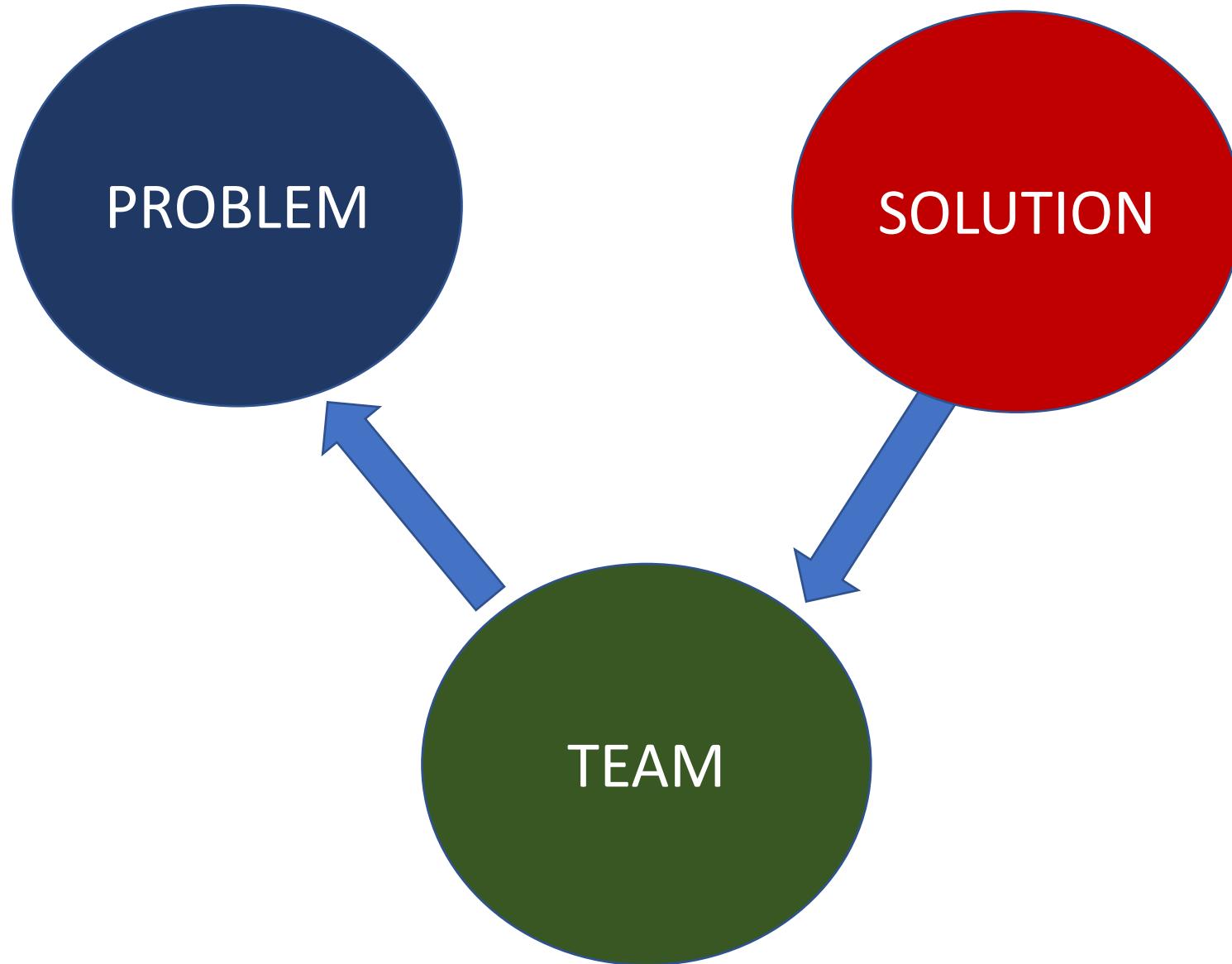


“Necessity is the mother of invention”

Plato



Starting with the solution



“Invention is the mother of Necessity”

Veblen

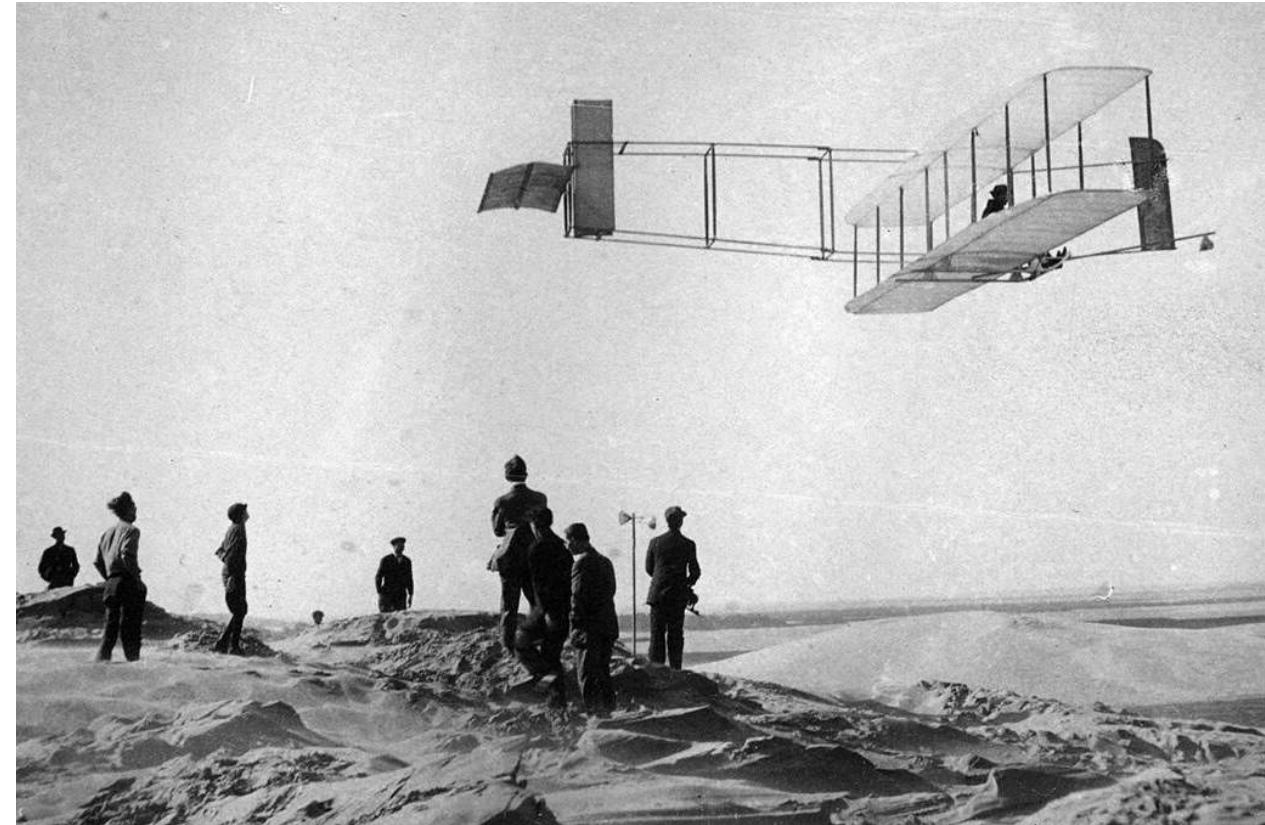


An Unattractive Industry, until...

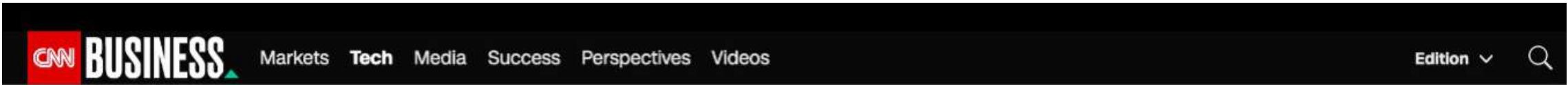
IN THE FIRST 100 YEARS OF
US AIR TRAVEL (1903-2002)
THE INDUSTRY MADE EXACTLY
ZERO NET PROFIT.

AI also wasn't a profit-orientated business from the start, but now it is
and so is an example of a business starting from a solution to a
problem in the future.

“If there had been a capitalist at
Kitty Hawk, he should have shot
down Wilbur Wright.”
- Warren Buffet



Twitter - Value or Profit?



CNN BUSINESS Markets Tech Media Success Perspectives Videos Edition ▾ Search icon

MARKETS NOW

Twitter records its first annual profit, but it is losing millions of users

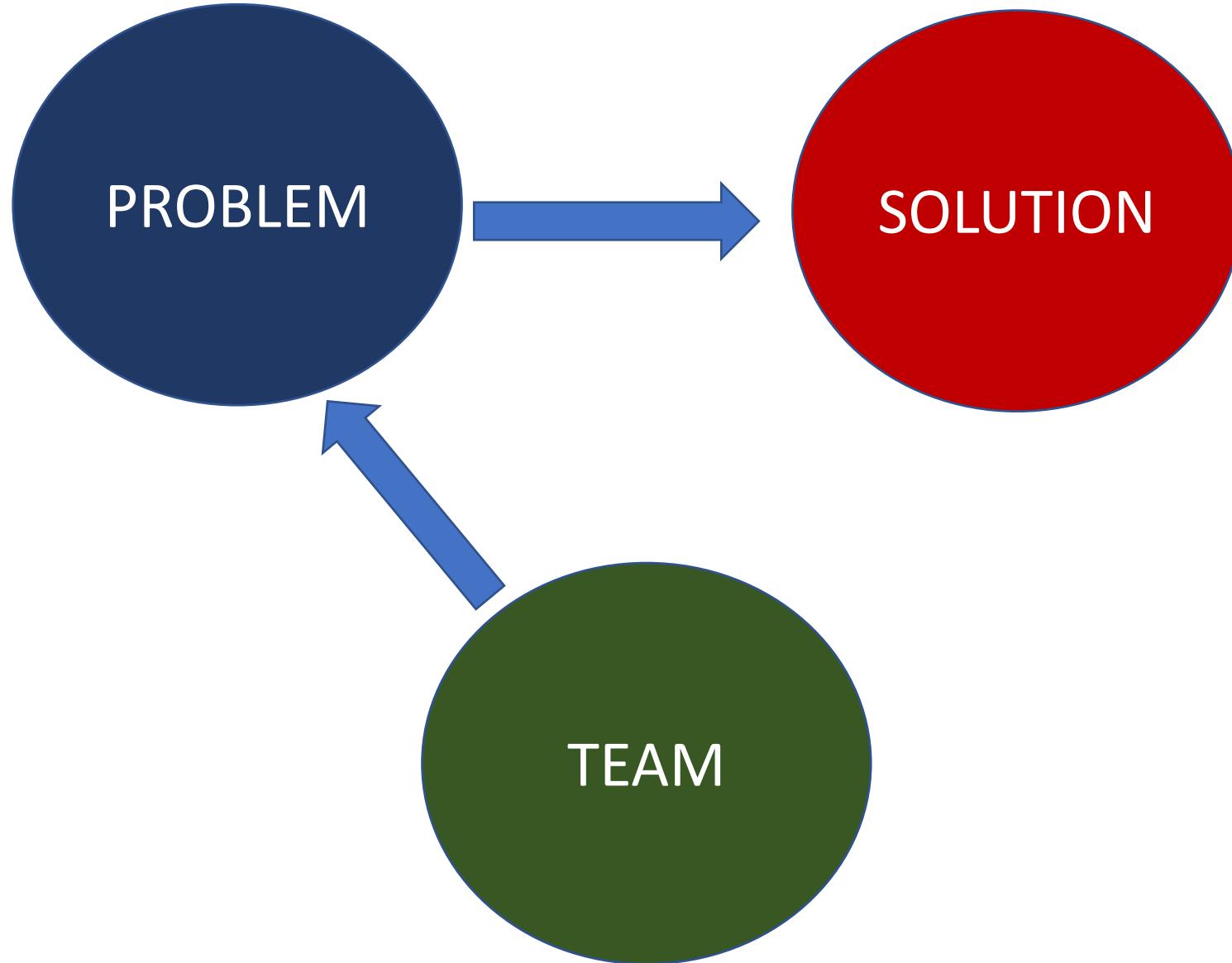


By [Seth Fiegerman, CNN Business](#)

Updated 1416 GMT (2216 HKT) February 7, 2019

- FOUNDED IN 2006
- REGISTERED ITS 1ST ANNUAL PROFIT IN 2018

Starting with a Team

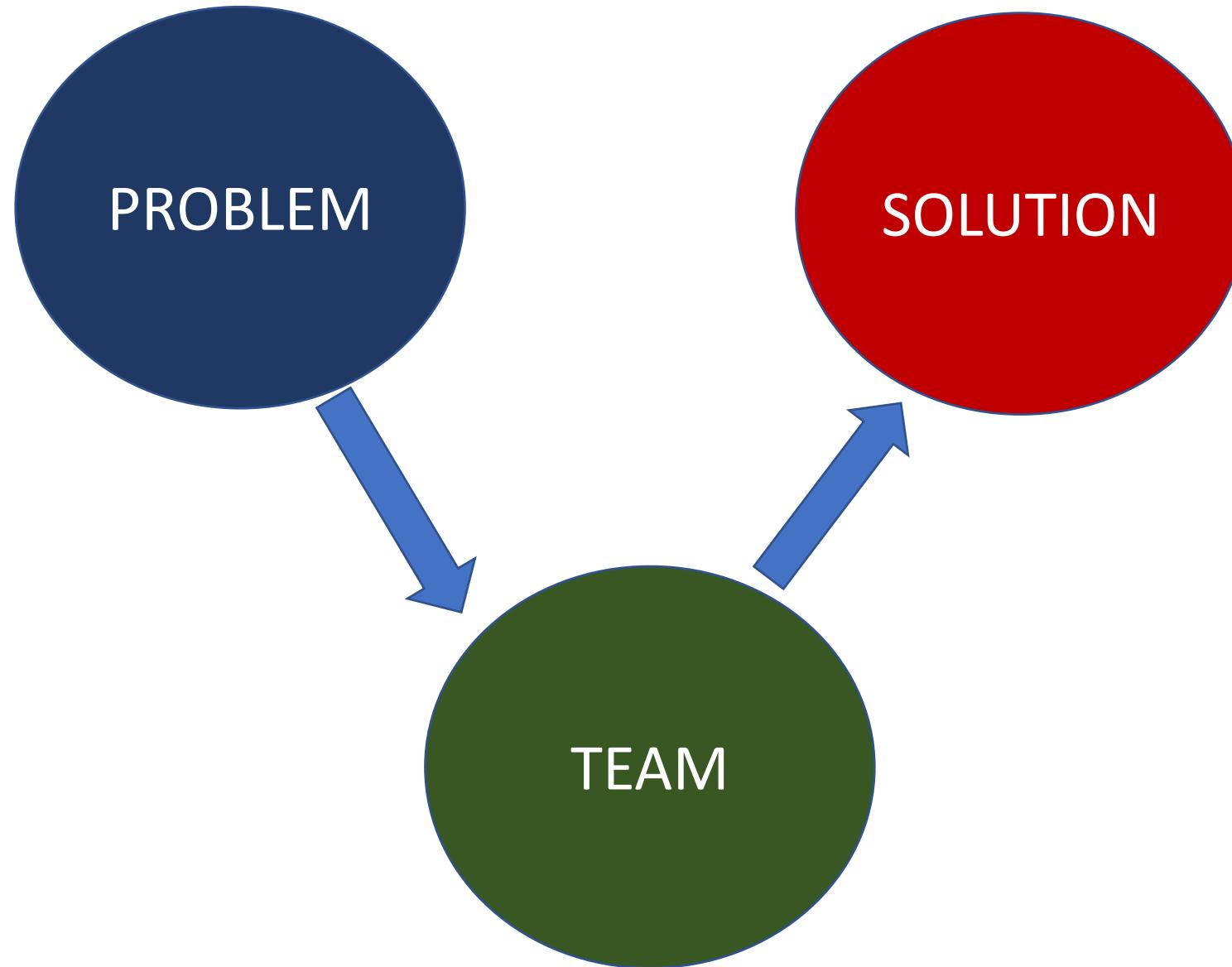


Academia, start-ups, spin-outs...



Warby Parker founders

Different Ways to Connect



Challenge-Focused Hackathons



Is a business starting from a problem, basically a business that has a solution to a current problem. They also can reframe the problem - if there are needs that exist that has not been met.

Uber for example addressed the fact the availability of drivers/taxi's in a busy city

While is a business starting from a solution, basically a business that has a solution (scientific breakthrough, new technology) to a problem in the future. They create new solutions emulate new needs - such as the mobile phones, not necessarily from huge breakthroughs

Each business that starts from a problem, solution or team has their own unintended consequences.

For example a company called freewater has created a solution of a shortage in access to drinking water. It's done so by creating a business that allows them to give out free water because their profits come from the ads printed on the bottle. This may cause other local water business to go out of business (and so people to lose jobs and household income's to be affected) which can leads to effects on jobs, the market/industry as a whole, etc..

Another example of this was Tom Ford, who offered a free pair of shoes for every shoe that was bought

A business that starts from a solution, can sometimes be a business that has a solution now but is subject to controversy due to the current regulation. So when regulation changes, they may be able to build a customer base and become profitable

Activity (homework)

THREE DOTS IN YOUR PROJECTS

REFERENCES

1. [Article](#) with Warren Buffet's quote about the aviation industry
2. [Article](#) on “Twitter”making its first profit
3. To know more about Warby Parker, read the book by Adam Grant,
Originals.



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Building a Strategy

Session 3

Strategy > Mission Statement



Our mission is to **organize** the world's **information** and make it **universally accessible** and **useful**.

This is another example of framing the mission statement. Making it open means that the business is not so constrained and could potentially delve into different products/markets

-This is used as a method to engage people and potential customers

Different strategic logics

STRATEGIC LOGIC

Strategic question

ESTABLISH INDUSTRY POSITION

Strategic steps

Where should we be?

Identify an attractive market;
Locate a defensible position;
Fortify and defend

Source of advantage

Unique, valuable position with tightly integrated activity system

LEVERAGE RESOURCES COMPETENCES

Q: which strategic logic is most important?

A: This is dependent on lifecycle of the business - are you just starting out? you should focus on pursuing opportunities and innovation, then leverage opportunities to finally establish the industry position

What should we be?

Also market/industry matters
Geography matters - China started off by becoming a huge manufacturing region??

Establish a vision; build resources;
leverage across markets

PURSUE OPPORTUNITIES; INNOVATE

How should we proceed?

Jump into the ambiguity;
keep moving;
seize opportunities

Connections & relationships; activity network and x- factors

Continuation

STRATEGIC LOGIC

ESTABLISHED INDUSTRY POSITION

LEVERAGE RESOURCES, COMPETENCES

PURSUE OPPORTUNITIES; INNOVATE

Works best in

Slowly changing, well-structured markets

Moderately changing, well-structured markets

Rapidly changing, ambiguous markets

Duration of advantage

Sustained

Sustained

Unpredictable

Risk

Difficult to alter position as conditions change; difficult to know changes in the strategic context, trade-offs

Difficult, time-consuming to mobilize resources, build new competences as conditions change

Managers are tentative in executing on opportunities; how to know which opportunities

Performance goal

Profitability

Long-term dominance

Growth & renewal

Focal areas

1. VALUE
2. COMPETITION
3. GROWTH
4. RESOURCES
5. EXPERIMENTATION
6. AMBIDEXTERITY
7. INNOVATION



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Strategy (focus on value)

Session 3.1

FOCUSING ON VALUE

The way the company aims to create, deliver and capture (tangible and intangible) value

Who matters?

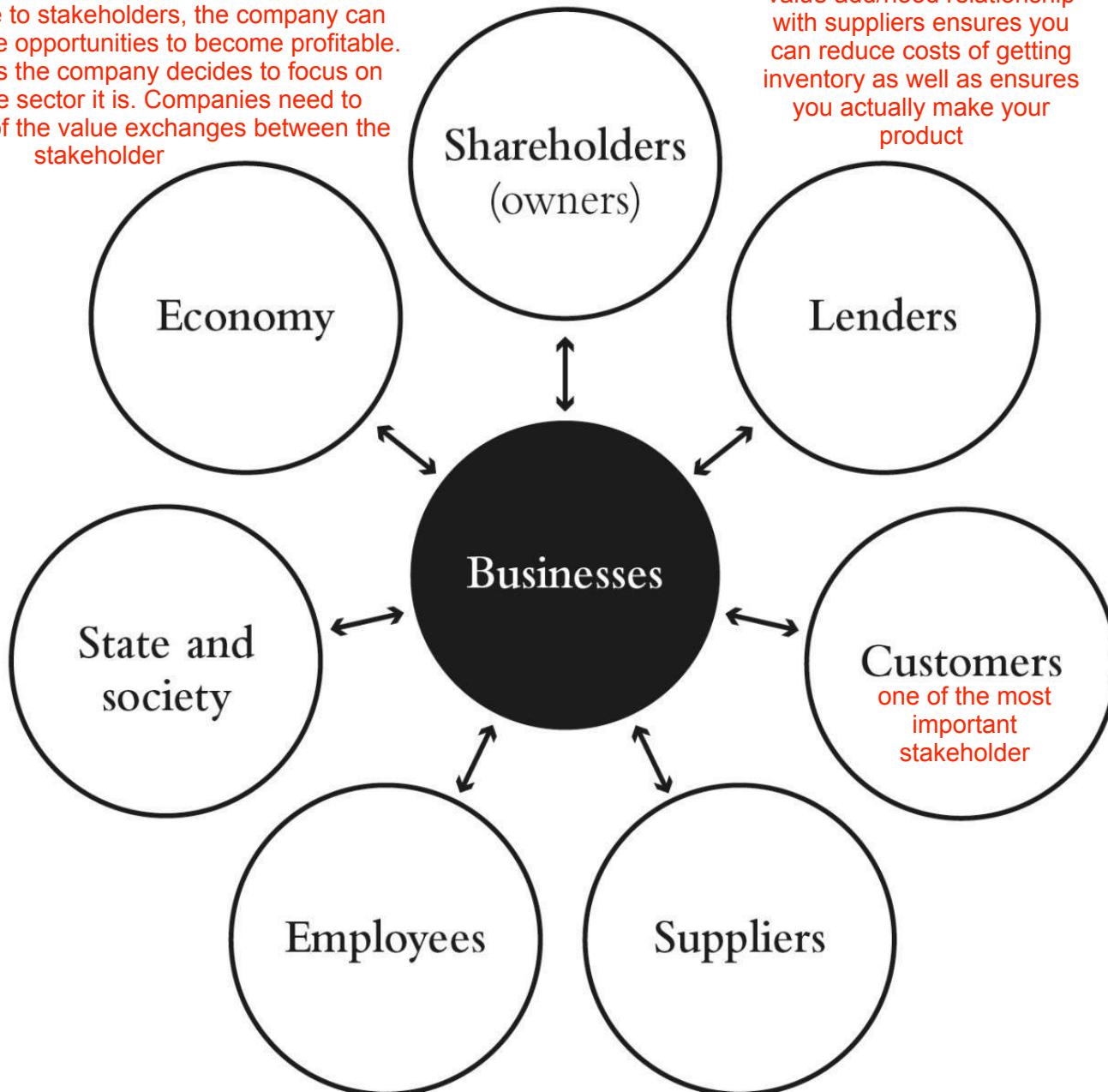
The state and society as a stakeholder is important - sometimes the local communities can have a negative relationship with a business (mining company for example) which can cause the business extra costs. so they must work to establish value for the local community to prevent extra costs

- Who are the key stakeholders
- What is being exchanged?
- How does value flow?

Customers may not directly provide revenue, but indirectly - google for example does obtain revenue from customers because these customers do not have to pay for search engine. but their customer engagement can make google revenue through online advertisement

positive and negative value exchange constantly happens between the business and its stakeholders by creating value to stakeholders, the company can actually have more opportunities to become profitable. The stakeholders the company decides to focus on depends on the sector it is. Companies need to constantly think of the value exchanges between the stakeholder

E.g.: making sure you have a value add/hood relationship with suppliers ensures you can reduce costs of getting inventory as well as ensures you actually make your product



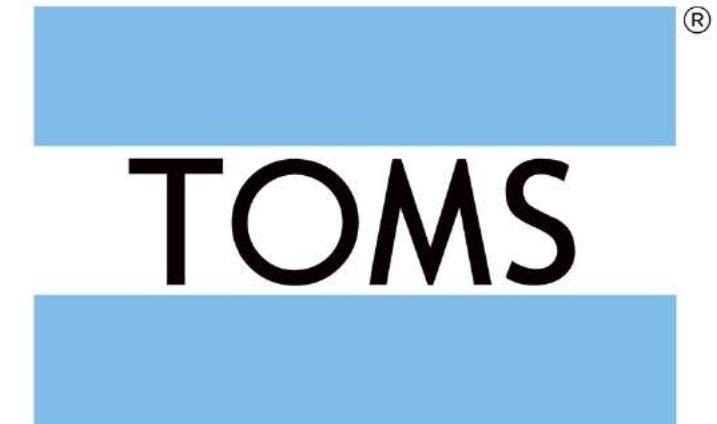
What value do your stakeholders get?

how did airbnb negative impact the population?

value exchanges might not be necessarily positive or negative with different stakeholders, but the value exchanges with each stakeholder may have both positive and negative value/impacts —> so a company needs to assess what compromises it can make dependent on which stakeholder it prioritises. For example, am i causing a negative impact on the environment that i do not need to in order to create the product? Instead od busying form a Chinese manufacturer can i buy from a local supplier and create positive value add of the local community? need to assess the value you can create for different stakeholders which can lead to different value exchanges with different stakeholders



airbnb

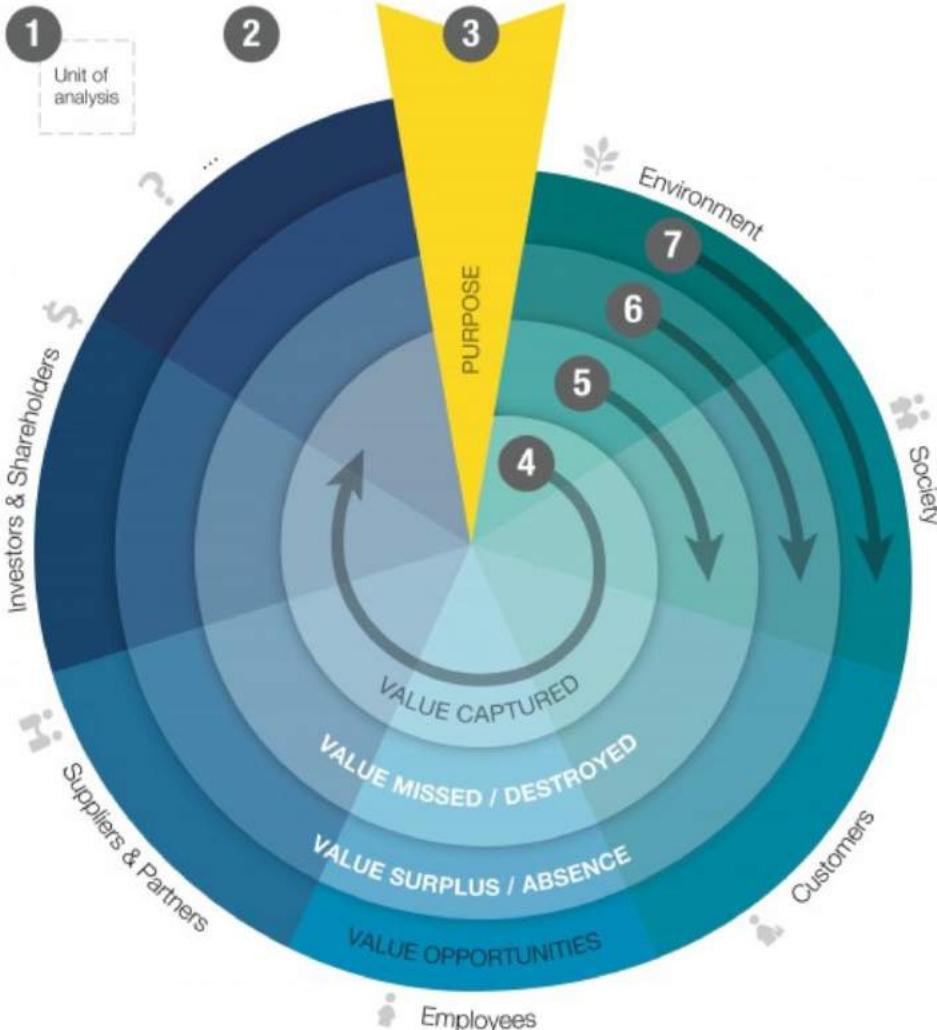


Value hunt

Thinking about value

- **Value captured:** I give and get a return.
- **Value missed:** I give but don't get a return.
- **Value destroyed:** I give but you don't want.
- **Value surplus:** I give or have too much.
- **Value absence:** You want but I don't give.
- **Value opportunity:** I discover new value.

Mapping value across stakeholders



The Cambridge Value Mapping Tool takes you in a guided step-by-step process through the following questions:

1. What is the unit of analysis eg product, service, company, industry?
2. Who are the stakeholders for the unit of analysis?
3. What is the purpose of the unit of analysis?
4. What is the current value captured?
5. What is the value missed and/or destroyed?
6. What is the value surplus and/or absence?
7. What are the new value opportunities?

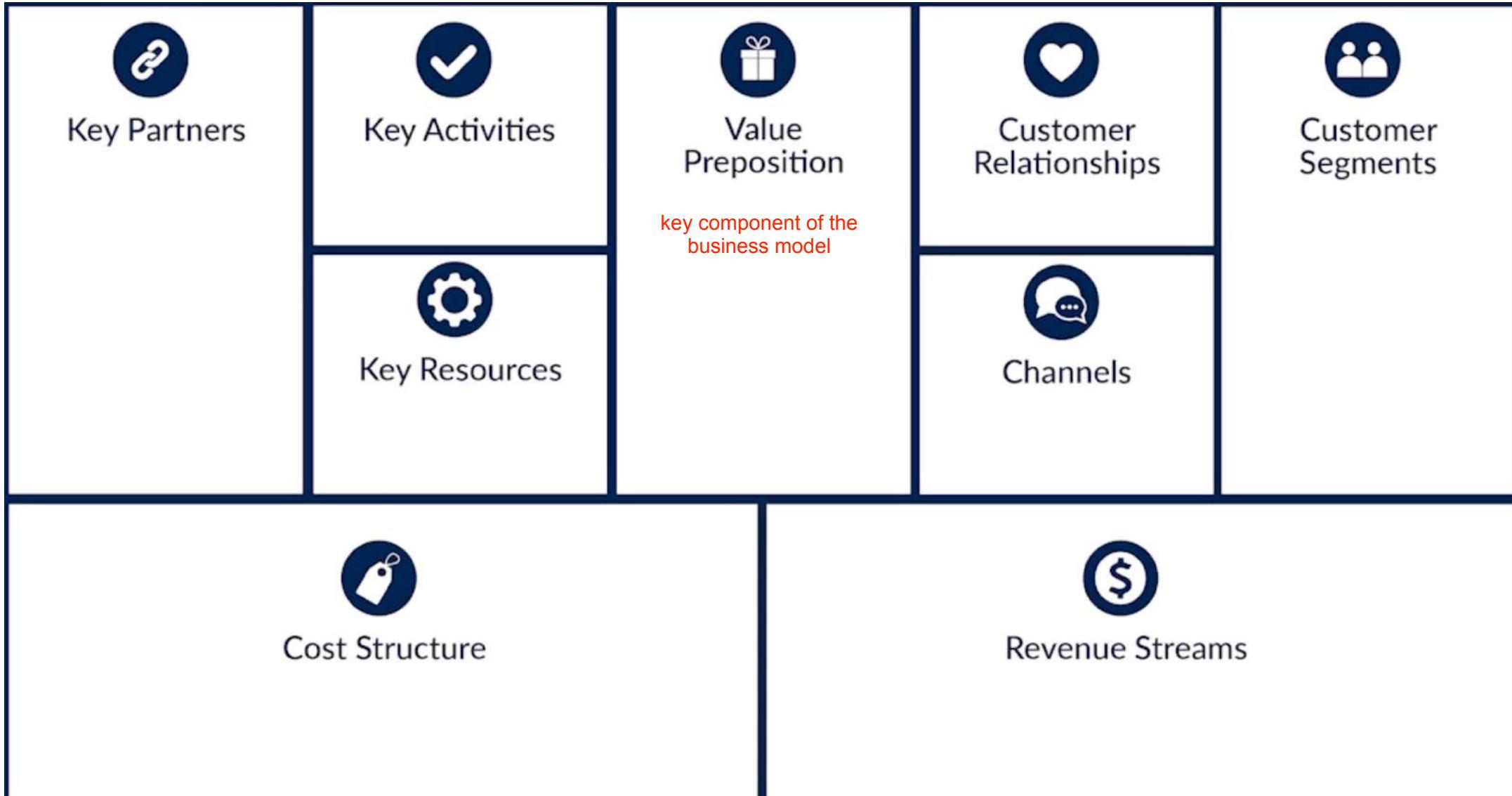


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Activity

Value hunt for your projects

Business Model Canvas



The Business Model Canvas

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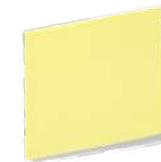
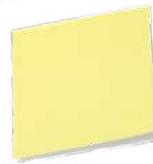
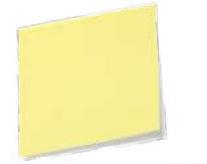
Designed by:

Date: _____
Duration: _____

Key Partners



Who are our key partners?
Who are our key suppliers?
What key resources are needed to support our partners?
What key activities do our partners perform?



Key Activities



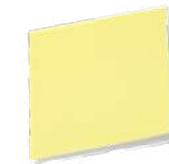
What key activities do our value propositions require?
Do customers need?
Customer needs include:
What value creates?



Value Propositions



What value is critical to the success?
What key activity provides value to our customer?
What bundle of products and services are we offering to each customer segment?
What customer needs are we satisfying?



Customer Relationships



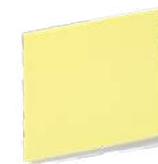
What types of relationships does each of your customer segments demand in its interactions with your firm?
How are these relationships maintained?
How are they integrated with the rest of our business model?
How many segments?



Customer Segments



For whom are we creating value?
Who are our most frequent customers?



Key Resources



What key resources does my value proposition require?
Do customers need?
Customer needs include:
What value creates?



Channels



Through which channels do our customer segments want to be reached?
How are we reaching them now?
How are our channels integrated?
What's our total cost?
What's our profit margin?
How are we integrating them for revenue creation?



Cost Structure

What are the most important costs involved in our business model?
Which key resources are most expensive?
What key activities are most expensive?



Revenue Streams



What value does our company offer to our customers?
How do we create value?
How much does it cost?
How much does it sell for?
How much does it cost to produce?



The Business Model Canvas

Designed for:

Designed by:

Date: _____
Duration: _____

Key Partners



Who are our key partners?
Who are our key suppliers?
What key resources are we acquiring from partners?
Which key activities do partners perform?

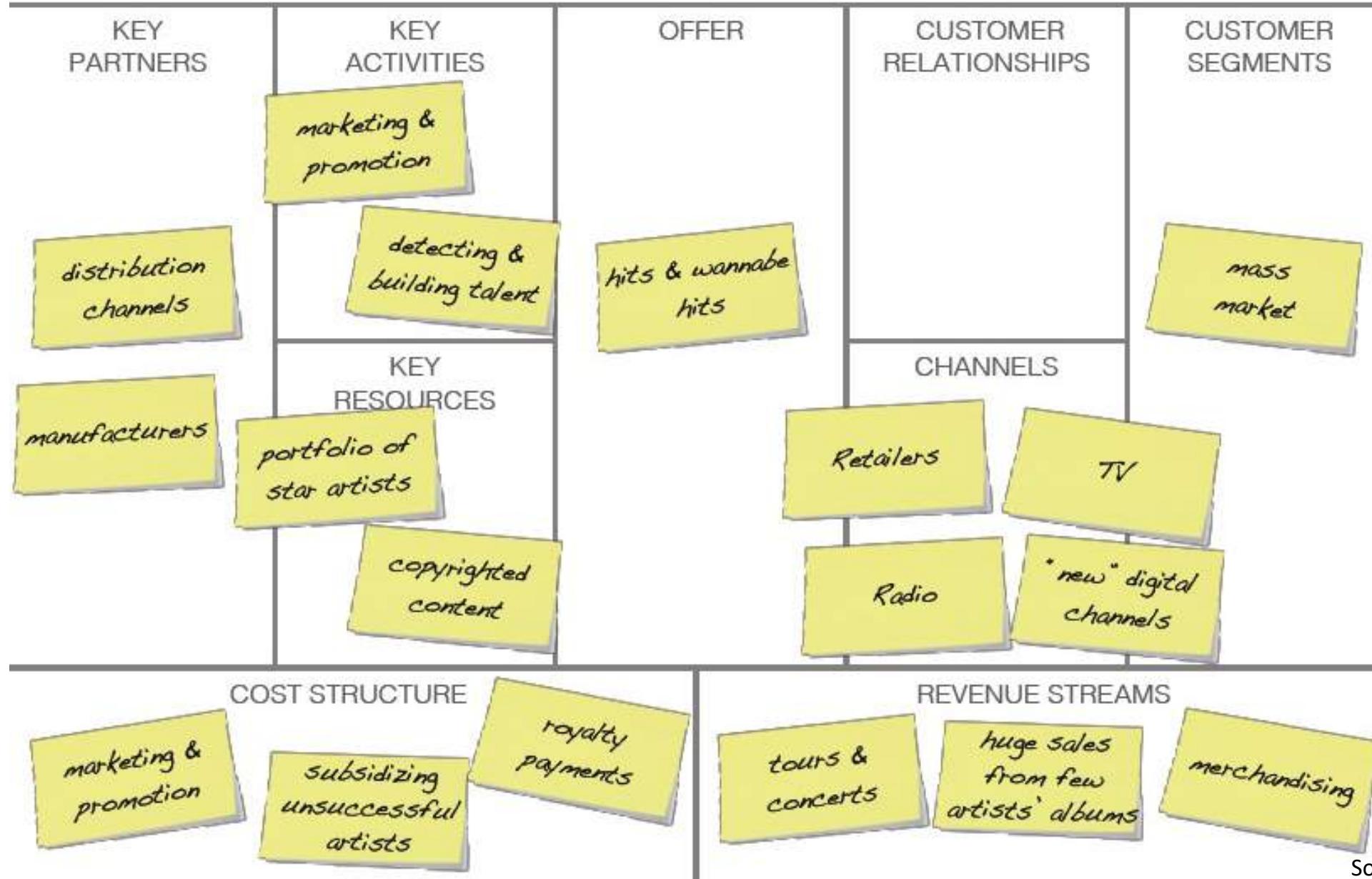


Key Activities

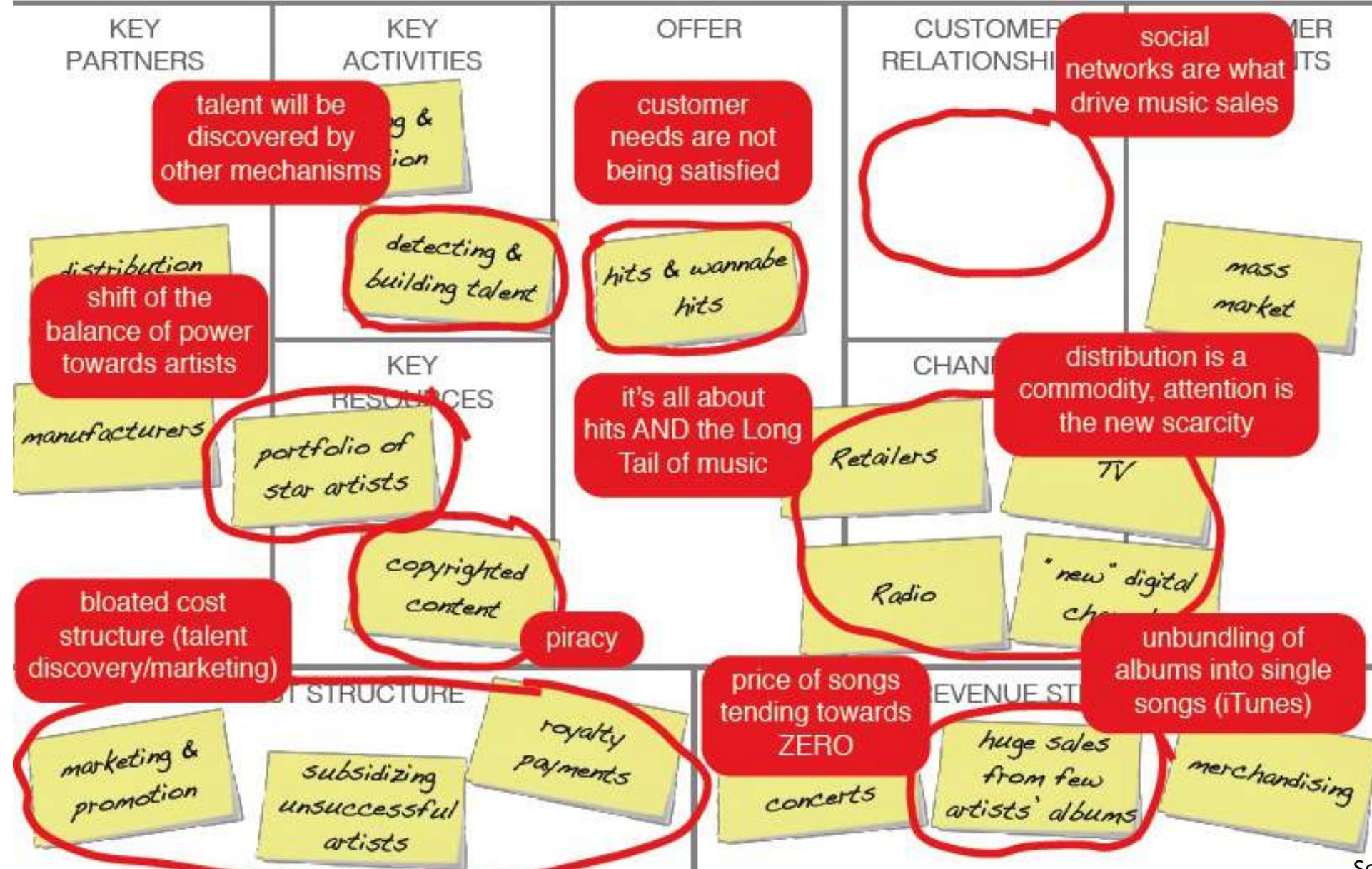


What are the critical activities required to create value? How much? Customer satisfaction? No visual clutter?

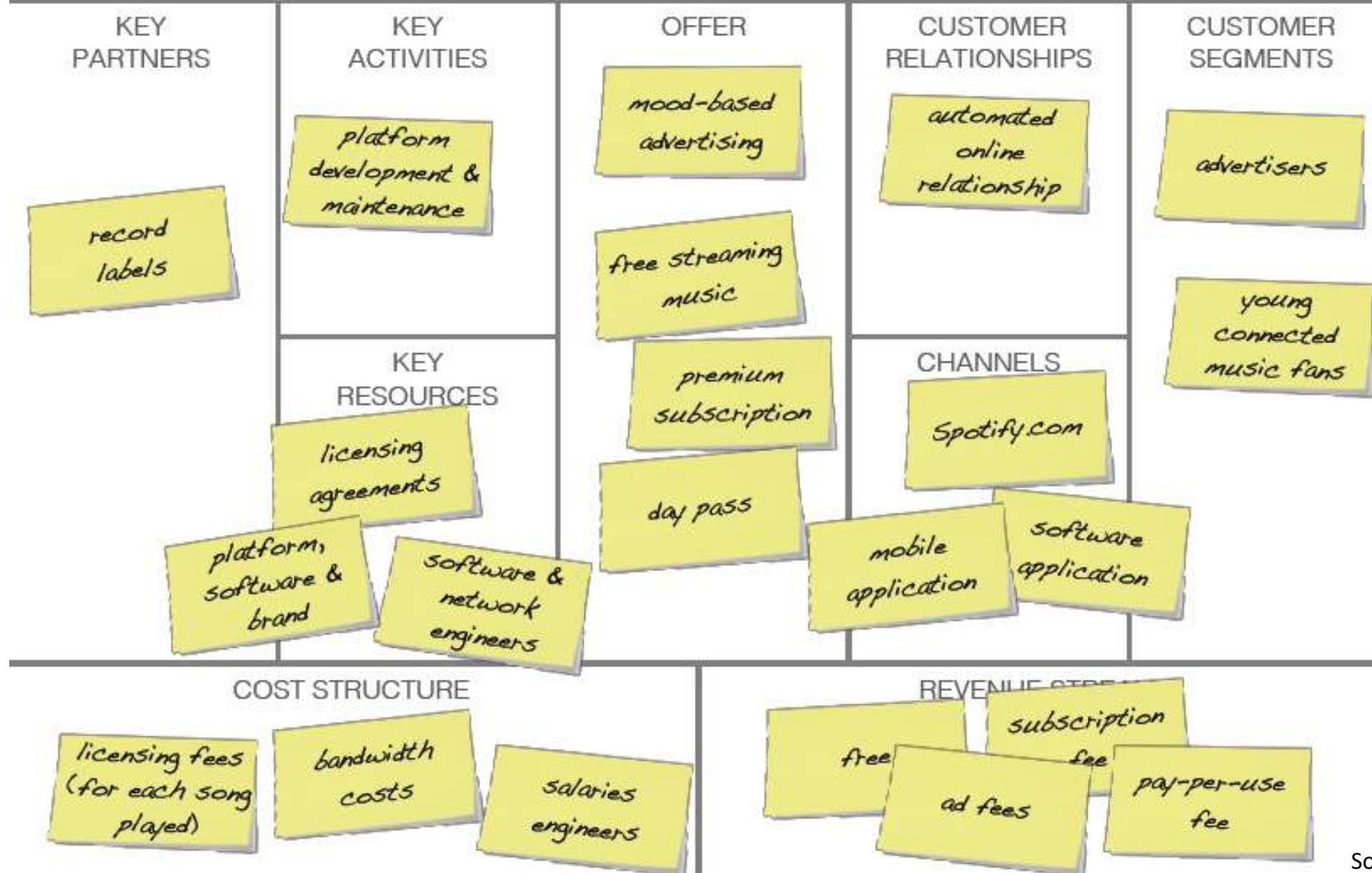
Old record label



The “red flags”



Spotify



Value proposition

Ryanair offers lower fares as they have many successful Cost-cutting measures that affect traditional airlines:

-ryanair sticks to single fleet type, which reduces maintenance and training costs. It also negotiates lower landing fees by often flying to secondary airports that are less congested and less expensive

-Focuses on short haul flights around Europe so focuses on high frequency as a comparison to traditional airlines. This means it will have flights more readily available as airlines that take long flights to different continents may not be able to accommodate for many flights due to less availability of airplanes

Activity

BUSINESS MODEL CANVAS FOR RYANAIR AS OPPOSED TO TRADITIONAL AIRLINES

REFERENCES

1. Value mapping tool, available on [this website](#).
2. Osterwalder and Pigneur (2010) on Business Model Generation. It's a book. You may want to read this [summary](#) or [watch this short video about business model canvas](#).



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Building a Strategy (focus on competition)

Session 3.2

SWOT Analysis

	Helpful to achieving the objective	Harmful to achieving the objective
Internal origin (attributes of the organization)	S Strengths E.g. location, price, brand, IPR...	W Weaknesses E.g. debt, high turnover...
External origin (attributes of the environment)	O Opportunities E.g. subsidies, growing market...	T Threats E.g. labour shortage, rising costs of materials...

SWOT Analysis (with prompts)

SWOT Table

Strengths

1. What is our competitive advantage?
2. What resources do we have?
3. What products are performing well?

Weaknesses

1. Where can we improve?
2. What products are underperforming?
3. Where are we lacking resources?

Threats

1. What new regulations threaten operations?
2. What do our competitors do well?
3. What consumer trends threaten business?

Opportunities

1. What technology can we use to improve operations?
2. Can we expand our core operations?
3. What new market segments can we explore?

There's competition (unless it's a monopoly)!

Investors hate when entrepreneurs say “there’s no competition”

Competition isn’t something to be afraid of, it’s to be acknowledged

Recognize weaknesses/strengths, strategize and act upon



Comparing yourself to competitors

- Who are the competitors?
- Who are the most threatening?
- Visible competitions (e.g., established companies)
- Invisible competition (e.g., new entrants, companies that will come after you perhaps with more resources...)
- How likely are they to outcompete you?



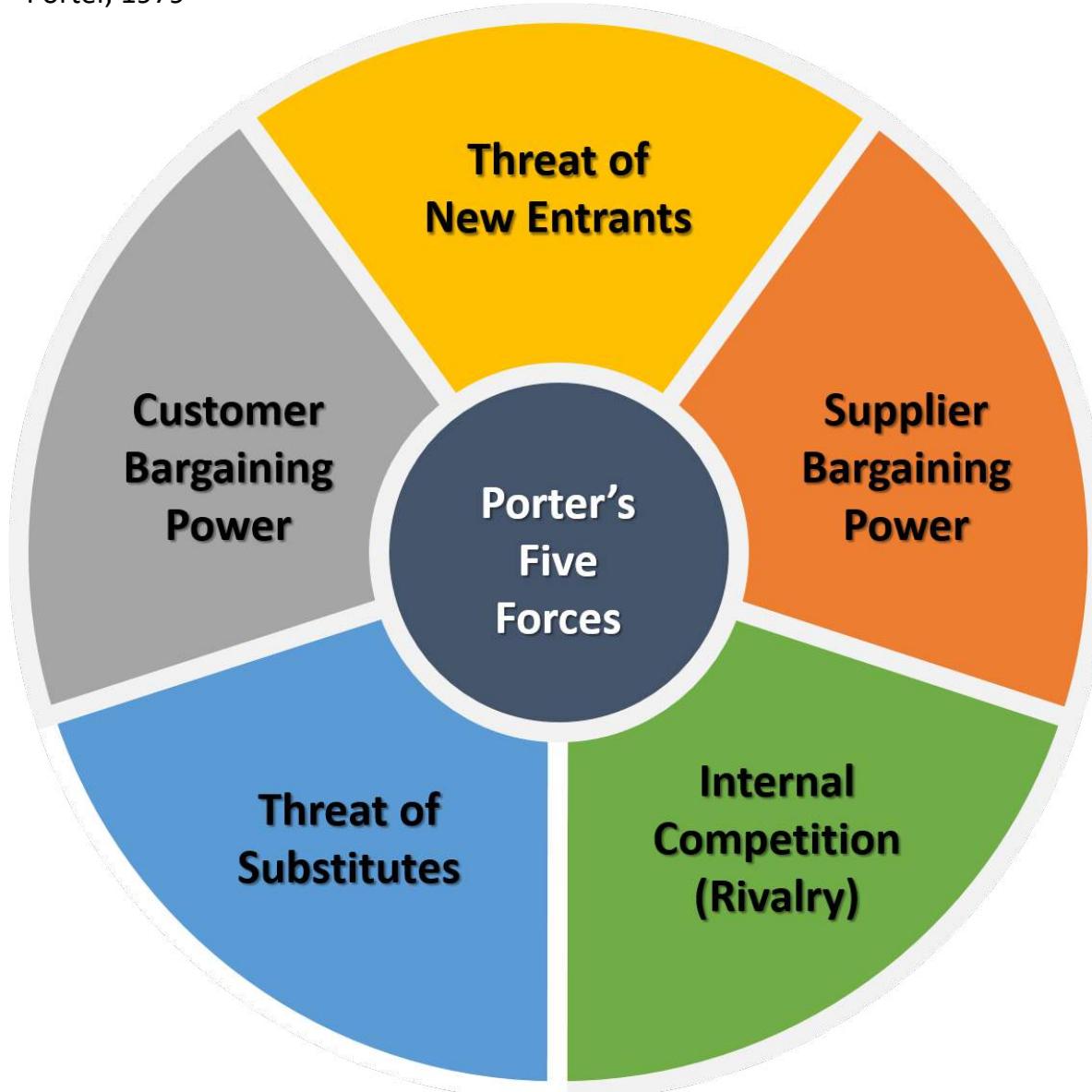
Terms of competition

- What differentiate these companies?
- Price?
- Quality?
- Innovative products?
- Strong brand?
- “Business models” of competitors - what they do and what they don’t?



Porter's Five Forces

Porter, 1979

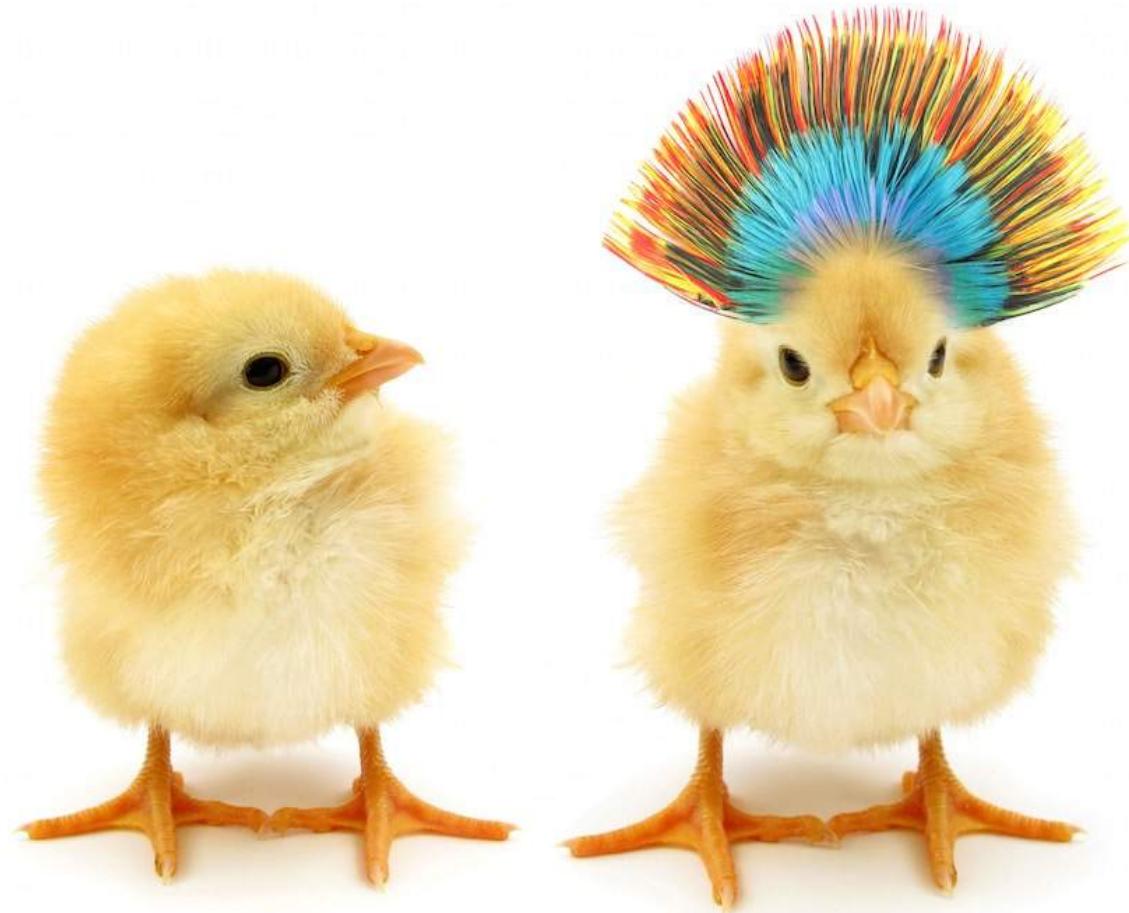


Porter's Five Forces (with prompts)



Competitive differentiation

- What differentiate (or can differentiate) you from others?
- Market segment?
- Quality of product? Price?
Customization? Innovation?
- What can you do that others will find it difficult to imitate or that they won't be interested in prioritizing?

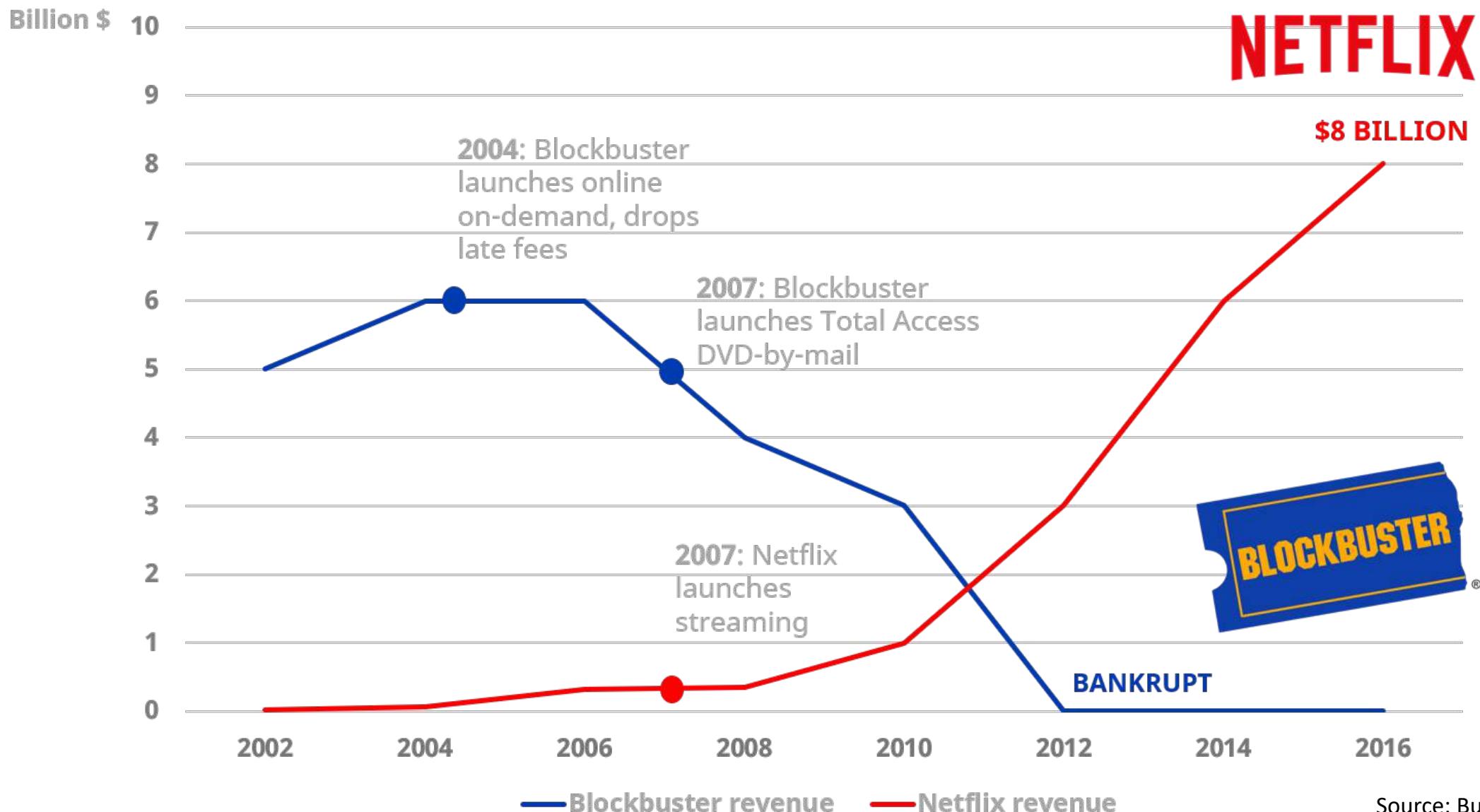


In early stages...

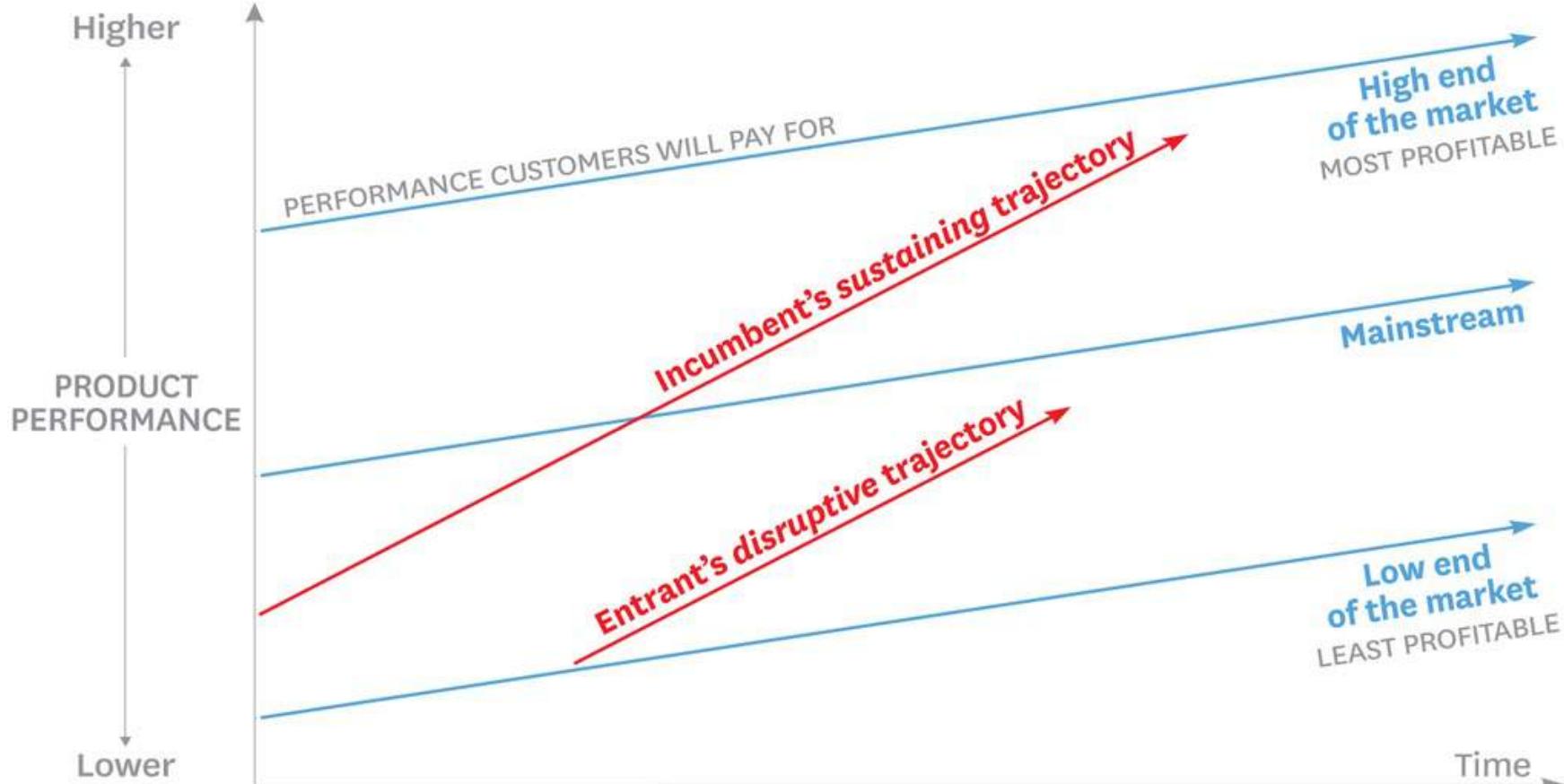
- You may develop the company in a “niche” and then work towards displacing the competitors?
- Start-ups don’t normally have a competitive advantage.
- You’re looking for a strategy, a pathway to build a competitive advantage!



What's disruptive?



Disruption as a process



SOURCE CLAYTON M. CHRISTENSEN, MICHAEL RAYNOR, AND RORY MCDONALD
FROM "WHAT IS DISRUPTIVE INNOVATION?" DECEMBER 2015

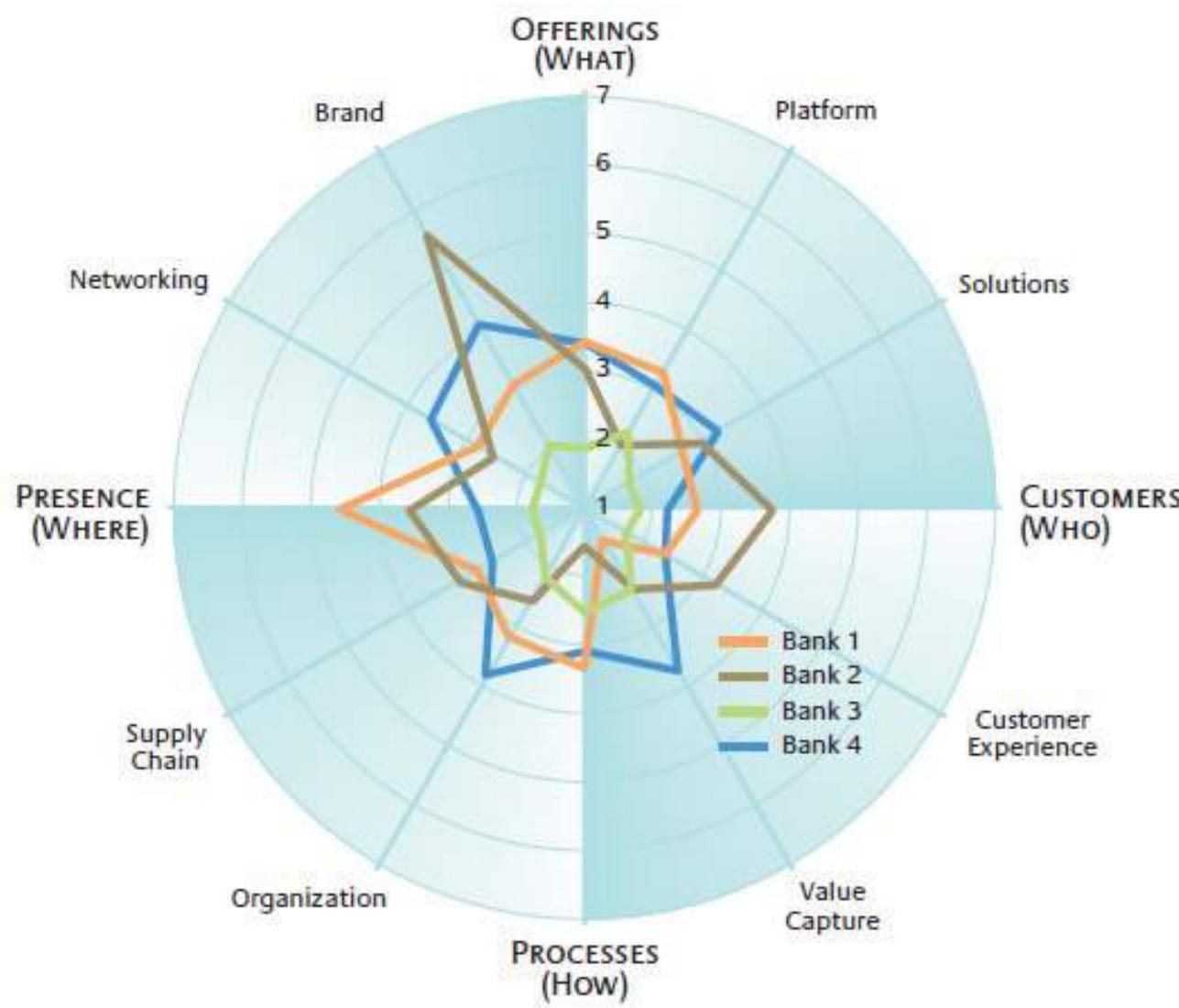
© HBR.ORG

Source: Christensen et al 2015

Is Uber disruptive?



Mapping value dimensions across competitors



Dimension	Definition	Examples
Offerings	Develop innovative new products or services.	<ul style="list-style-type: none"> • Gillette Mach3Turbo razor • Apple iPod music player and iTunes music service
Platform	Use common components or building blocks to create derivative offerings.	<ul style="list-style-type: none"> • General Motors OnStar telematics platform • Disney animated movies
Solutions	Create integrated and customized offerings that solve end-to-end customer problems.	<ul style="list-style-type: none"> • UPS logistics services Supply Chain Solutions • DuPont Building Innovations for construction
Customers	Discover unmet customer needs or identify underserved customer segments.	<ul style="list-style-type: none"> • Enterprise Rent-A-Car focus on replacement car renters • Green Mountain Energy focus on "green power"
Customer Experience	Redesign customer interactions across all touch points and all moments of contact.	<ul style="list-style-type: none"> • Washington Mutual Occasio retail banking concept • Cabela's "store as entertainment experience" concept
Value Capture	Redefine how company gets paid or create innovative new revenue streams.	<ul style="list-style-type: none"> • Google paid search • Blockbuster revenue-sharing with movie distributors
Processes	Redesign core operating processes to improve efficiency and effectiveness.	<ul style="list-style-type: none"> • Toyota Production System for operations • General Electric Design for Six Sigma (DFSS)
Organization	Change form, function or activity scope of the firm.	<ul style="list-style-type: none"> • Cisco partner-centric networked virtual organization • Procter & Gamble front-back hybrid organization for customer focus
Supply Chain	Think differently about sourcing and fulfillment.	<ul style="list-style-type: none"> • Moen ProjectNet for collaborative design with suppliers • General Motors Delta use of integrated supply and online sales
Presence	Create new distribution channels or innovative points of presence, including the places where offerings can be bought or used by customers.	<ul style="list-style-type: none"> • Starbucks music CD sales in coffee stores • Diebold RemoteTeller System for banking
Networking	Create network-centric intelligent and integrated offerings.	<ul style="list-style-type: none"> • Otis Remote Elevator Monitoring service • Department of Defense Network Centric Warfare
Brand	Leverage a brand into new domains.	<ul style="list-style-type: none"> • Virgin Group "branded venture capital" • Yahoo! as a lifestyle brand

Activity

INNOVATION RADAR OF STARBUCKS

REFERENCES

1. On SWOT analysis, you may want to read this [summary](#) and this [article](#) on origins.
2. Porter (1979). [How Competitive Forces Shape Strategy](#).
3. Christensen's first conceptualization of "disruptive innovation" was in his book "Innovation Dilemma." You may want to read instead [this article](#) by Christensen et al (2015) clarifying the concept.
4. [Article](#) with an explanation of Netflix as a disruptive innovation.
5. Sawhney et al (2006). ["The Different Ways for Companies to Innovate"](#).



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Building a Strategy (focus on scale)

Session 3.3

Scaling up and Scale-ups

- Long tradition of studies on growth patterns across organizations and how they morph over time
- Scaling up isn't only about growth. It's about what changes in how it organizes its strategies, resources and operations as it grows
- A “scale-up” is an organization with more than 10 employees, that presents an average annual growth (either in the number of employees or in revenue) greater than 20% in a period of at least 3 consecutive years (OECD, 2007).

Challenges with high growth

“We contend that instead of being a time for entrepreneurial celebration and relief, **a period of over-50% growth is a time for wariness and some very difficult decisions.**”

(Hambrick and Crozier, 1985)



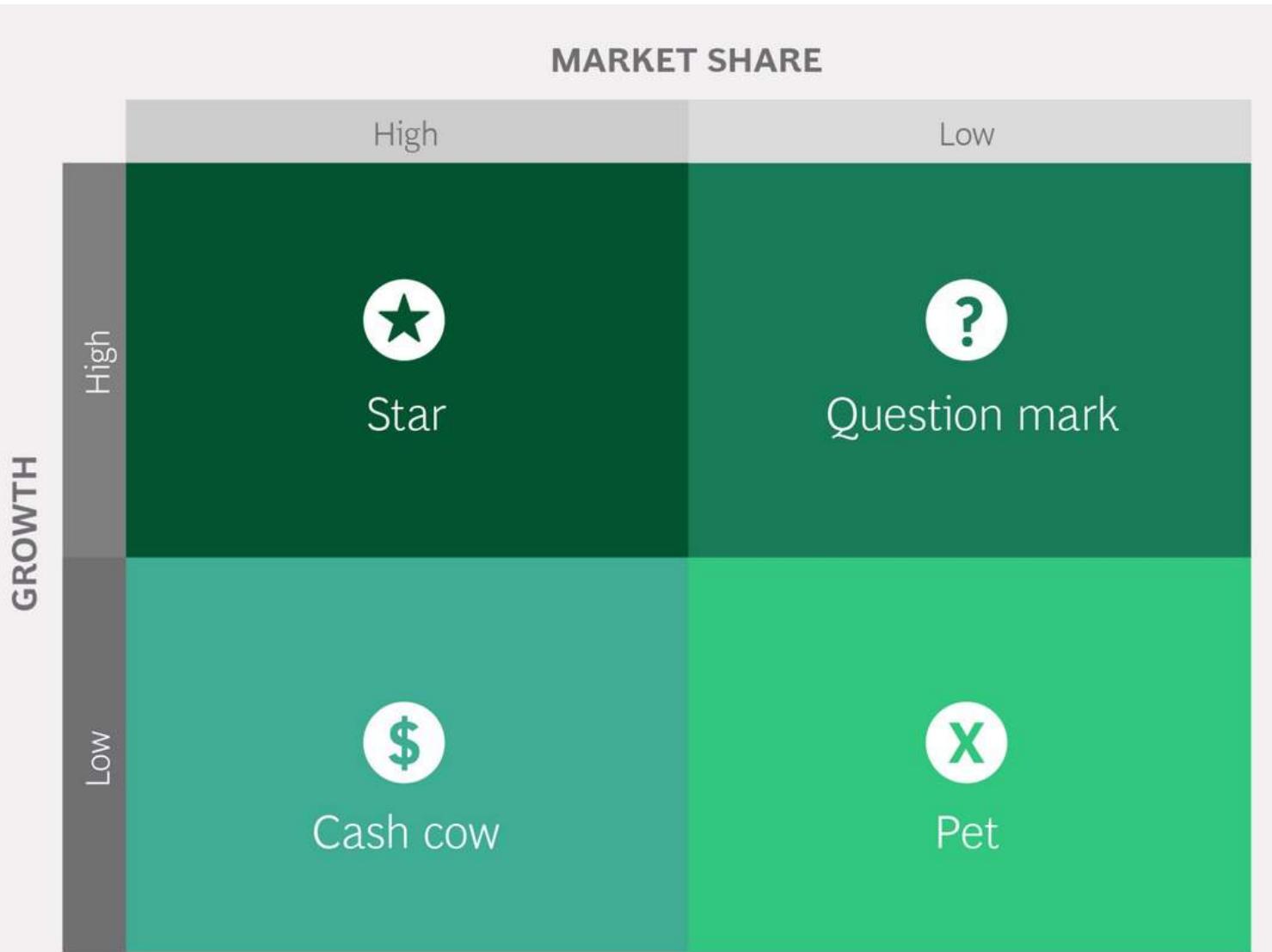
Who creates jobs?

Birch and Medoff's (1994): "mice",
"gazelles" and "elephants"

Majority of jobs are created by
"gazelles": not too small, not too
young, but fast-moving companies

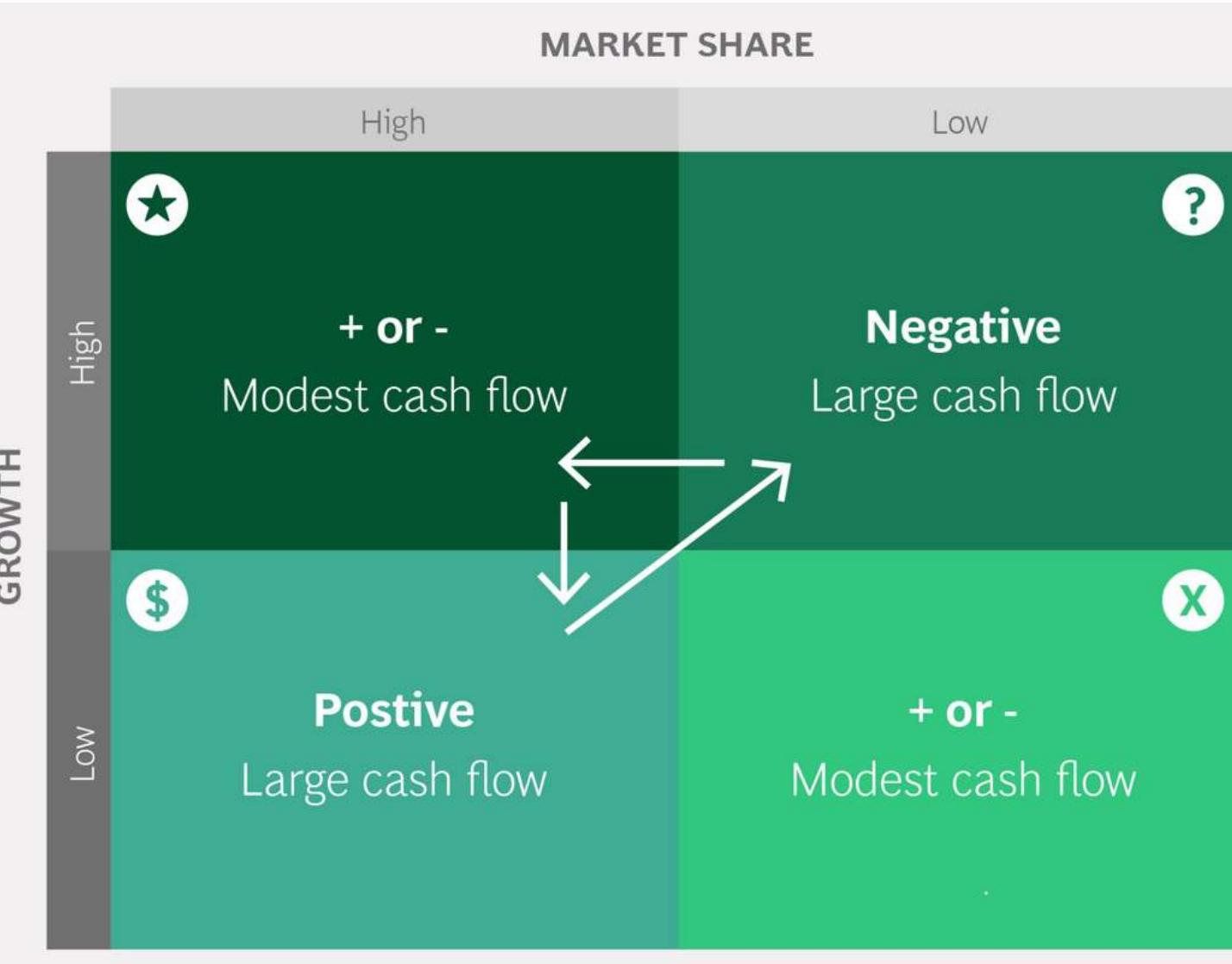


BCG Growth Share Matrix



The **growth share matrix** is a portfolio management framework that helps companies decide how to prioritize their different businesses by their degree of profitability.

What does it mean for investments?



- Liquidate or divest from “pets”
- Milk “cash cows” to reinvest in promising markets
- Invest or discard “question marks”, depending on their chances of becoming stars
- Invest in “stars” as they have high future potential

“Replication as strategy”

Winter & Szulanski, 2001

“Replication, a familiar phenomenon sometimes referred to as the “McDonalds approach,” entails the creation and operation of a large number of similar outlets that deliver a product or perform a service.”

How to replicate?

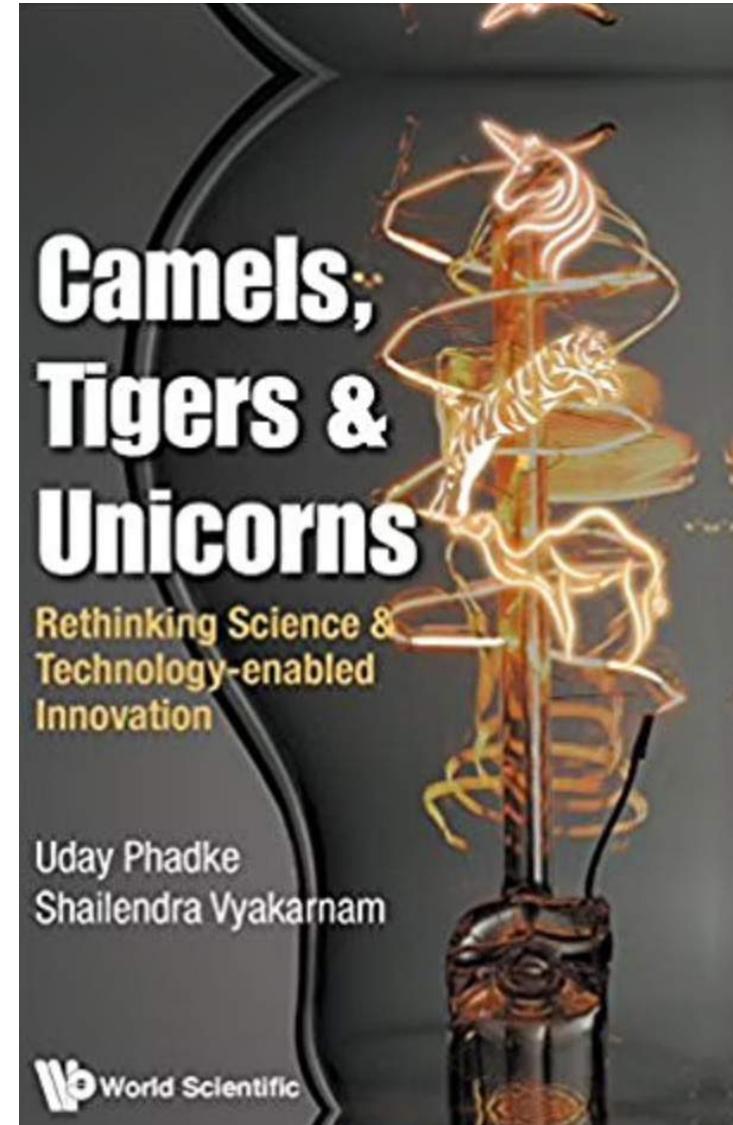


Camels, Tigers and Unicorns

Camels are internally resourced – patient and planned progress

Tigers are funded by angels and/or VCs – agile and in fast-moving sectors

Unicorns take very high-risk investments and defy “logics” – great hopes, but very uncertain, too



Chasms to Scale

Chasm 1: from concept to prototype



Proposition framing;
Design thinking; tech development

Chasm 2: from prototype to commercially sustainable business model



Product iteration, business model innovation, funding

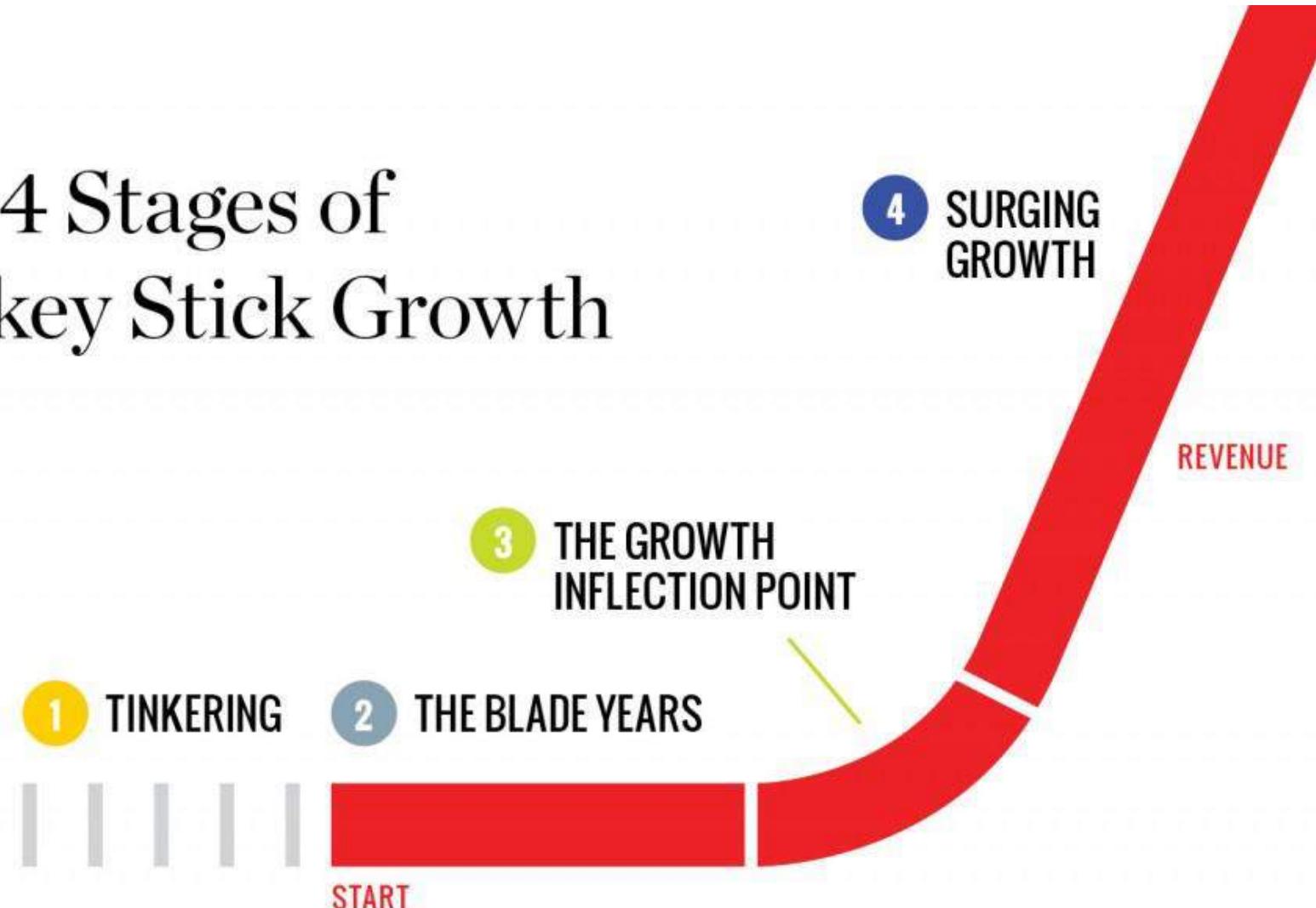
Chasm 3: significant scaling up to large market



Marketing, sales, distribution

Revisiting the hockey stick

The 4 Stages of Hockey Stick Growth



Growth hacking

- Rapid growth with tight budgets
- Clever, ingenious
- Resourceful



REFERENCES

1. OECD (2018). [Enabling SMEs to Scale-Up.](#)
2. Hambrick and Crozier (1985). [Stumblers and stars in the management of rapid growth.](#)
3. Birch and Medoff (1994). [Gazelles.](#)
4. Winter and Szulanski (2001). [Replication as Strategy.](#)
5. Vyakarnam and Phadke (2017). Camels, Tigers and Unicorns (it's a book).



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Building a Strategy (focus on resources)

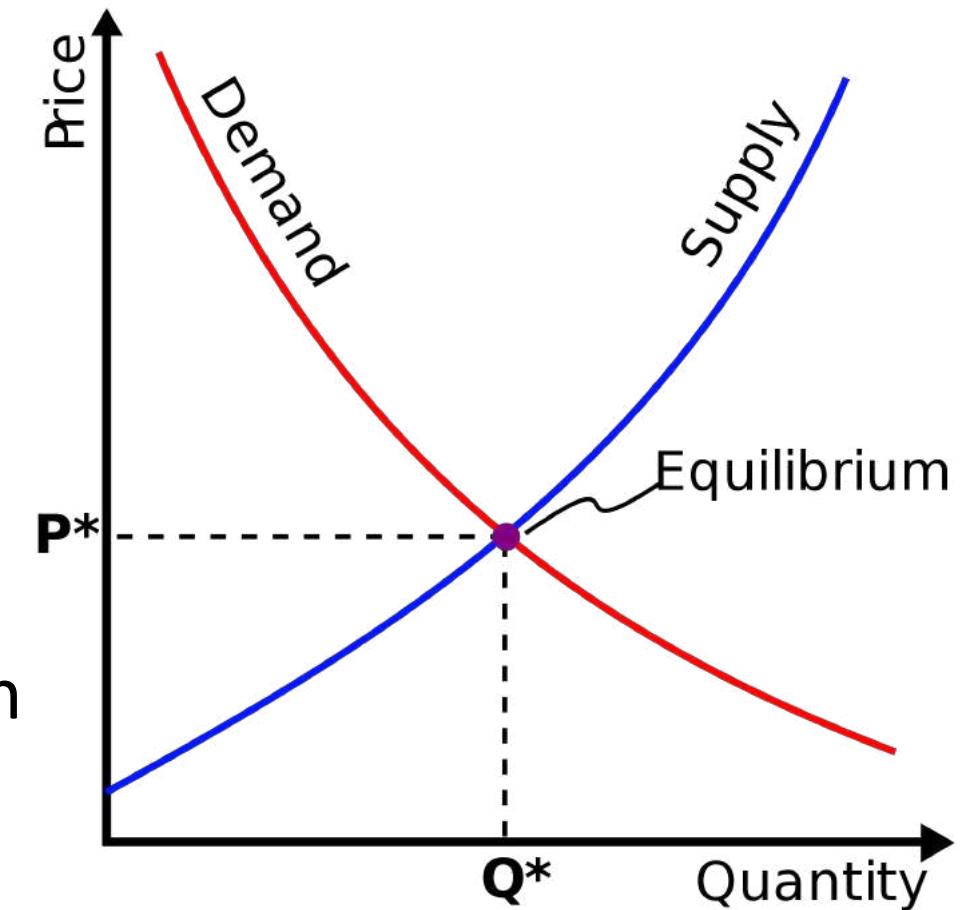
Session 3.4

Traditional view in economics

The traditional model of entrepreneurship draws largely on economic thinking

Entrepreneurs search for areas where the demand for a product/service exceeds supply

After deciding to exploit an opportunity, an entrepreneur seeks resources



Assembling resources - RBV



Resources and competitive advantage

Amalgams, new combinations of heterogeneous resources to obtain competitive advantage

Financial, knowledge, legal, human, relational... Tangible and intangible

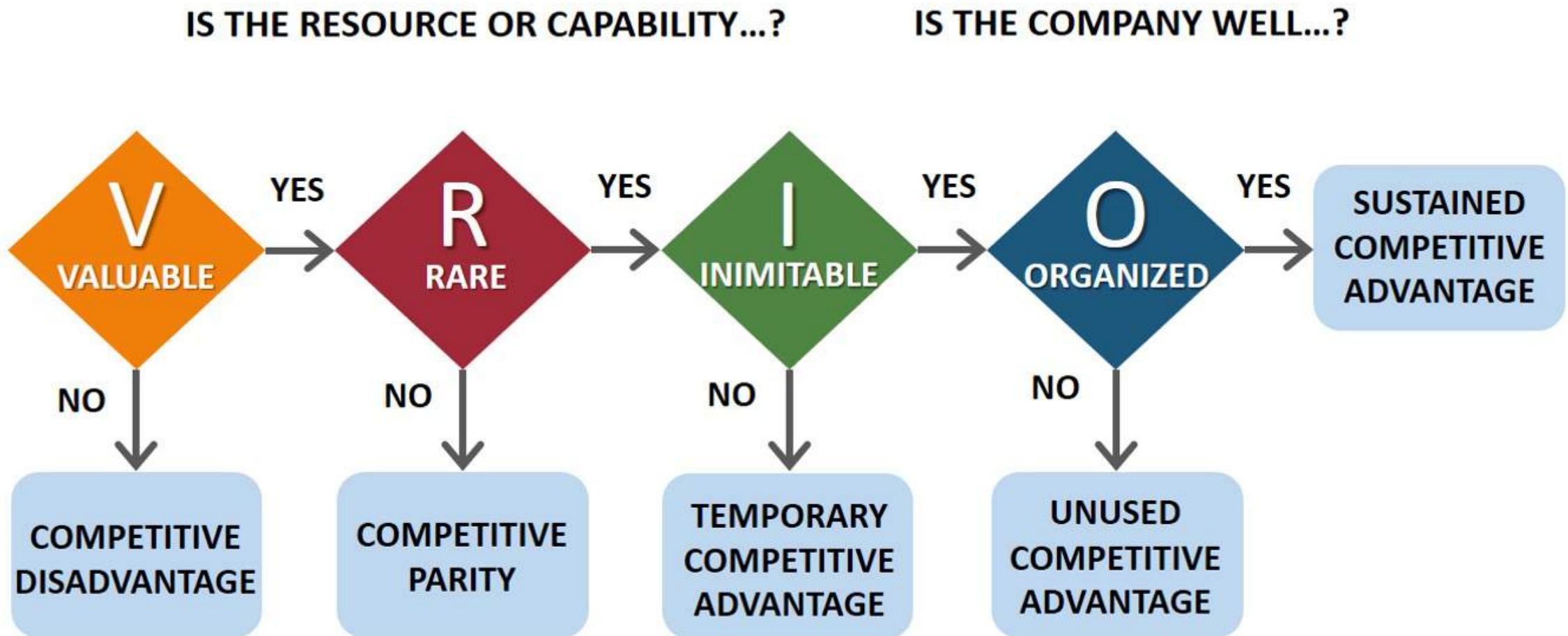
Unique, firm specific competencies to outperform competitors



Edith Penrose

VRIO

(Barney, 1991)



Valuable

- Which activities increase product or service differentiation and perceived customer value?
- Which activities lower the cost of production without decreasing perceived customer value?
- Do you have special relationship with your suppliers? Such as tightly integrated order and distribution system powered by unique software?
- Do you have employees with unique skills and capabilities?
- Do you have brand reputation for quality, innovation, customer service?

Rare

- How many other companies own a resource or can perform capability in the same way in your industry?
- Can a resource be easily bought in the market by rivals?
- Can competitors obtain the resource or capability in the near future?
- Do you have access to scarce raw materials or hard to get in distribution channels?

...

Inimitable

- Do other companies can easily duplicate a resource?
- Can competitors easily develop a substitute resource?
- Do patents protect it? Or an industrial secret?
- Is it hard to identify the particular processes, tasks, or other factors that form the resource?

...

Organized

- Are there excellent management and systems to exploit the resource or capability?
- Are there effective motivation and reward systems in place?
- Does your company's culture reward innovative ideas?
- Is an organizational structure designed to use a resource?

...

Causation vs effectuation

(Sarasvathy, 2001)

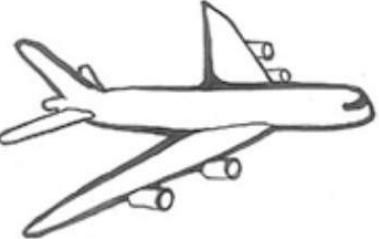
Causation: entrepreneurs start from a predetermined goal and then select means to achieve the goal

Effectuation: entrepreneurs identify the next, best step by assessing the resources available. Goals are framed and reframed based on resources and actions



Saras Saravathy

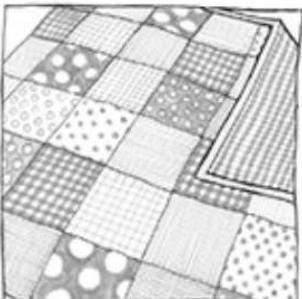
Effectuation principles



The fundamental idea is “Pilot-in-the-plane”: the future as something you can influence by your actions, i.e. you can create your own opportunities.



- *Bird-in-Hand*: You have to create solutions with the resources available here and now.



- *Crazy Quilt*: Entering into new partnerships can bring the project new funds and new directions.

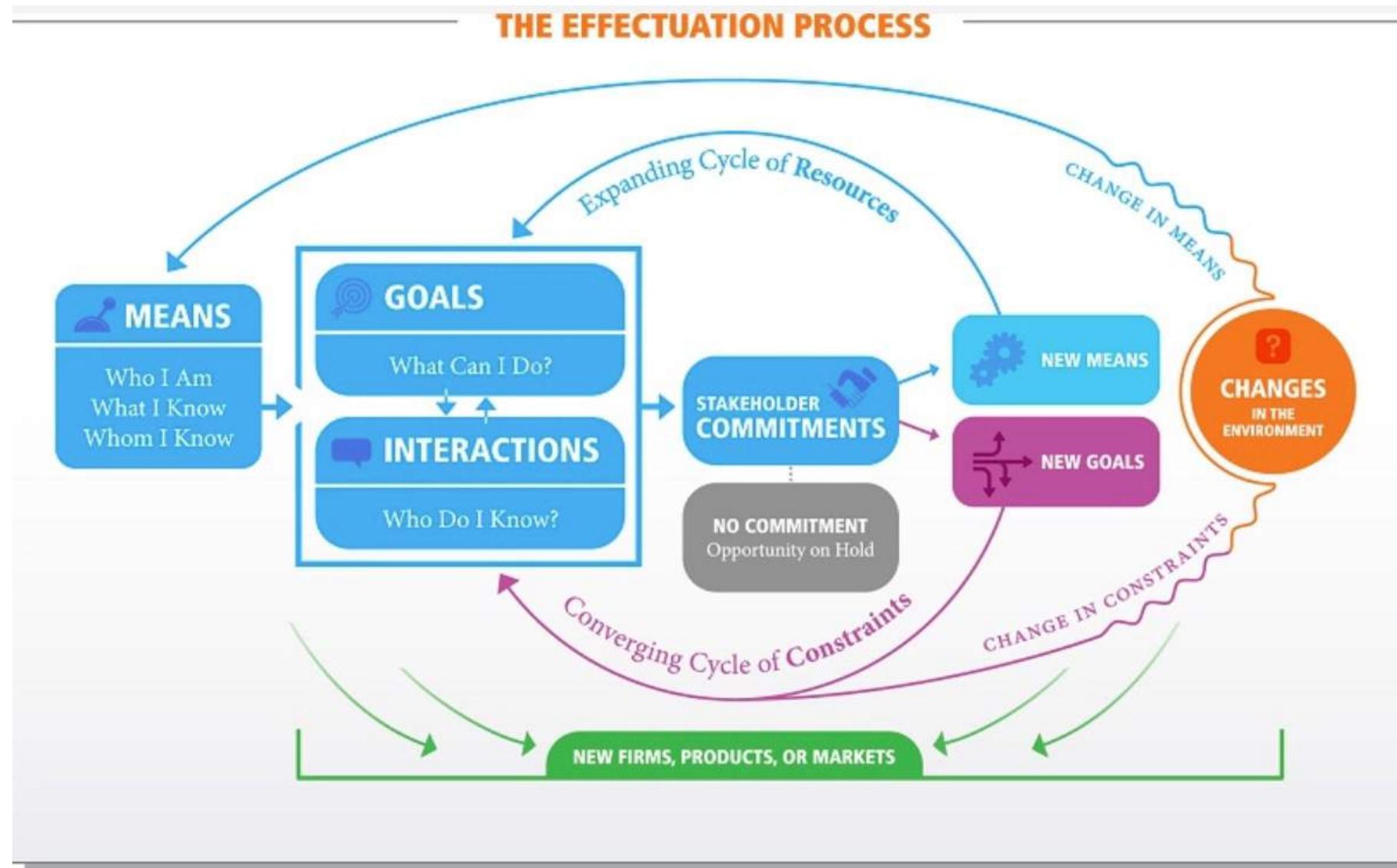


- *Lemonade principle*: Mistakes and surprises are inevitable and can be used to look for new opportunities.



- *Affordable loss*: You should only invest as much as you are willing to lose.

Effectuation process



Bricolage – the art of “making do”

(Baker and Nelson, 2005)

From Levi-Strauss: making do
with what is at hand

Resource-constrained
environments

Recombining elements at hand
for new purposes (some that
challenged institutional
definitions and limits)



Source: Vik Muniz – Wasteland

Similarities - Effectuation and Bricolage

1. Focus primarily on the resources they have on hand and ignore market needs in uncovering an opportunity
2. Ignore long-run returns and focus primarily on what they are willing to lose in making decisions about whether to pursue an opportunity
3. Refuse to enact the resource limitations dictated by the environment
4. Eschew long-range goals and plans

In perspective

1. Causation⁴

What factors are part of the explanation?

- Causation:
- Outcome is given
- Select between means to achieve that outcome by:
 1. Starting with ends
 2. Analyzing expected return
 3. Doing competitive analysis
 4. Controlling the future

How are the factors identified related to outcomes of interest?

- Causation processes = identifying and exploiting opportunities in existing markets with lower levels of uncertainty.
- Later entrants into an industry >> causation processes

2. Effectuation⁵

- Effectuation:
- Set of means are given
- Select between possible effects that can be created with those means by:
 1. Starting with means
 2. Applying the affordable loss principle
 3. Establishing and leveraging strategic relationships
 4. Leveraging contingencies

- Effectuation processes = identifying and exploiting opportunities in new markets with high levels of uncertainty.
- Successful early entrants into a new industry >> effectuation processes
- Effectual firms >> fail early and cheap

3. Entrepreneurial bricolage⁶

Entrepreneurial bricolage:

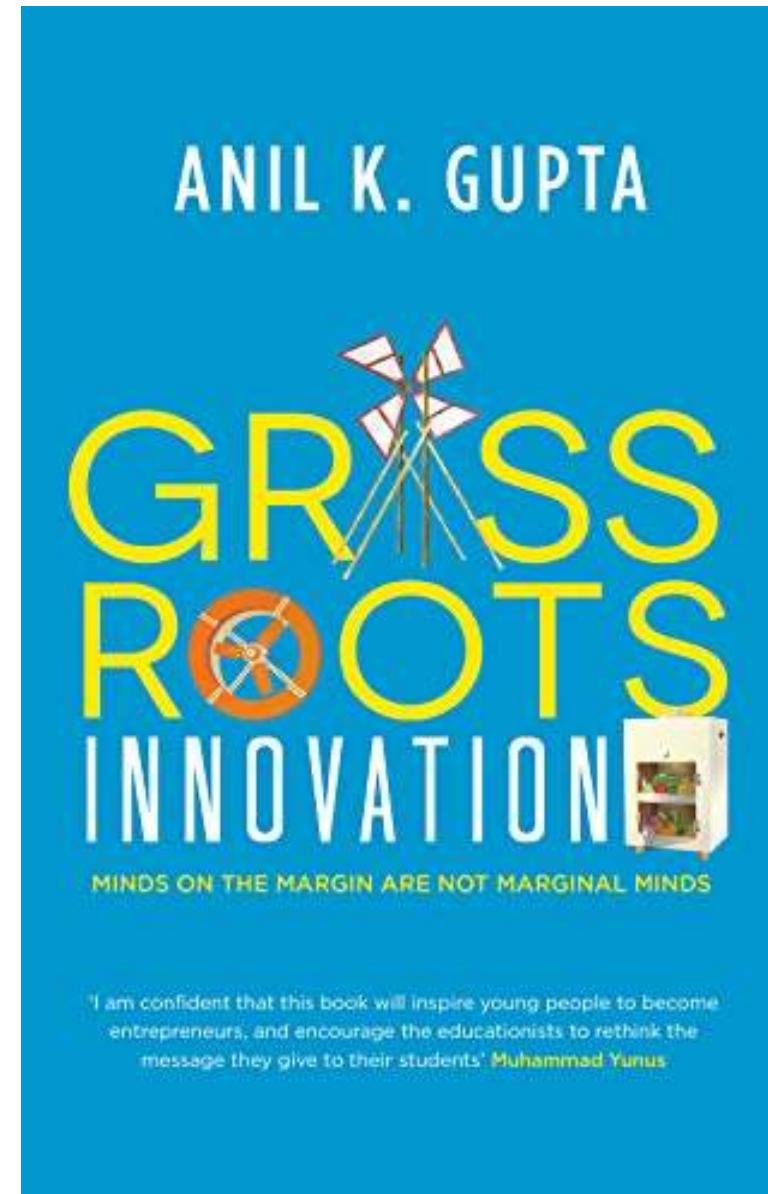
- Make do with what is at hand
- Create something from nothing by:
 1. Making do
 2. Combining resources for new purposes
 3. Using resources at hand

Entrepreneurs in penurious environment = option to seek resources; ignore the opportunity to engage in bricolage.

- Bricolage in multiple domains >> reinforcing patterns = stalled growth.
- Bricolage in selective domains >> efficient routines = growth.

Grassroots entrepreneurs

- Low-income as “low-resource”?
- “Potentialities”, instead of what “lacks”
- Searching for inventors (the “oddballs”), helping to turn them into innovators
- They may start from problems or from local resources, but they use ingenuity to repurpose and create



Grassroots – a few examples

Saidullah's Amphibious Bicycle



Grassroots – a few examples

Remya Jose's Washing Machine





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Reflection

Did your projects start from a new way of assembling resources? Or from a market need?

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2. Barney, J. B. (1995). Looking Inside for Competitive Advantage. Academy of Management Executive, Vol. 9, Issue 4, pp. 49-61
3. Rothaermel, F. T. (2012). Strategic Management: Concepts and Cases. It's a book
4. Saravasthy (2001). [Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency](#)
5. Fisher (2012) [Effectuation, Causation and Bricolage: A Behavioral Comparison of Emerging Theories in Entrepreneurship Research.](#)

You may also want to read [this document](#), which elaborates further on VRIO.

REFERENCES, p.2

6. Kor and Mahoney (1959). [Edith Penrose's \(1959\) Contributions to the Resource-based View of Strategic Management.](#)
7. Baker and Nelson (2005). [Creating Something from Nothing: Resource Construction through Entrepreneurial Bricolage.](#)
8. Gupta (2016). Grassroots Innovations: Minds on the Margin are not Marginal Minds. It's a book, but you may want to watch Anil Gupta's TED talk instead.



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Building a Strategy (focus on lean and creative)

Session 3.5

IDEO and the shopping cart



- **Enlightened trial-and-error**
- **Experimentation, Prototyping, piloting**

Design Thinking – What's New?

1999



Today



Cup holders



Self scan



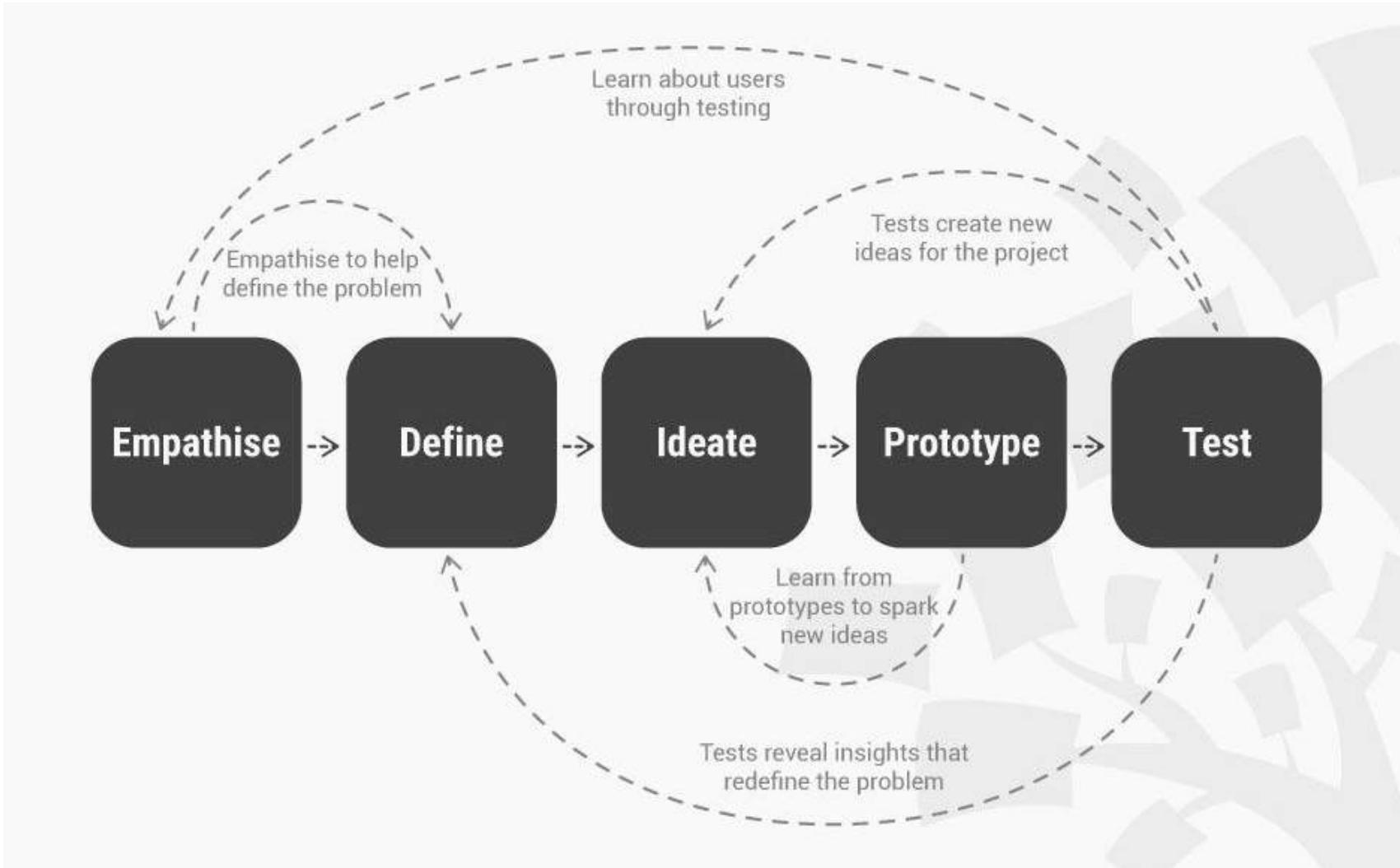
Stacking baskets



Child friendly

Design Thinking

Brown, 2009

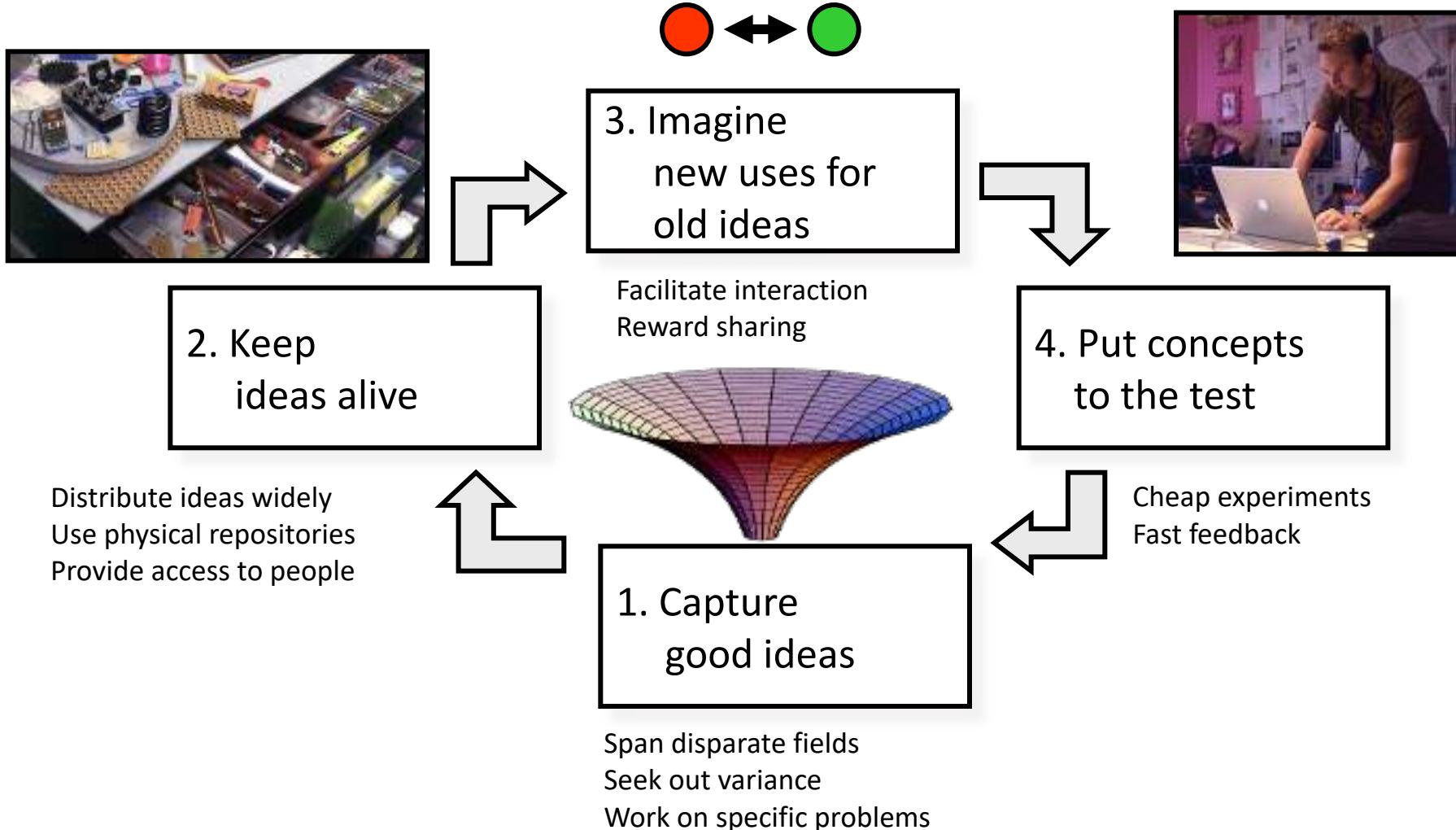


INTERACTION DESIGN
FOUNDATION

INTERACTION-DESIGN.ORG

Knowledge Brokering

(Hargadon & Sutton 2000)



Culture and organisation

Team culture

- ‘Failure’ expected, valued as shared learning
- Simple rules
- “No policy” policy
- Many ideas; sharing and respect

How do they organise themselves?

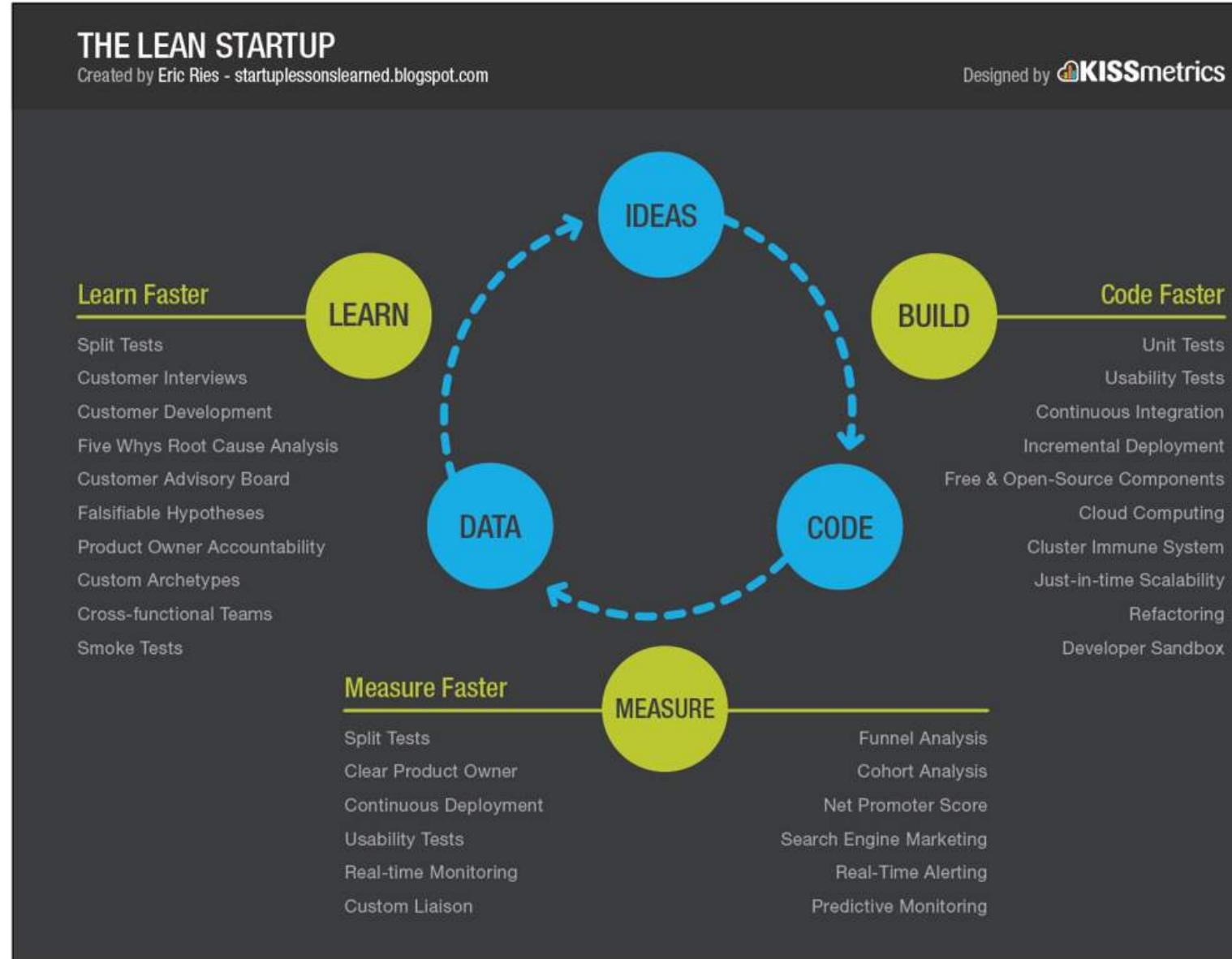
- Small units
- Flat hierarchy
- Diverse teams, and expertise
- Workplace design to promote teamwork
- In-house prototyping



The Lean Startup

(Ries, 2011)

- Entrepreneurs are everywhere
 - Entrepreneurship is management
 - Validated learning
 - Innovation Accounting
 - Build-Measure-Learn



REFERENCES

1. Brown (2009). Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation. It's a book, but you can find many articles about Brown's work (and about IDEO) online.
2. Hargadon and Sutton (2000). [Building an Innovation Factory.](#)
3. Ries (2011). Lean Startup: How Constant Innovation Creates Radically Successful Businesses. It's a book, but you can also find many articles about this idea online.



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Building a Strategy (focus on ambidexterity)

Session 3.6

The Origins

(March, 1991)

EXPLOIT ↔ EXPLORE

- Routine work
- Operational excellence
- Make money now
- New ideas
- Experiment, explore
- Make money later

Amazon's Ambidexterity

(O'Reilly and Tushman, 2016)

Phase 1. 1994–2000

- | | | |
|-----|---------|---|
| #1 | Explore | Internet bookstore |
| #2 | Exploit | Offer reviews to help customers make decisions |
| #3 | Exploit | Establish warehouses to handle increased volume |
| #4 | Exploit | Investment in technology for fulfillment |
| #5 | Exploit | Affiliates program for marketing |
| #6 | Explore | SWAT teams—for music and DVD sales |
| #7 | Exploit | Partner with others to store and ship their products from Amazon warehouses |
| #8 | Exploit | More sophisticated technology for distribution of a broader array of products |
| #9 | Explore | Auctions to compete with eBay |
| #10 | Explore | Investment in dot-coms (e.g., Pets.com) |

Phase 2. 2000–2005

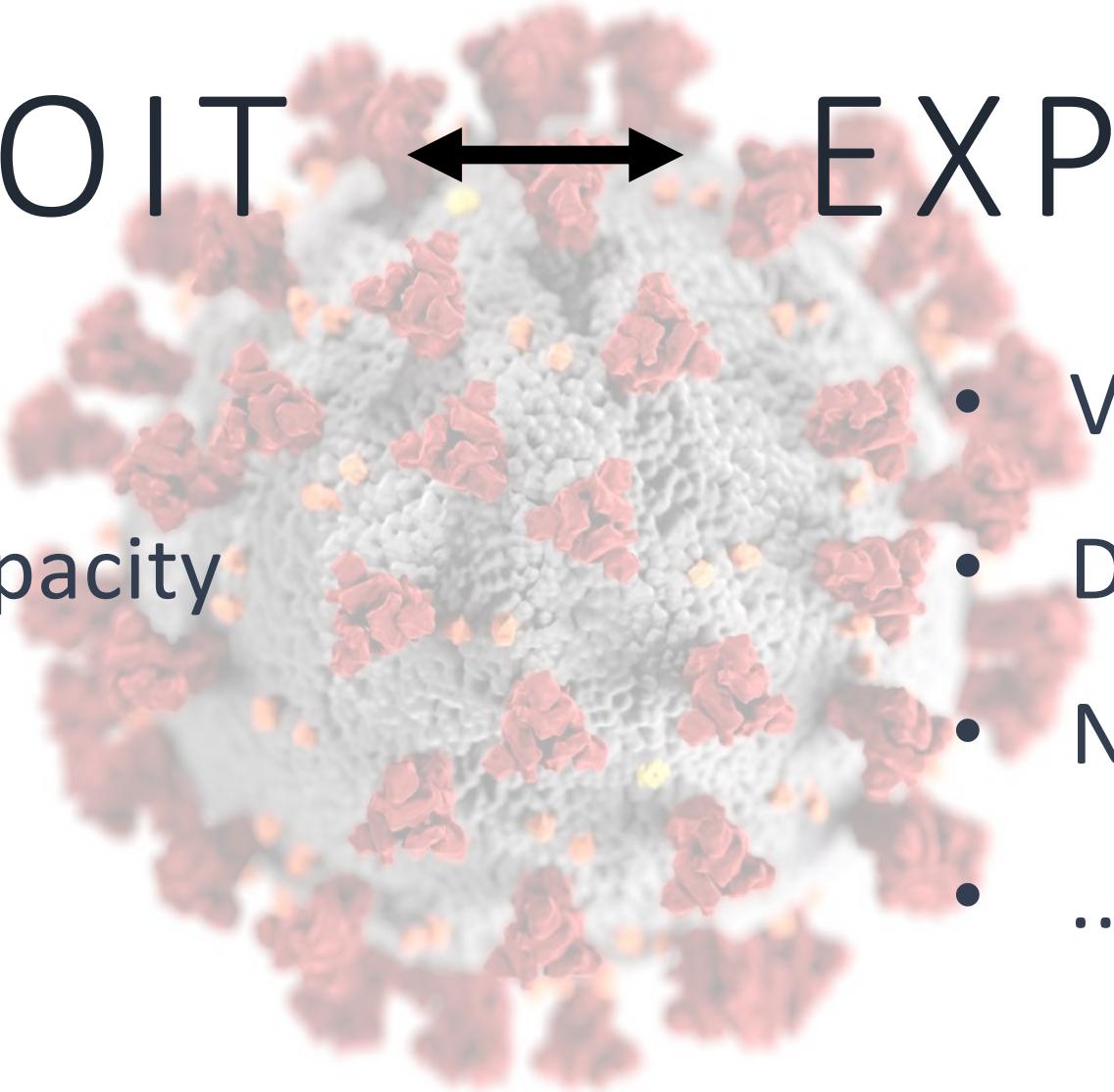
- | | | |
|-----|---------|--|
| #11 | Exploit | Opening the platform for other retailers |
| #12 | Exploit | Decision that fulfillment was a core capability; enhanced fulfillment capability; fulfillment available to other retailers |
| #13 | Explore | Amazon Prime—free shipping to members |

Phase 3. 2005

- | | | |
|-----|---------|---|
| #14 | Explore | Subsidiary A9 in Palo Alto (search engine) |
| #15 | Explore | Advertising service (ClickRiver) |
| #16 | Explore | Crowd sourcing (mTurk) |
| #17 | Explore | Lab126 in Cupertino to develop consumer products |
| #18 | Explore | Video streaming (Amazon Instant Video) |
| #19 | Explore | Developer platform (elastic cloud computing, EC2) |
| #20 | Exploit | Simple Storage Service (S3) |
| #21 | Explore | Cloud computing (Amazon Web Services)—a combination of EC2, S3, and other programming |
| #22 | Exploit | Acquisitions to expand product categories (e.g., Zappos, Diapers.com) |
| #23 | Explore | Movie and video production (Amazon Studios) |
| #24 | Exploit | Mayday—new customer service modality |
| #25 | Explore | Amazon smartphone—the Fire |

Let's think of covid-19

EXPLOIT \longleftrightarrow EXPLORE

- 
- Quarantine
 - Hospital capacity
 - Ventilators
 - ...
 - Vaccines
 - DNA sequencing
 - New drugs?
 - ...

Exploit vs Explore with Malaria

- Malaria is a life-threatening disease, transmitted to people through the bites of mosquitoes
- In 2018, there were an estimated 228 million cases of malaria worldwide.
- The estimated number of malaria deaths stood at 405 000 in 2018.

Role Playing



You're now in the
c-suite at the
Gates Foundation!

Your 1st task is
to allocate a u\$300
million budget to
fight malaria

How would you invest (and justify the investments)?

EXPLOIT

E.g.

Bed nets?

Medicines

Health clinics

...

EXPLORE

E.g.

Vaccines

DNA sequencing

New drugs?

...

REFERENCES

1. March (1991). [Exploration and Exploitation in Organizational Learning.](#)
2. O'Reilly and Tushman (2016). Lead and Disrupt: How to Solve the Innovator's Dilemma. It's a book.
3. O'Reilly and Tushman (2004). The Ambidextrous Organization.
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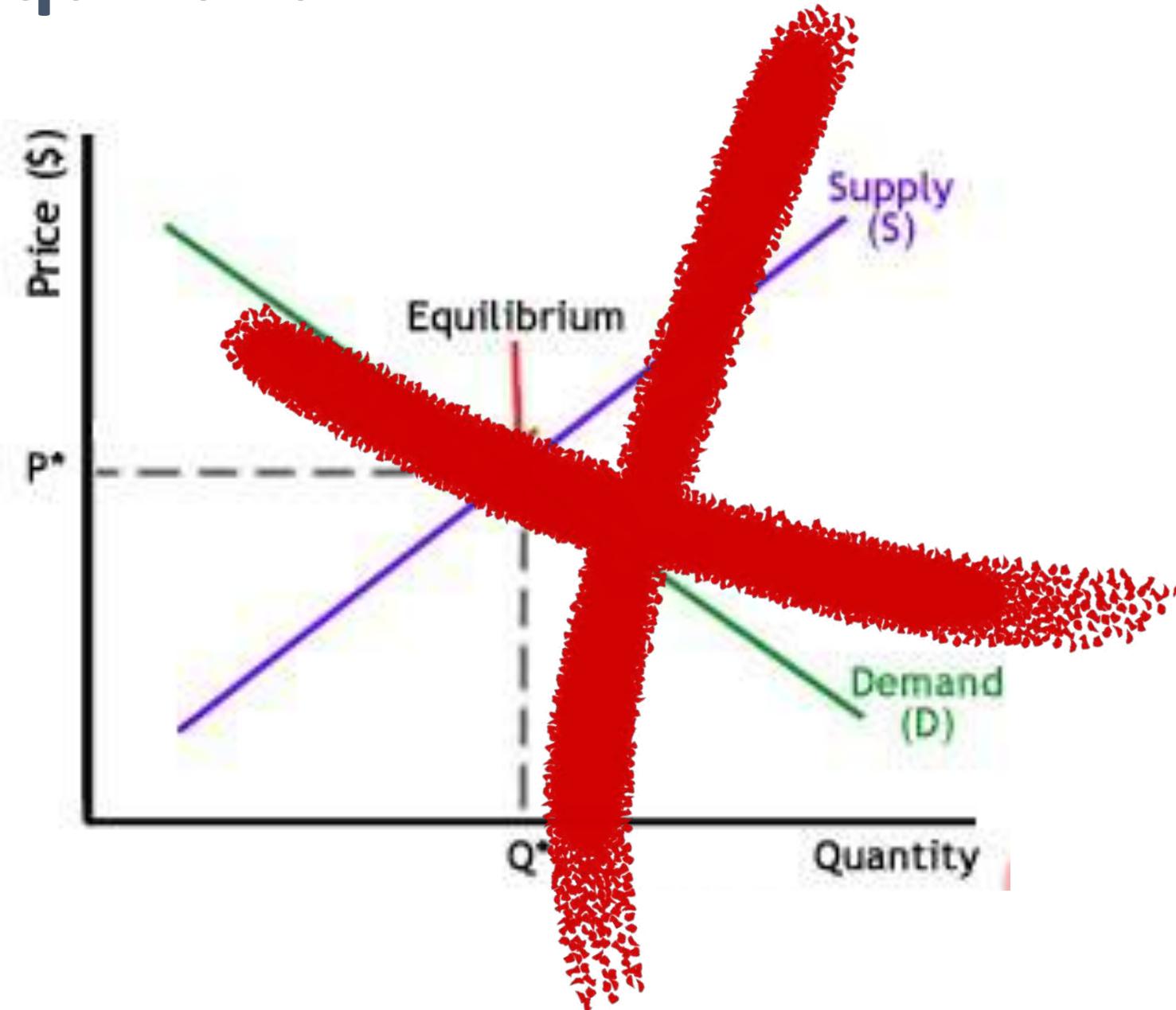


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Understanding markets

Session 4

No equilibrium

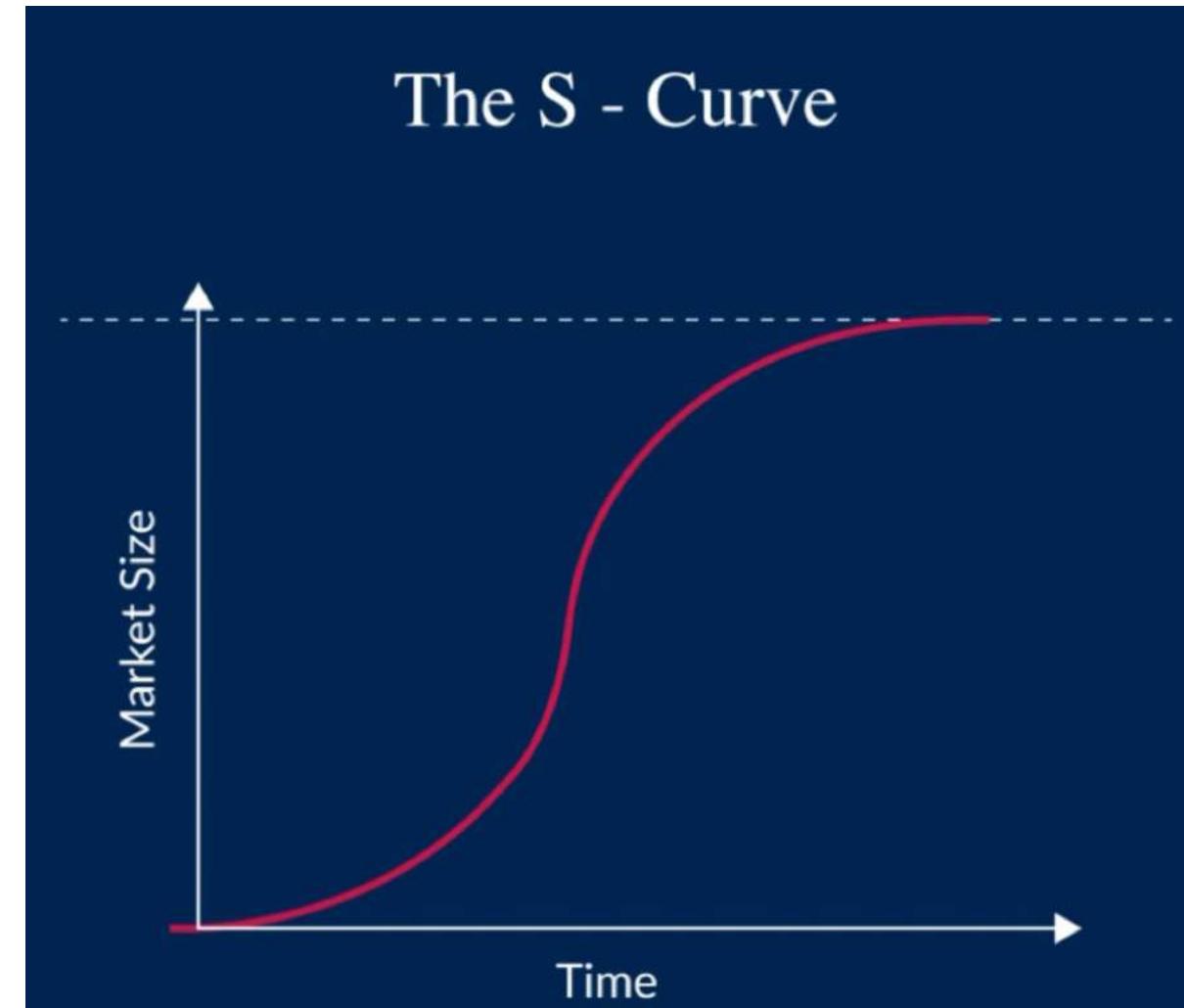


Market size, in three moments

In the beginning, it's more exploratory. Hopeful monstrosities attract only first movers. Lots of start-ups disputing for new markets.

Followed by high growth phase. Proof-of-concept, reached mainstream customers. New entrants try to get a slice of the promising market.

Lastly, a period of consolidation. People know how to use and expect. A few companies established themselves as the winners.



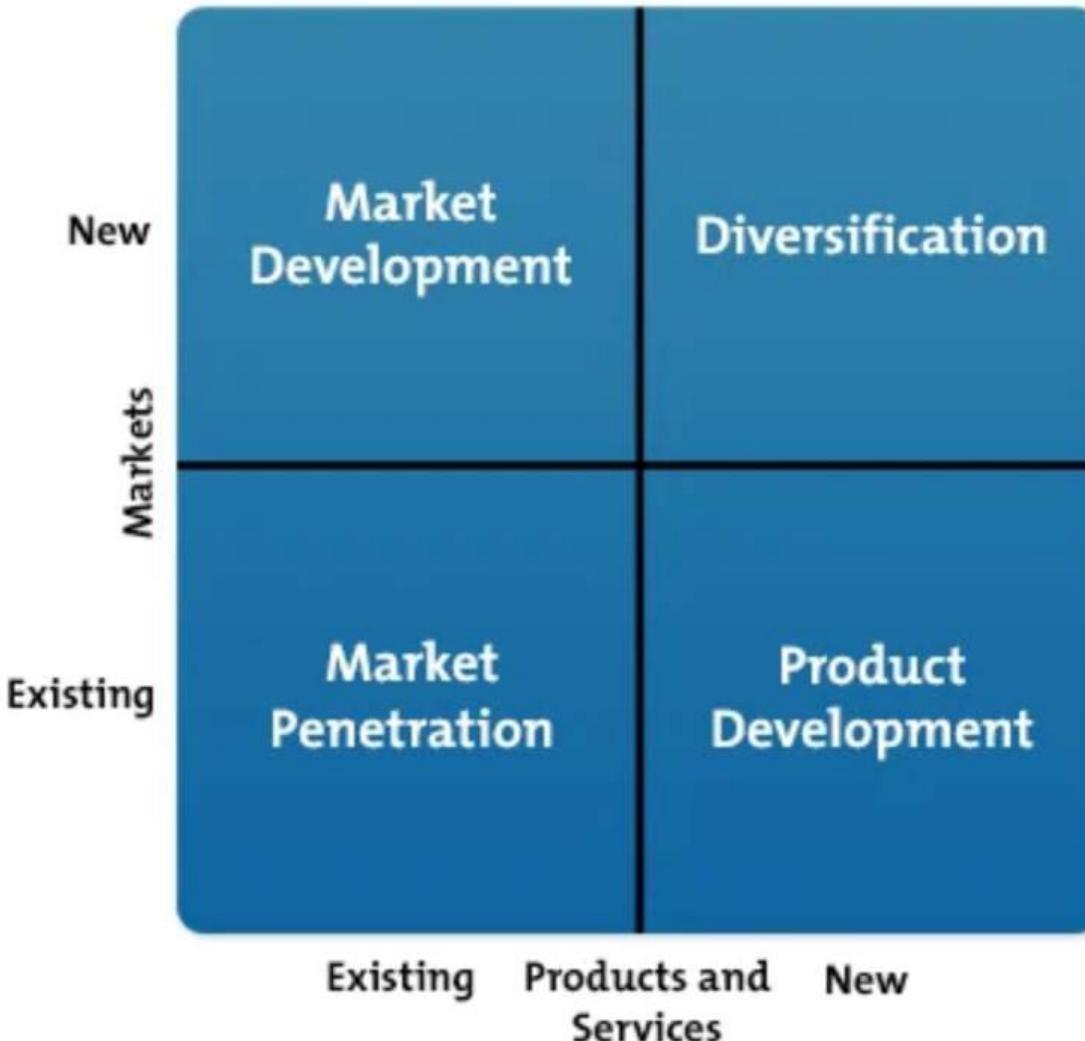
What is your market?

- What is your market?
- How big is it?
- How much is it growing (or can it grow)?



Ansoff's matrix

Figure 1: The Ansoff Matrix



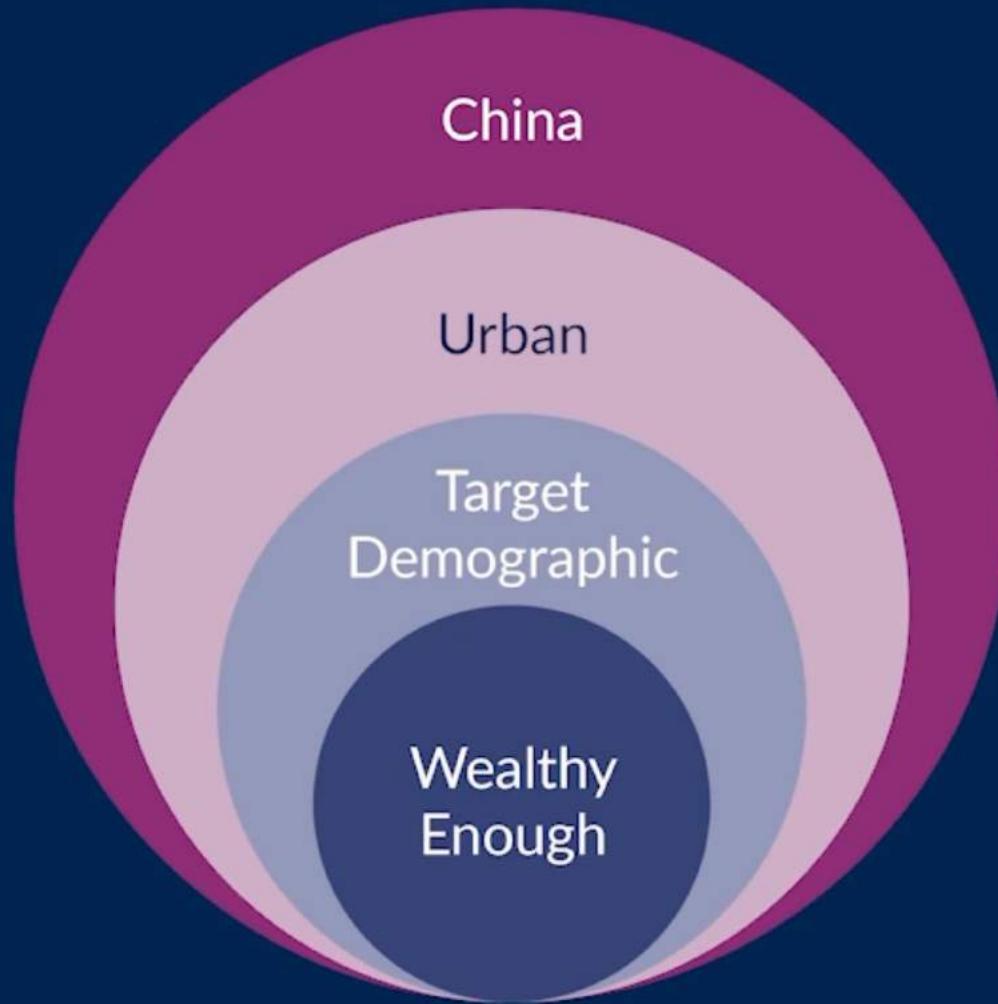
Target market

TAM SAM SOM

- Total available market
- Serviceable available market
- Serviceable obtainable market
- It goes from the total market to the market that you can ACTUALLY target
- The most common metric for market size is in relation to total revenues. It's more comparable.

Segmenting a market

Example of Market Segmentation



Market segments

Thinking of segments

- Business to Business or Business to Customer?
- Geography?
- Age?
- Small, medium or large?
- Gender?
- ...

Subjective (but important) criteria

- Willingness of customers to experiment with something new?
- How important is price?
- How much do customers value after sale services?
- How much more would a customer pay for a better service?

Let's fill this table?

	STRENGTHS	WEAKNESSES	WHEN TO USE EACH?
Secondary market research			
Interviews			
Surveys			
Observational methods			

How to ask questions?

The Mom Test



REFERENCES

1. Ansoff (1957). [Strategies for diversification.](#)
2. There are many handbooks on market research. You may want to get one of those ☺



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BUSINESS PLAN

(Channels, revenues, activities, finance and teams)

Session 5

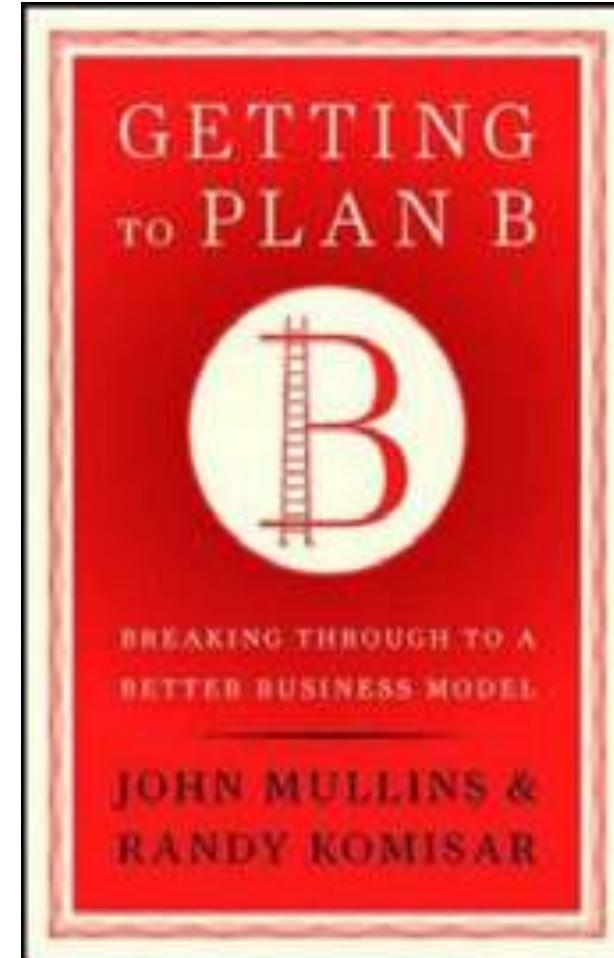
Don't stick to the plan!

“No plan ever survives its first encounter with the enemy.”

Douglas MacArthur

Limitations turn into opportunity

Peter Knight



Commitment to Plan A

If the founders of Google, Starbucks, or PayPal had stuck to their original business plans, we'd likely never have heard of them

Instead, they made radical changes to their initial models, became household names, and delivered huge returns for their founders and investors

How did they get from their Plan A to a business model that worked? Why did they succeed when most new ventures crash and burn?

Problems with business plans



Most business plans assume that most everything is already known up front.

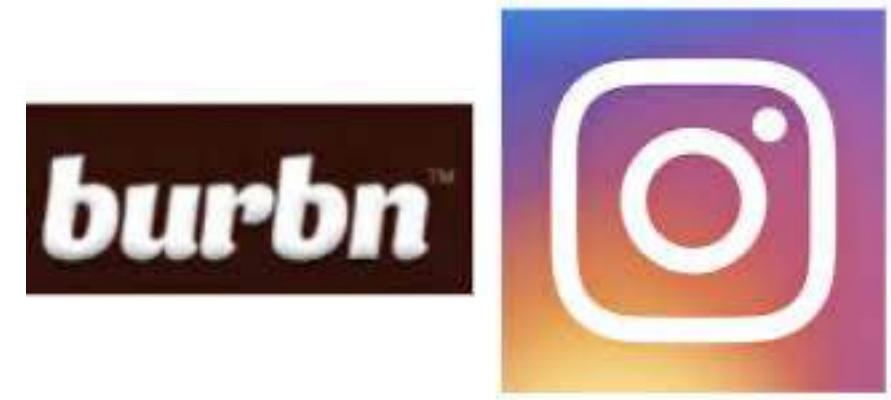
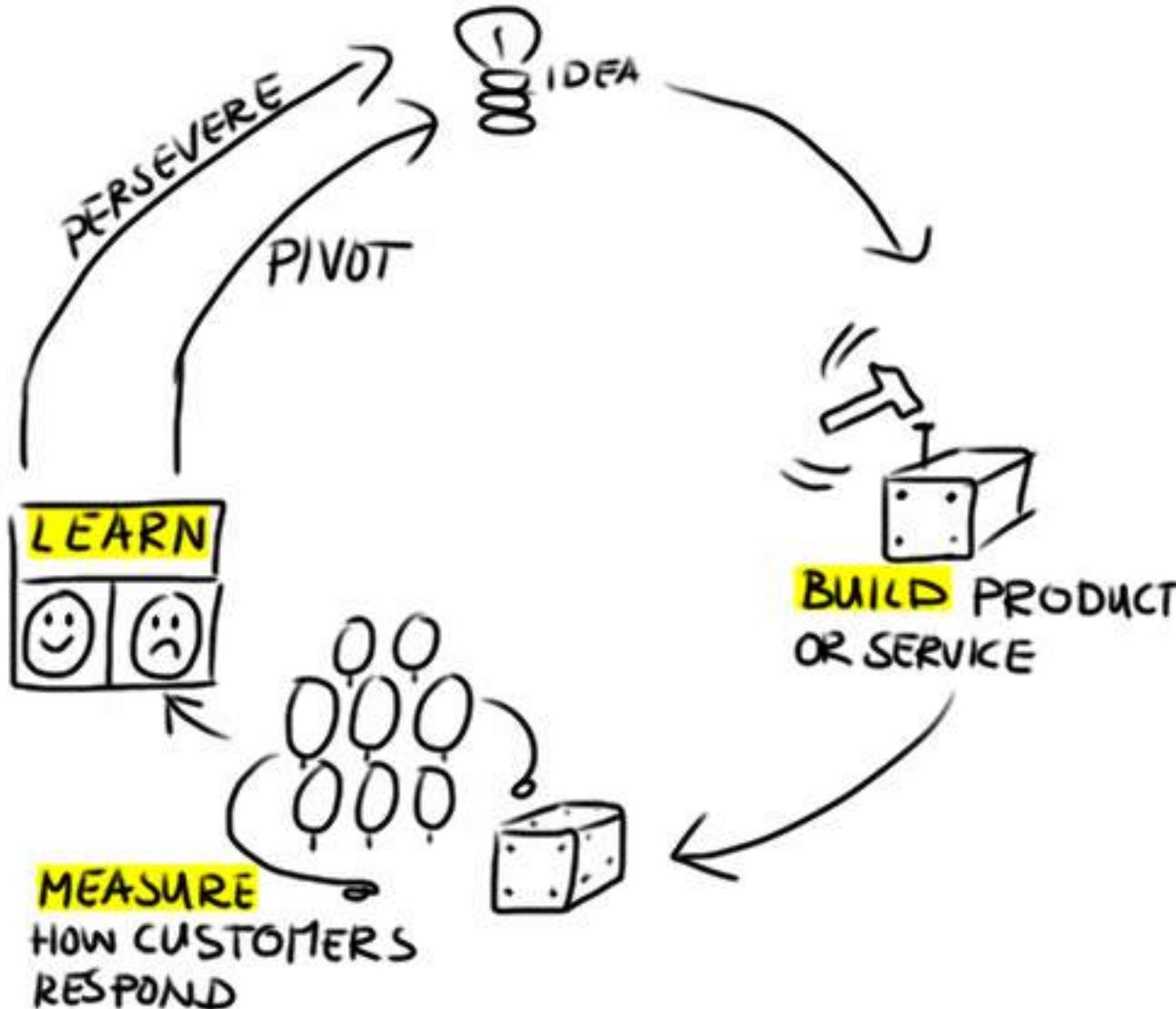


Most often, what ultimately works is not the Plan A that was so persuasively articulated in the original plan. Instead, it's Plan B.



Plan B process designed for learning and discovering, rather than for pitching and selling...

The importance of pivoting

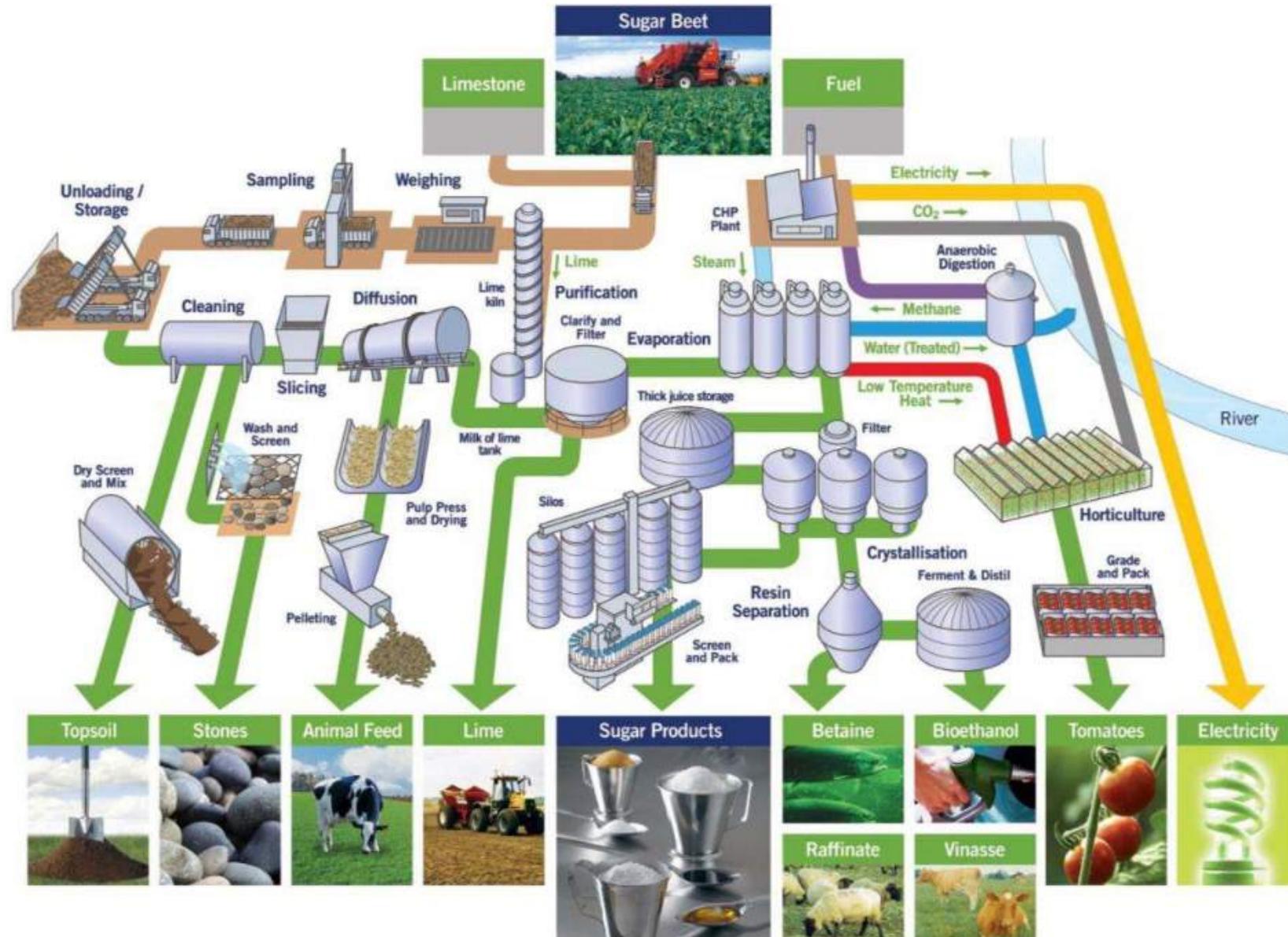


- Strip off the “accidental complexity”
- Focus on basic functions

That said... let's look at revenue models

- Who benefits? Who pays (where could money come from)?
- Start from the segmentation of the market. Where is the buying power, who's willing to pay?
- Don't limit yourself to one revenue model; it's often a mix. Focus on complementarities
- Bundles? Can you decompose your revenue models? Hardware, software, and warranty: can you sell them separately?

Missed opportunities for revenue?



Now, let's look at activities

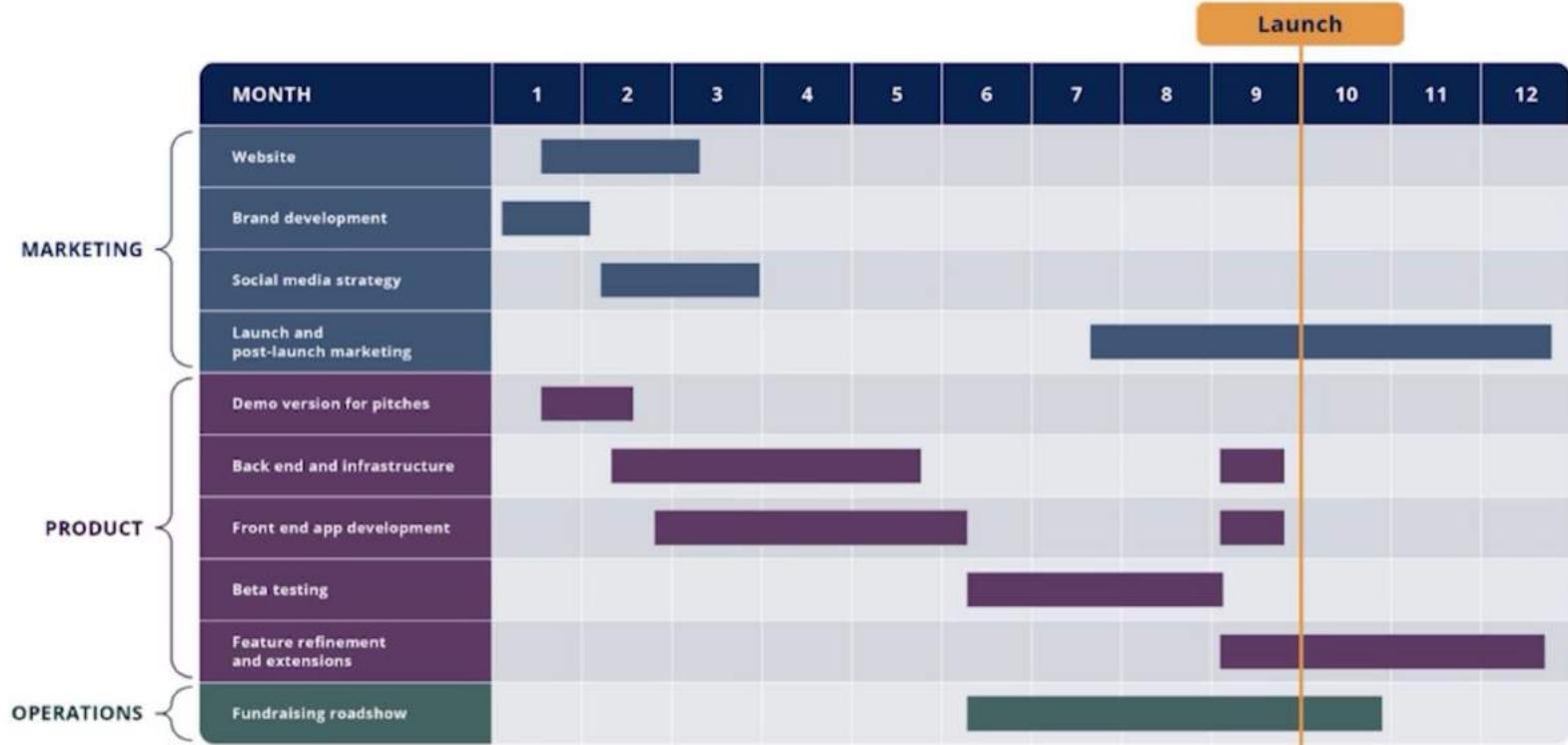
- What do I do? What do I expect others to do?
- What do I own? What do others own? What assets do I have to own in order to not be “taken advantage of” by others?
- How are my activities located within a broader value chain?
- In other words, what are the boundaries of my company?
- What are the core activities? What is superfluous?

Make or buy?



Planning your activities

- Gantt charts depict a stepwise process, helps seeing how activities are connected
- It's ok to focus on the short term, 1-2 years. And naturally, revisit it often!
- Everyone knows that startups can never plan much ahead



Channels

How will you deliver/exchange value?



uber



AVON

Finances

How attractive is this business?

How much money does the venture need?



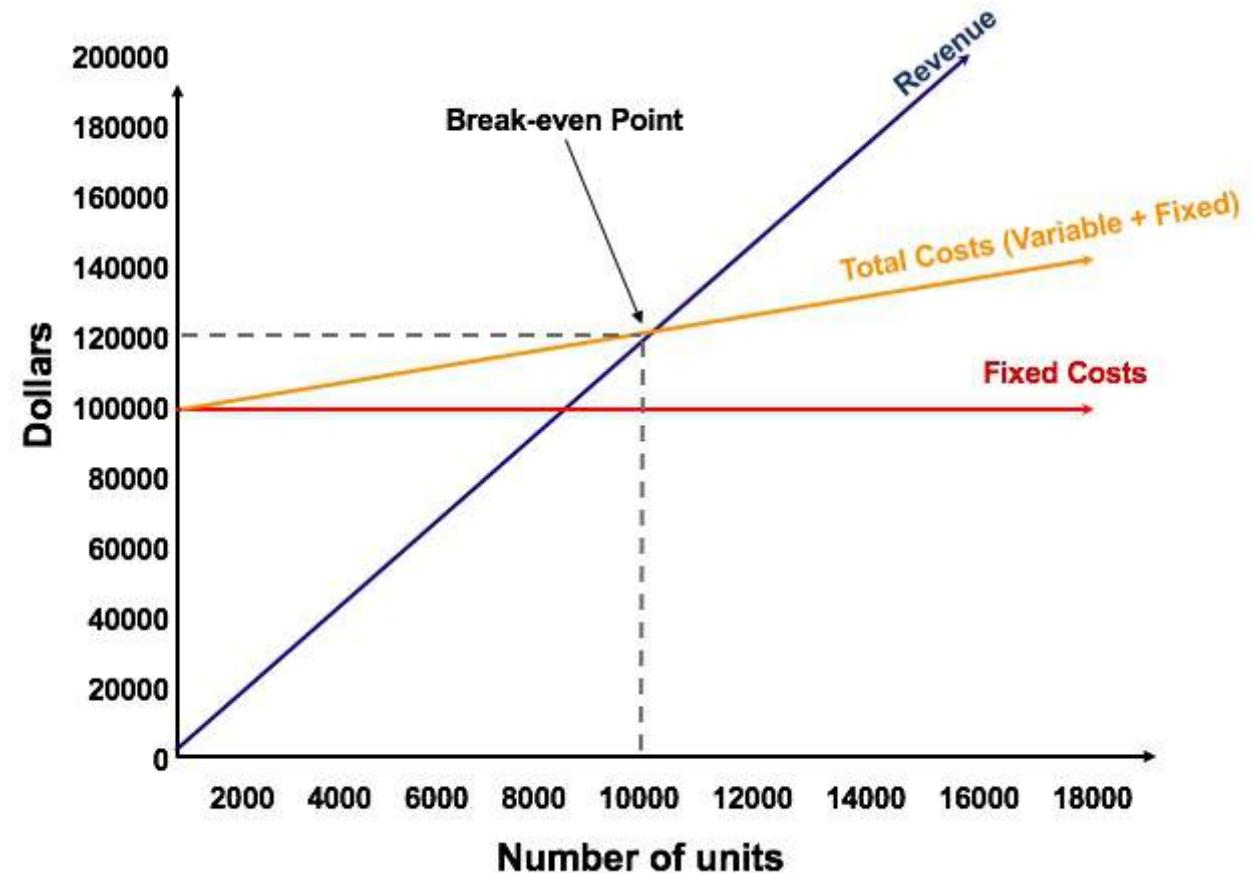
You have to prepare this before asking for money!
For that, you would have to make a financial projections and think of
how to build (and present) your team

Financial projection

- A projection is a fantasy, it never turns out how they were written down. But that's ok. They aren't meant to predict the future!
- They need to answer the two questions in the previous slide (how attractive and how much money)
- As you build your business plan, your financial projections will be a mirror of the plan. What you're saying with ppt has to be the same you say in an excel.

Break-even

- You may want to show a “break even point”
- You may also want to create an “exit strategy” depending on possible/predicted outcomes



Assumptions and techniques

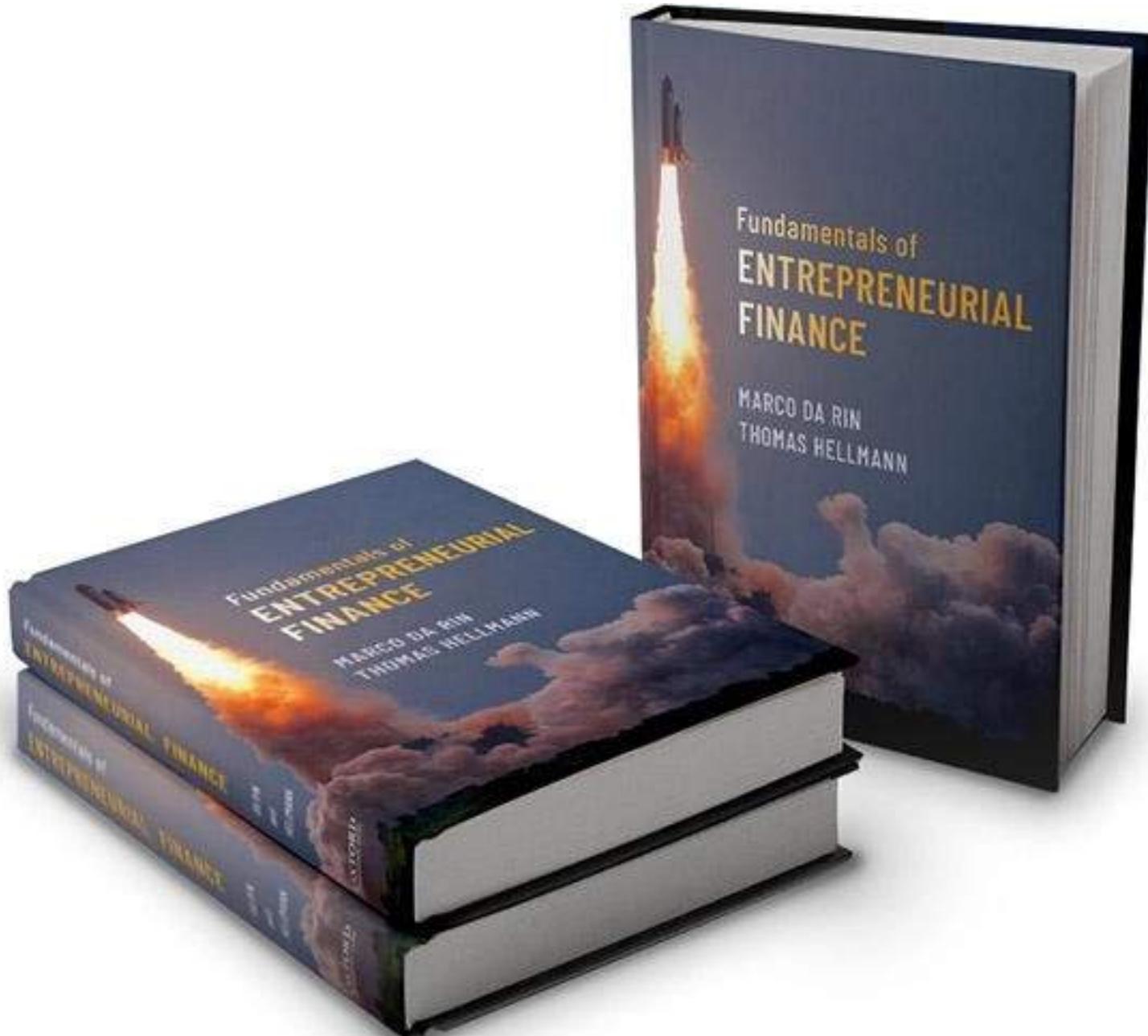
- What are the assumptions? The prediction is built on assumptions about the price, the market, sales, expenses, etc. TELL THEM!
- How much money will you need during the whole start-up period? How much money do you need now? It's normally the case of asking for money to reach “the next step”, before you go into a next round of investment. Show the milestones.
- The techniques aren't too difficult. The difficult bit is to build an interesting, promising business plan.

Different assumptions, different projections

- You're always going to be wrong. It's a frame of reference for the current state and plan of the business, but plans are often changing (and investors know that)
- Investors will often ask you about the assumptions: why did you assume X revenues and Y costs?
- Investors will often say "this is too ambitious" or "this is not ambitious enough". You may create an optimistic projection, a moderate, and a pessimistic



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VIDEO BY THOMAS HELLMAN ON “PRESENTING FINANCIAL PROJECTIONS” (7:21MIN)

Teams

- Often, when going for investments, people focus too much on ~~showing off~~ their CVs
- That's boring an unexciting, a lot of people with good CVs are trying to fundraise
- Show how you have a complementary, coherent team, mobilized around the company's mission/vision



shutterstock.com • 37102528

Teams

- How you complement each other
 - no one expects a person to be solely responsible for entrepreneurial success, remember? It's teamwork.
- You may also want to indicate the leadership. Not as the “boss”, but as who's steering the boat



New hires

- You also have to show the “holes”. Who do you need to hire or bring on board?
- It's better if you tell the holes, instead of hiding it... the investors will notice.



Board of advisors

- Board of advisors: great, specially in early stages and for unexperienced entrepreneurs.
- It signals to the outside world that impressive people trust them and give them advice. That could be investors, scientists, etc. But they should be legitimate ones, people who can contribute, don't only go for reputation.



Board of directors

- Board of directors – who controls what?
Start-ups are often founder-controlled. A funder may join a board as an observer...
- In later stages, when funders hold more shares of the company, they may require more control of the company
- Needless to say: hire a lawyer to help with board issues, particularly as the company grows!



Leadership may change...

- The ones who found companies may be ill-suited for the corner office when the company reaches maturity
- And, sometimes, as it grows, the company needs “adult supervision”

Why?



Travis Kalanick, co-founder and former CEO - Uber

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3. Short et al (2014). [From Refining Sugar to Growing Tomatoes.](#)
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Innovation management

Session 6

A World in Motion

Chart of the Week

THE DECADE OF DISRUPTION

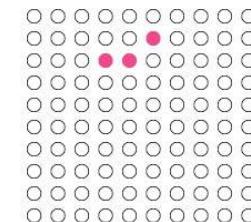
Many of the companies on the Fortune Global 100 list weren't there a decade ago

TOP 100 GLOBAL CORPORATIONS BASED ON REVENUE (2018)



2008

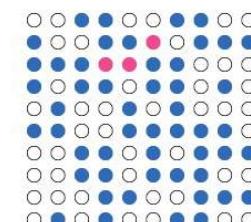
WHAT CHANGED, AND WHAT DIDN'T



THE RISE OF CHINA

A decade ago, there were only three Chinese companies in the top 100. Now, there are 21, with many more showing strong growth trends.

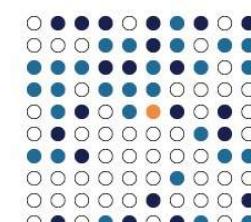
CHINESE COMPANY



DISPLACING EUROPE

The rapid growth of Chinese companies has carved into Europe's share of the top 100.

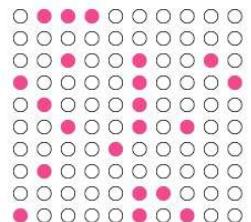
CHINESE COMPANY
EUROPEAN COMPANY



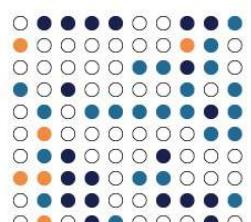
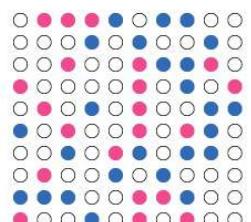
CODE, CARBON, AND CAPITAL

The number of energy and financial companies dropped from 49 to 43. Only a handful of tech companies have cracked the top 100.

TECHNOLOGY COMPANY
ENERGY COMPANY | **FINANCE COMPANY**



2018



SOURCE: Fortune Global 500 List (2018)

visualcapitalist.com



Source: Fortune

What happened to the incumbents?

Only These 60 Companies Were in the Fortune 500 in Both 1955 and 2017

3M	Dow Chemical	Marathon Oil
Abbott Laboratories	DuPont	McGraw Hill (now S&P Global)
Alcoa	ExxonMobil	Merck
Archer Daniels Midland	Freeport-McMoRan	Monsanto
Ashland	General Electric	Navistar
Avon Products	General Dynamics	NCR
Boeing	General Mills	Northrop Grumman
BorgWarner	General Motors	Owens Corning
Bristol-Myers Squibb	Goodyear Tire and Rubber	Owens-Illinois
Campbell Soup	Hershey	PepsiCo
Caterpillar	Honeywell International	Pfizer
CBS	Hormel Foods	Procter and Gamble
Celanese	IBM	Raytheon
Chevron	International Paper	Rockwell Automation
Coca-Cola	Johnson and Johnson	Sealed Air
Colgate-Palmolive	Kellogg	Textron
ConocoPhillips	Kimberly-Clark	United States Steel
Crown Holdings	Kraft Foods	United Technologies
Cummins	Lear	Weyerhaeuser
Deere	Lockheed Martin	Whirlpool

Source: Perry, 2017

Creative destruction

Schumpeter

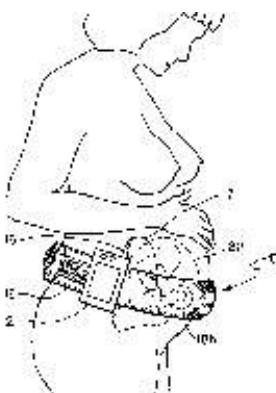
In a very competitive, fast-moving world, the key factor for long-term growth and longevity is innovation



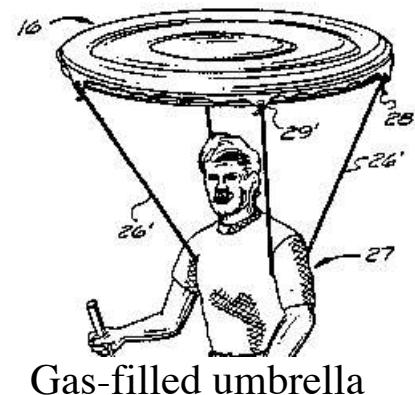
Innovation isn't sporadic, or the result of the originality of a few!

Invention ≠ Innovation

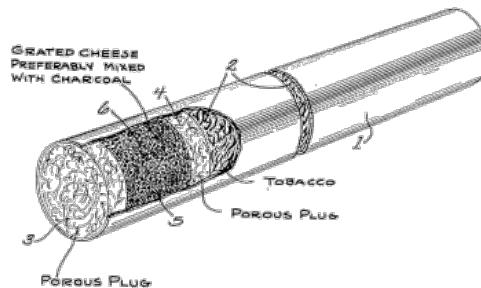
MOST INVENTIONS DON'T TURN INTO INNOVATIONS



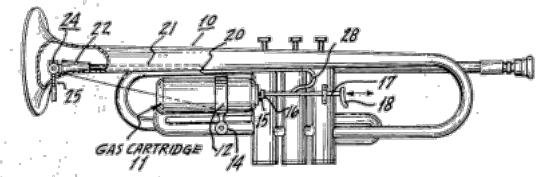
Foetus Walkman



Gas-filled umbrella



Cheese-flavoured cigarette

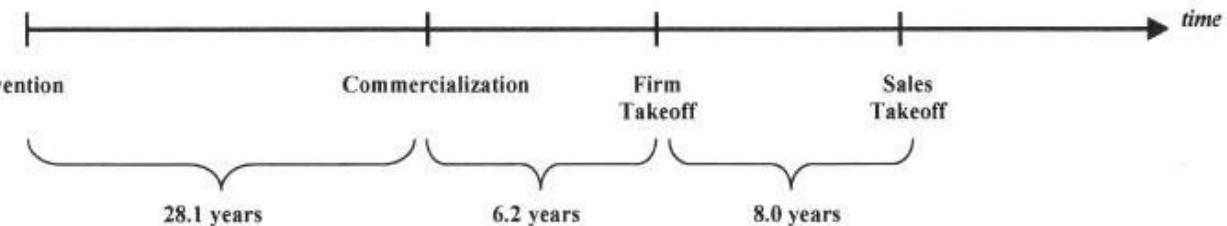


Musical flamethrower

Time to take-off

(Agarwal and Bayus 2002)

Product	"Invention" year	"Commercialization" year	Firm takeoff year	Sales takeoff year
Sewing machine	1830	1849	1853	1859
Automobile	1771	1890	1899	1909
Phonograph record	1877	1897	1917	1919
Vacuum cleaner	1907	1911	1928	1934
Outboard engine	1905	1913	1916	1936
Electric blanket	1914	1915	1923	1952
Dishwasher	1898	1915	1951	1955
Radio	1912	1919	1922	1923
Clothes washer	1901	1921	1923	1933
Freon compressor	1930	1935	1938	1964
Cathode ray tube	1897	1935	1943	1949
Clothes dryer	1930	1935	1946	1950
Electric razor	1928	1937	1938	1943
Styrene	1831	1938	1943	1946
Piezoelectric crystals	1880	1941	1944	1973
Home freezer	1924	1946	1947	1950
Antibiotics	1928	1948	1950	1956
Turbojet engine	1934	1948	1949	1951
Ballpoint pen	1888	1948	1957	1958
Garbage disposer	1929	1949	1953	1955
Magnetic recording tape	1928	1952	1953	1968
Heat pump	1851	1954	1960	1976
Computer printer	1944	1960	1971	1979
Home microwave oven	1947	1970	1974	1976
Monitor	1927	1971	1975	1981
Microcomputer	1962	1974	1977	1982
Home VCR	1951	1974	1975	1980
Compact disc player	1979	1983	1984	1985
Cellular telephone	1970	1983	1985	1986
Optical disc drive	1979	1984	1987	1993



Sales in new markets are initially low because the first commercialized forms of new innovations are primitive.

Then, as new firms enter, actual and perceived product quality improves (and prices possibly drop), which leads to a takeoff in sales.

Intellectual Property Rights

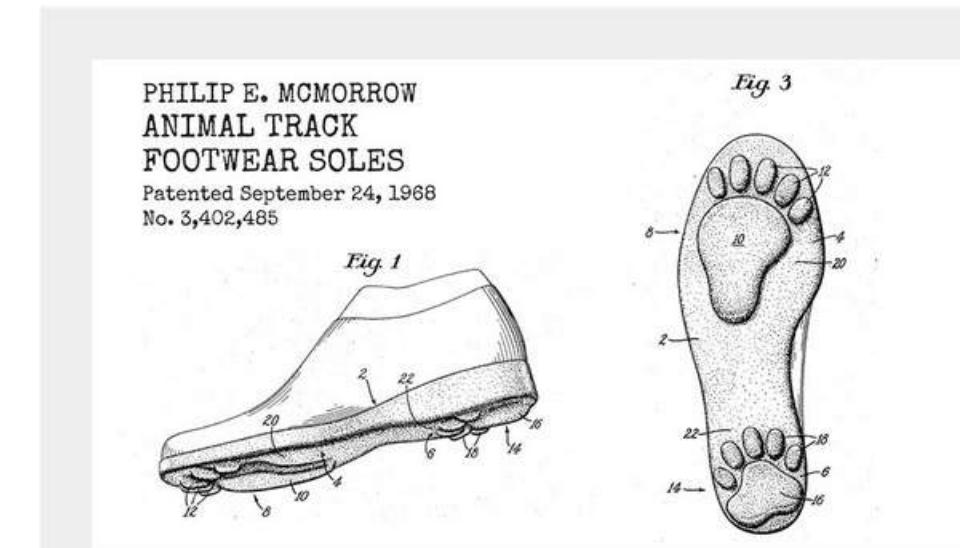
Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce

IP is protected in law to enable people to earn recognition or financial benefit from what they invent or create



Patents

- Technical information about the invention must be disclosed in a patent application
- Patents are territorial rights
- The protection is granted for a limited period, generally 20 years

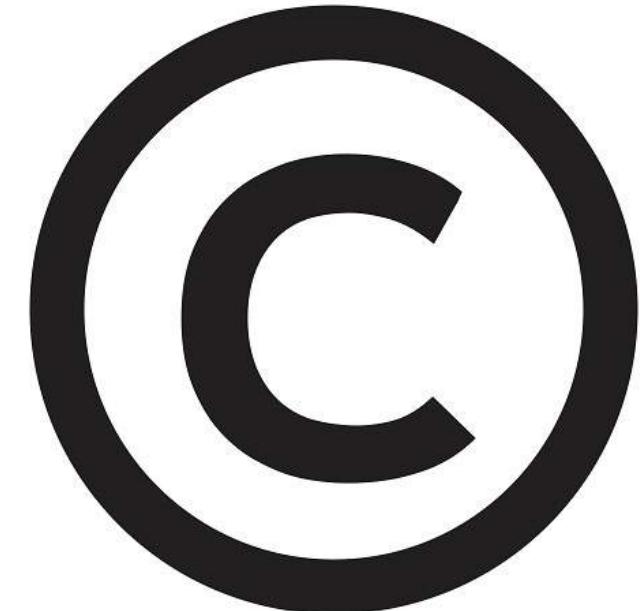


Weird and wonderful
Six out-of-the-ordinary patents you probably didn't know existed.

Copyrights

Copyright protection (in most countries) is obtained automatically without the need for registration

- literary works such as novels, poems, plays, reference works, newspaper articles;
- computer programs, databases;
- films, musical compositions, and choreography;
- artistic works such as paintings, drawings, photographs, and sculpture;
- architecture; and
- advertisements, maps, and technical drawings



Trademarks

- A sign capable of distinguishing the goods or services of one enterprise from others
- Apply – nationally and/or internationally
- Confers an exclusive right to the use of the registered trademark
- The term of trademark registration can vary, but is usually ten years.



IPR: good or bad? Who benefits?

“By striking the right balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish”

Source: WIPO website

But, does it really? If so, in which contexts does it matter the most?

What are the arguments pro and against IPR?

Where do good ideas come from?

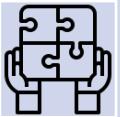


Now, let's look at innovation

(Tidd and Bessant, 2013)



An innovation doesn't have to be 'new to the world'



Absorption, imitation, diffusion and assemblages of what exists



Different kinds of innovation: processes, products, services, business models



Impact: Radical vs Incremental

When the “new” fails



Hawaii Chair (staying in shape while sitting down)

1-888-517-2444

What's “new” with the iPod?



- Toshiba hard disk
- Nidec disc-drive spindle
- ARM core processor
- Texas Instruments firewall controller
- USB interface chip from Cypress
- Sharp flash memory
- Final assembly by Invetec (Taiwan)

(Berger,, 2005)

Kins that worked, kins that didn't

(Mullins and Komisar, 2009)

iPod

- Analogs : Sony Walkman made music personal and portable back in 1979. By 2000 over 300 million Walkman's had been sold.
- Antilog: MP3 players like the Rio: clunky user interfaces, far from user friendly.

iTunes

- Analogs: Napster, with 26 million users were downloading music one tune at a time
- Antilog: MusicNet and Pressplay
 - limited music selection and unappealing

For both: Gillette sold razors at low break-even prices and made its money selling the blades



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Product innovation



Service innovation

McKinsey
& Company

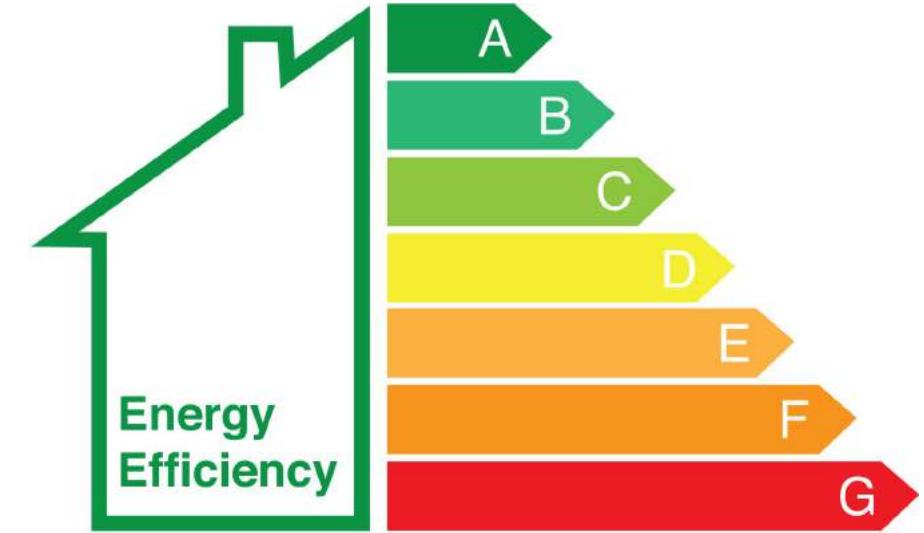


Starling
Bank



The Wise logo features the word "wise" in a dark blue, lowercase, sans-serif font. To the left of the word is a blue stylized symbol resembling a Greek letter sigma (Σ) or a checkmark. Below the main word, the text "formerly TransferWise" is written in a smaller, dark blue, lowercase, sans-serif font.

Process innovation



An industrial outlook - 1980s

	Supplier dominated	Scale intensive	Specialized suppliers	Science based
Core sectors	Agriculture, food, wood based, textiles, rubber & plastics	Automotive, transport equipment	Fabricated metals, machinery, instruments, electrical, electronics	pharmaceuticals, drugs, chemicals, microelectronics
Firm size	Small	Large & Medium	Small	Medium & Large
Type of innovation	Process	Process	Product	Product & Process
Strategy	Cost affectivity	Either cost affectivity (price) or Differentiation (quality)	Differentiation (quality, performance, customization)	Differentiation, Focus strategy (innovation, quality)
External sources of innovation (cooperation)	Suppliers and users	Suppliers and users	Universities and users	Universities and users

(Adapted from Pavitt, 1984)

Product vs service? To own or not to own?

Product or Asset → Service

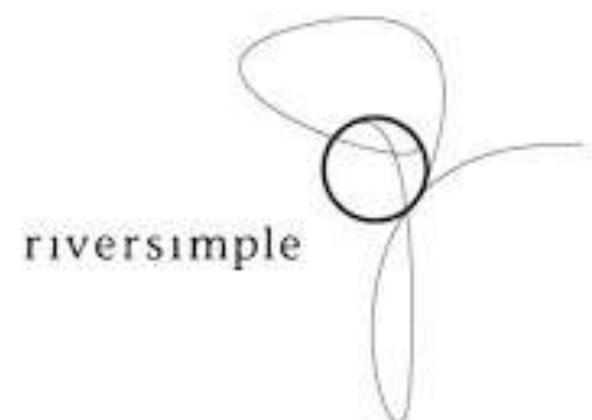
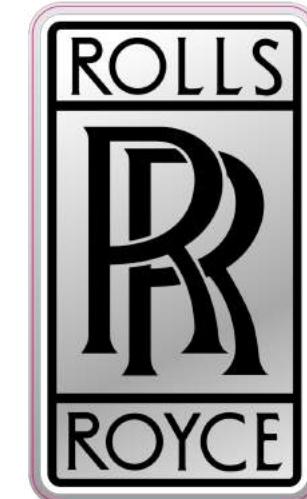
Rent not own: value proposition moves to making available the functionality rather than the asset



wework

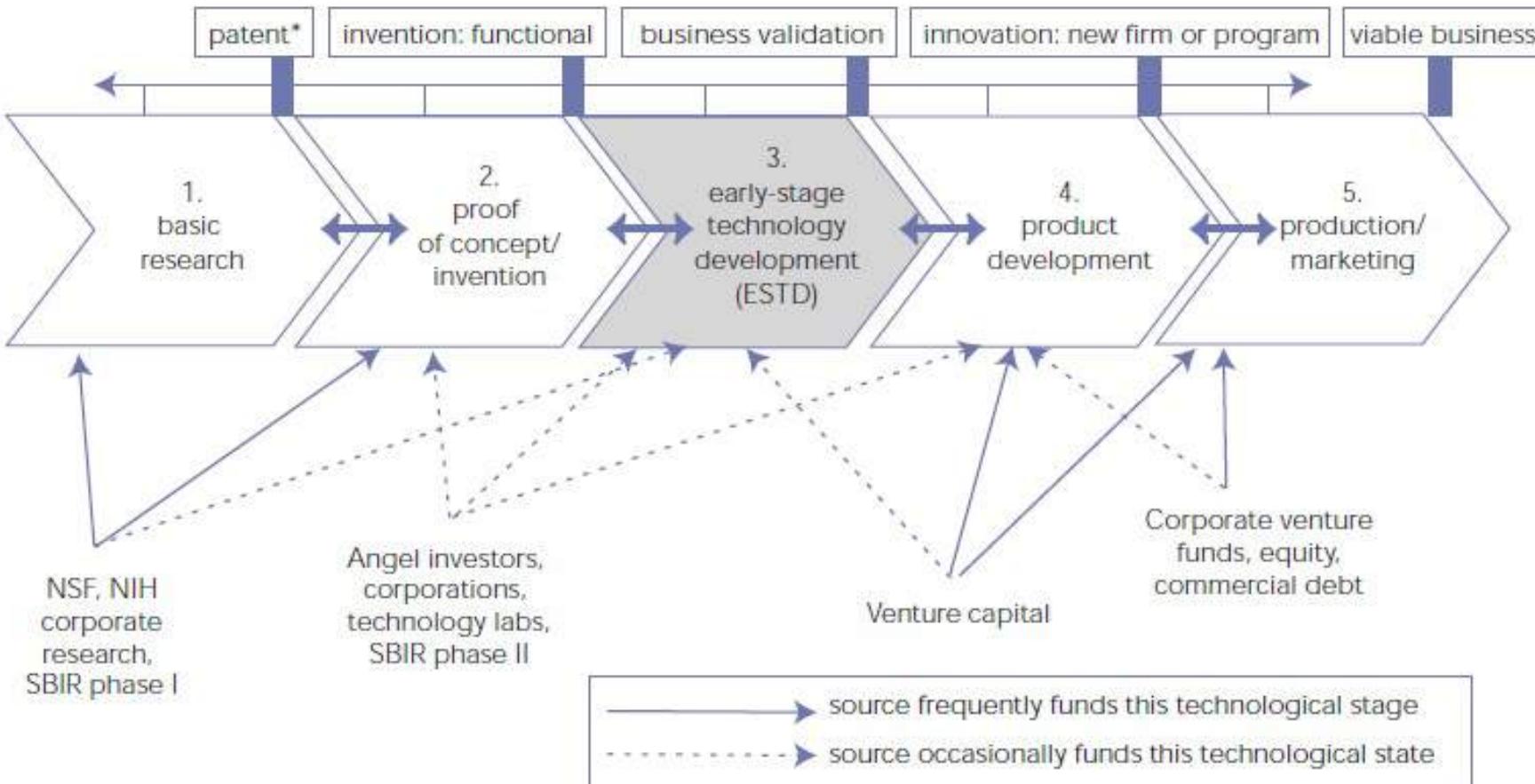
Product-Service Systems

Manufacturing operations reframed as service offerings



Science-based, high-tech innovation

FIGURE 2. Sequential model of development and funding



Business model innovation

ASSET BUILDERS

deliver value through the use of physical goods (physical capital). These companies make, market, distribute, sell and lease physical things

E.g. Volkswagen, Walmart...

SERVICE PROVIDERS

deliver value through skilled people (human capital). These companies hire and develop workers who provide services to customers for which they charge.

E.g. JP Morgan, McKinsey, Barclays...

TECHNOLOGY CREATORS

deliver value through ideas (intellectual capital). These companies develop and sell intellectual property, such as software, analytics, pharmaceuticals and biotechreviews, collaborate and more.

E.g. Microsoft, Pfizer...

NETWORK ORCHESTRATORS

deliver value through relationships (network capital). These companies create a platform that participants use to interact or transact with the many other members of the network. They may sell products, build relationships, share advice, give reviews, collaborate and more. E.g. eBay, Uber, Visa, TripAdvisor...

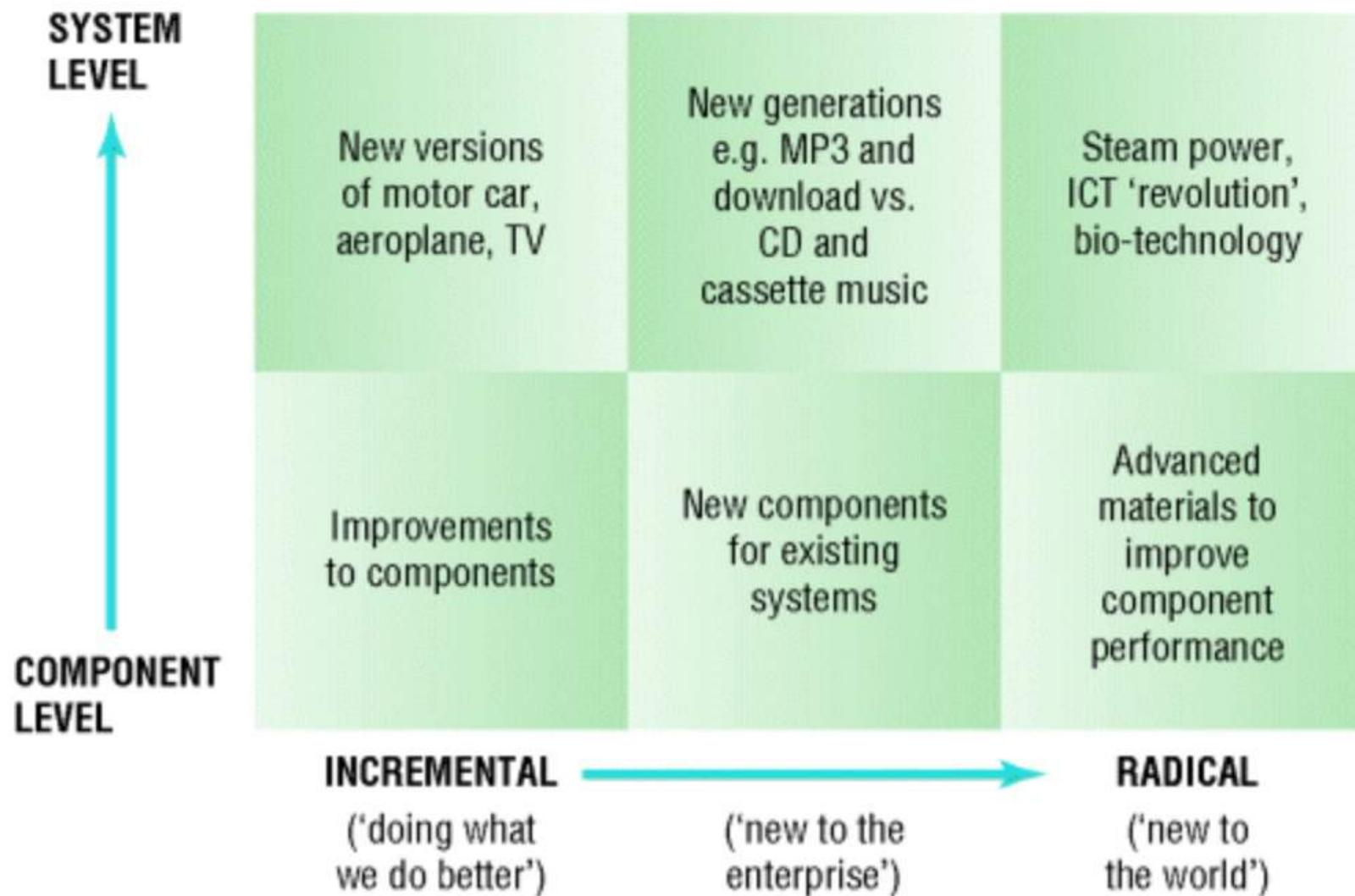
Competences and business models

	DISRUPTIVE	ARCHITECTURAL
REQUIRES NEW BUSINESS MODEL	<ul style="list-style-type: none">• Open source software FOR SOFTWARE COMPANIES• Video on demand FOR DVD RENTAL SERVICES• Ride-sharing services FOR TAXI AND LIMO COMPANIES	<ul style="list-style-type: none">• Personalized medicine FOR PHARMACEUTICAL COMPANIES• Digital imaging FOR POLAROID AND KODAK• Internet search FOR NEWSPAPERS
ROUTINE	<ul style="list-style-type: none">• A next-generation 3 series FOR BMW• A new index fund FOR VANGUARD• A new 3-D animated film FOR PIXAR	RADICAL
LEVERAGES EXISTING BUSINESS MODEL	LEVERAGES EXISTING TECHNICAL COMPETENCES	REQUIRES NEW TECHNICAL COMPETENCES

SOURCE CORNING; GARY P. PISANO
FROM "YOU NEED AN INNOVATION STRATEGY," JUNE 2015

© HBR.ORG

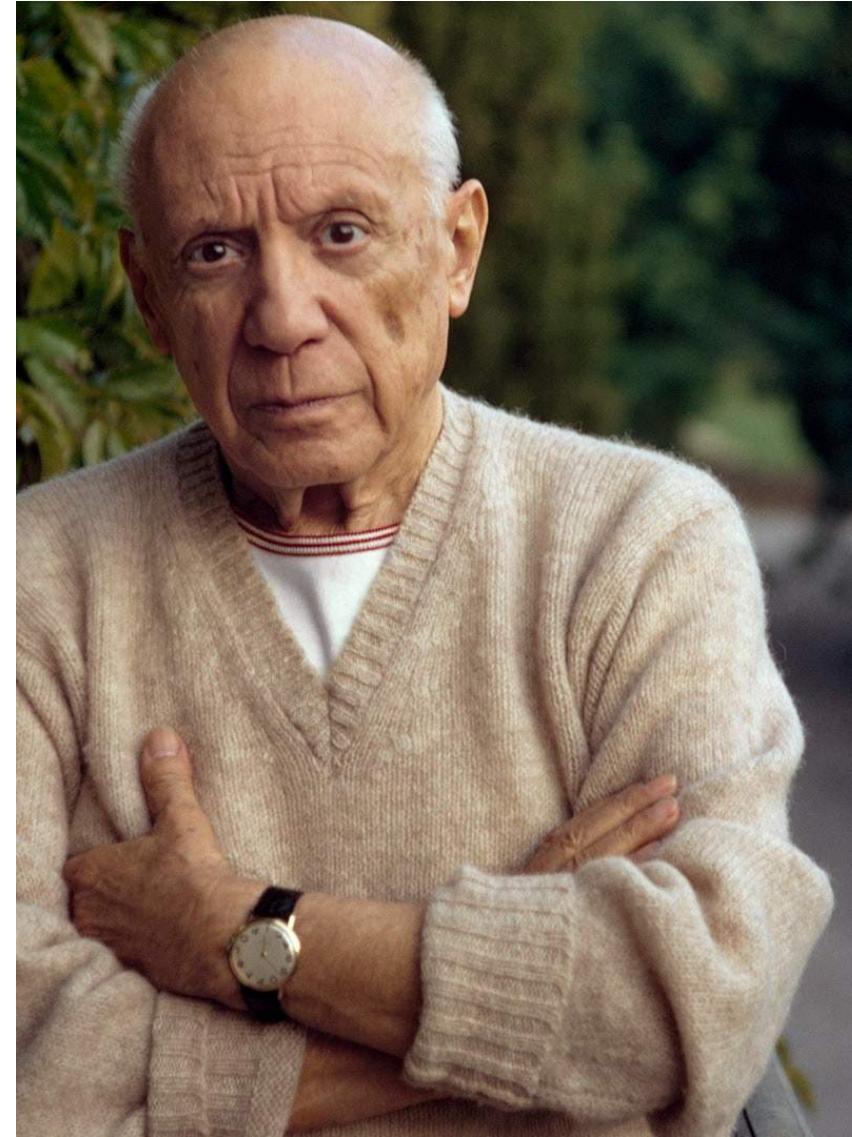
Dimensions of impact



Imitation and absorption matter, too

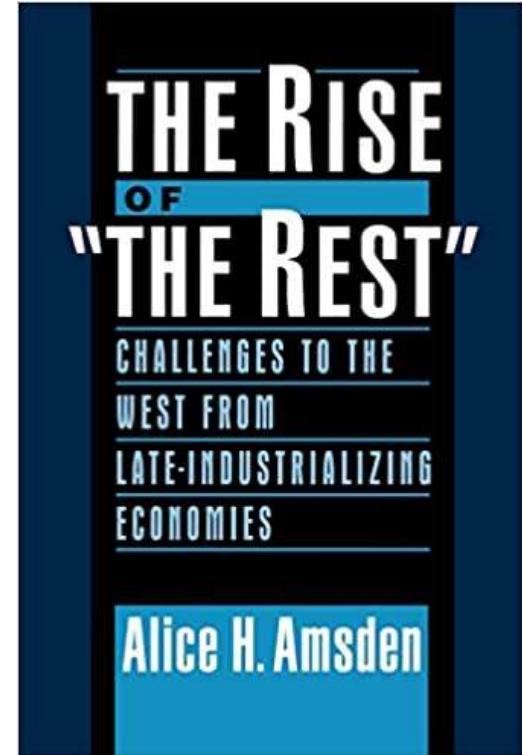
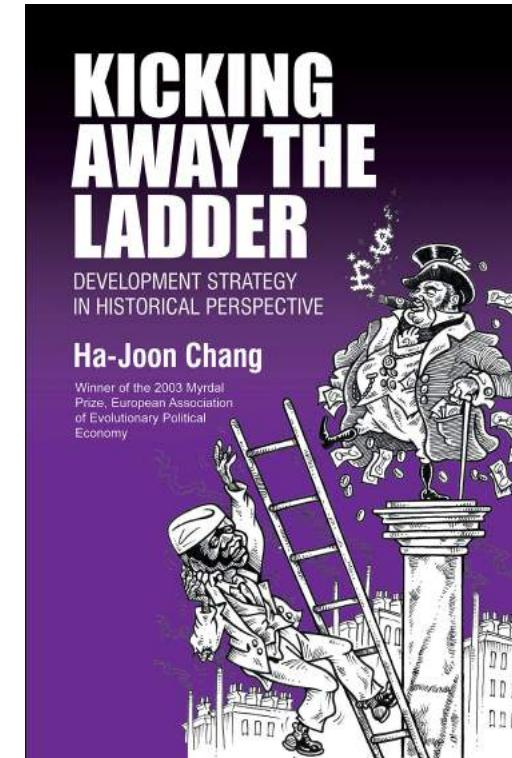
“Picasso had a saying: he said good artists copy, great artists steal ... and we have always been shameless about stealing great ideas”

(Steve Jobs)



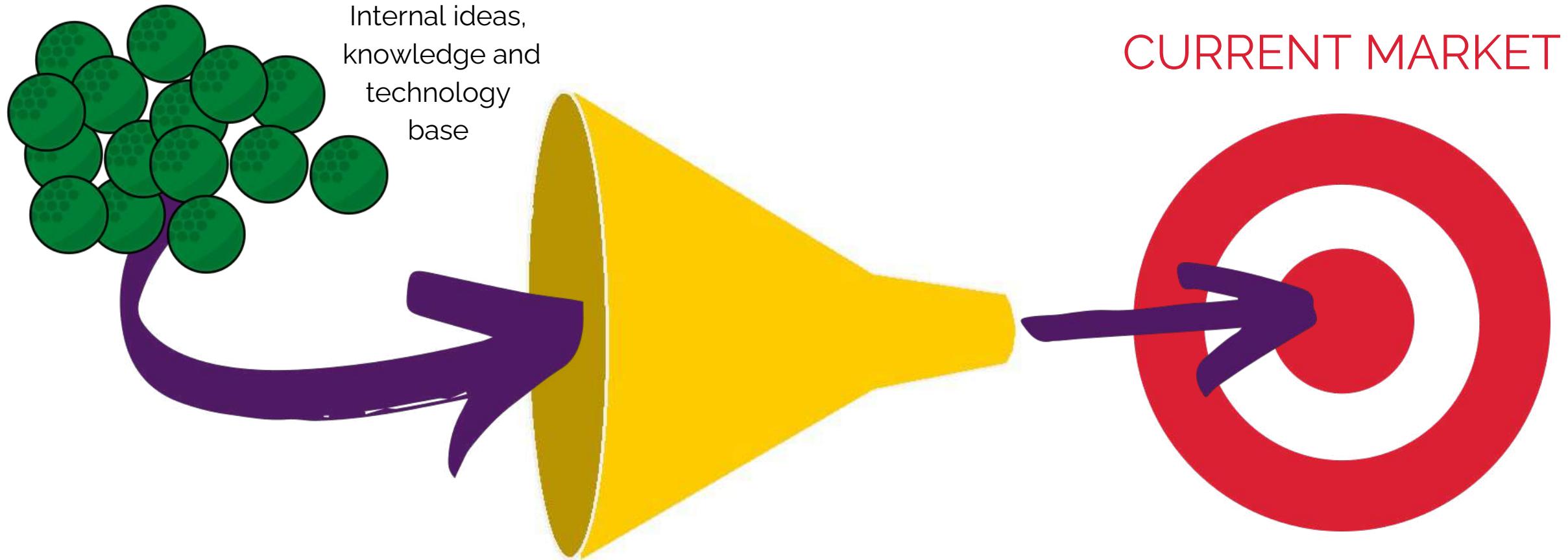
Learning from “development studies”

- Countries caught up to the technological frontier by adopting various policies to develop skills and competences through absorption and imitation
- Protection to nascent industries included disrespect of IP, industrial espionage, procurement for early-stage technologies, etc



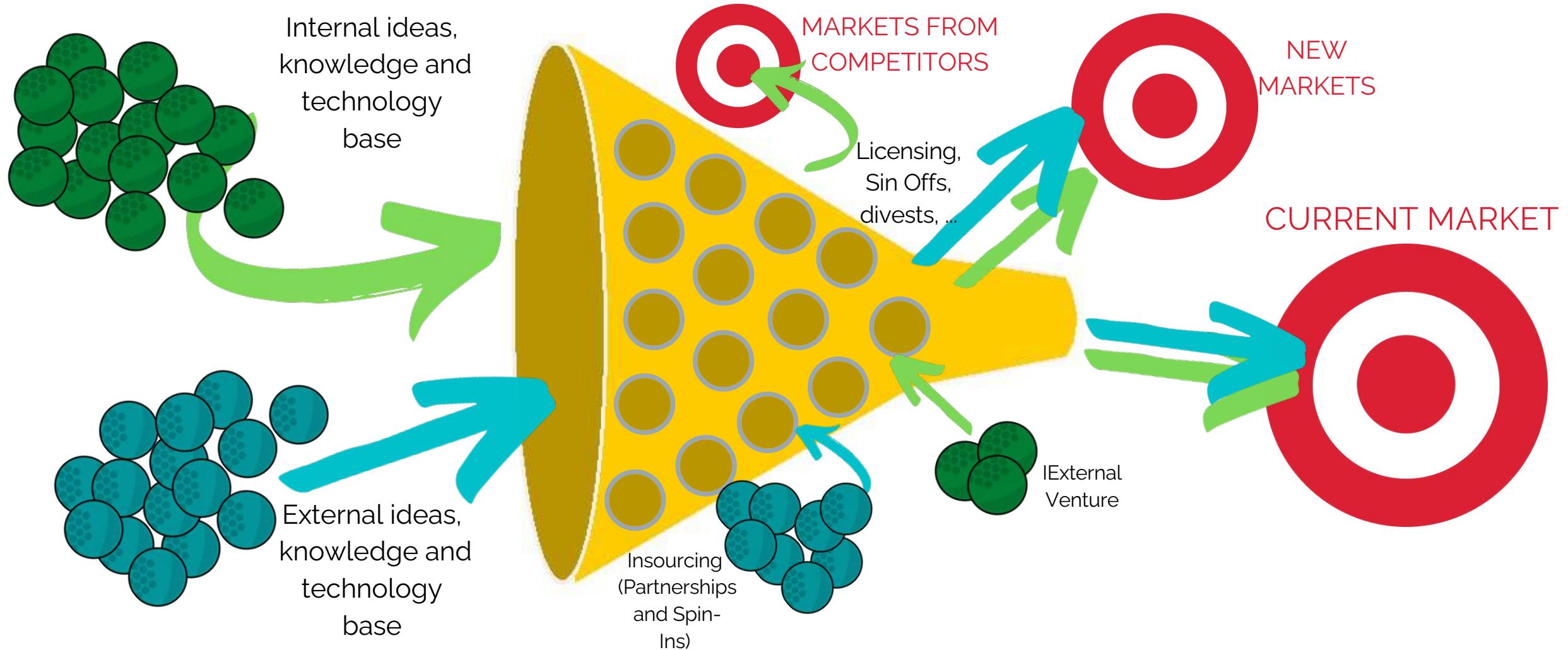
Closed innovation

(Chesbrough et al, 2008)



Open innovation

(Chesbrough, 2006)



Reflection

- Should we protect? What to protect? In what circumstances?
- To what extent does ‘protection’ hinder complementarity?

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4. Berger (2005). How we Compete: What Companies Around the World Are Doing to Make It in Today's Global Economy. It's a book.
5. Mullins and Komisar (2009). Getting to Plan B: Breaking Through to a Better Business Model. It's a book. You may want to read [this article](#) instead.

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Innovation, incumbents and entrants

Session 7

Activity - Natural ice industry

“From the time he first shipped lake ice to the West Indies in 1806 to the beginnings of the Calcutta trade in the 1830s, he clung to one conviction: people living in tropical climates would pay a good price for ice if they could get it. The inhabitants of Havana in Cuba, and the British sweltering in Calcutta, could make ice cream, cool their drinks, and relieve their suffering from fevers with ice harvested from the clear waters of New England’s many spring-fed ponds. They could even enjoy crisp Baldwin apples from the orchards of Massachusetts, and fresh churned butter, which Tudor packed in barrels and stowed alongside the ice”



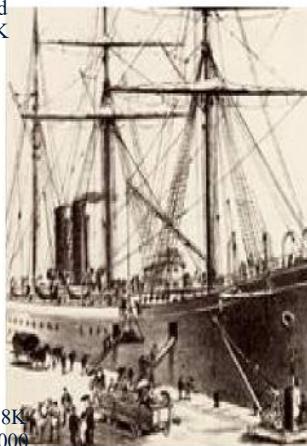
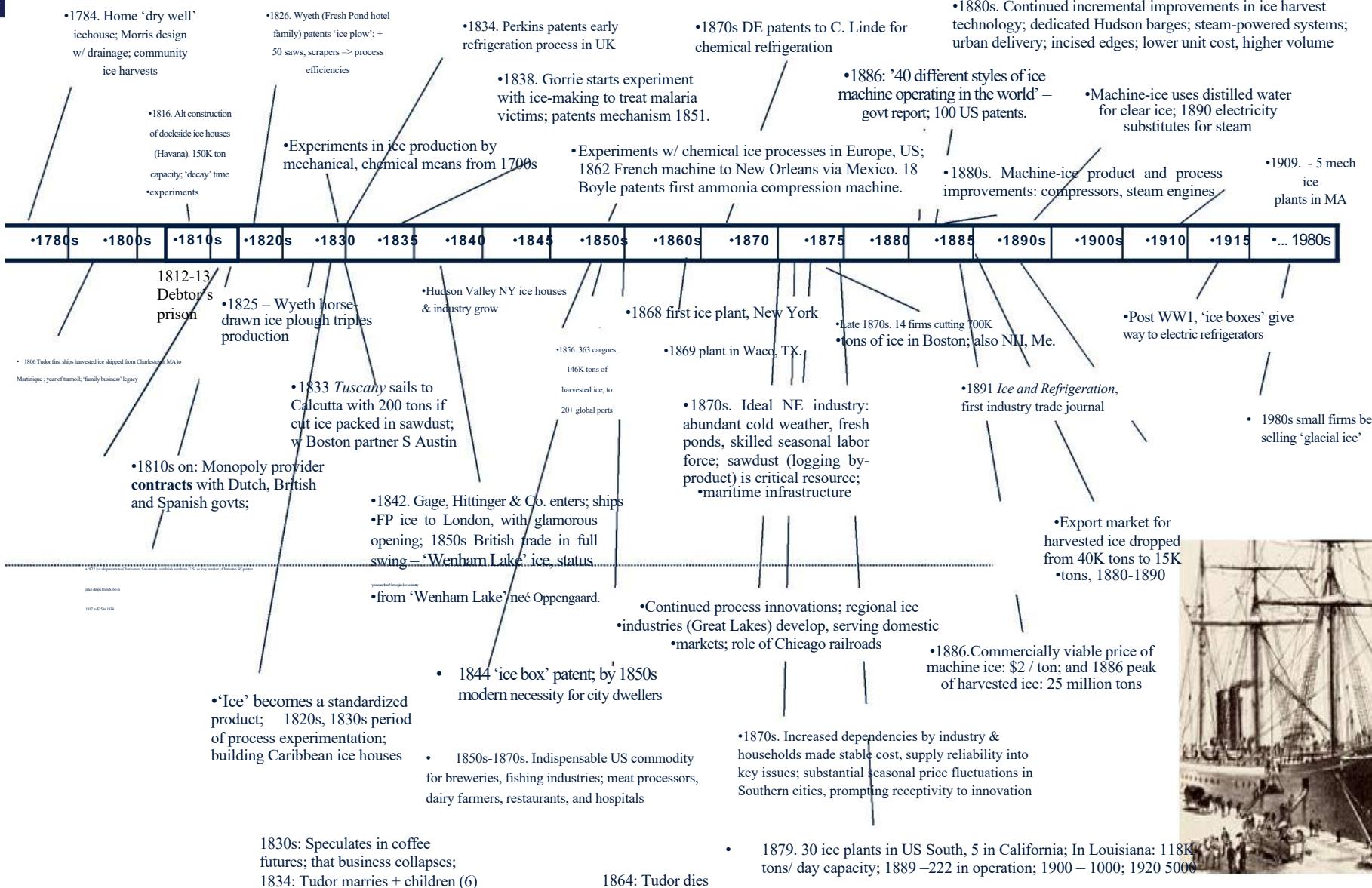
Activity - Natural ice industry

“Ice is an interesting subject for contemplation....it appears that the sweltering inhabitants of Charleston and New Orleans, of Madras and Bombay and Calcutta, drink at my well.”

(Thoreau, Walden - in Calandro 2005)

- Identify critical inventions and innovations in Tudor Ice Company pre-1840s period
- Why was the Tudor Ice Co. successful?
- What occurred to challenge that recipe for success? How has the “context” changed?
- How could the Tudor Ice Company have progressed beyond the 1890s?

Changes that bundle up



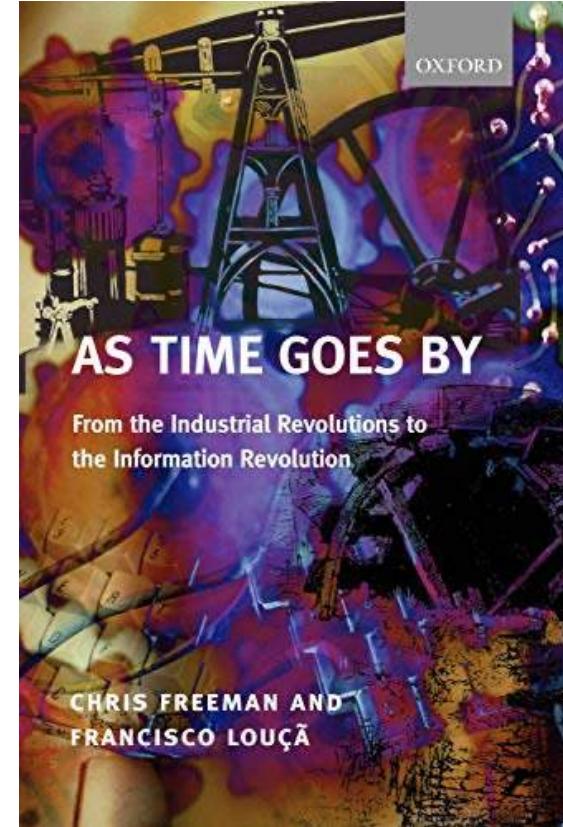
Source: adapted from Ventresca, 2019

“As time goes by...”

(Freeman & Louçã, 2001)

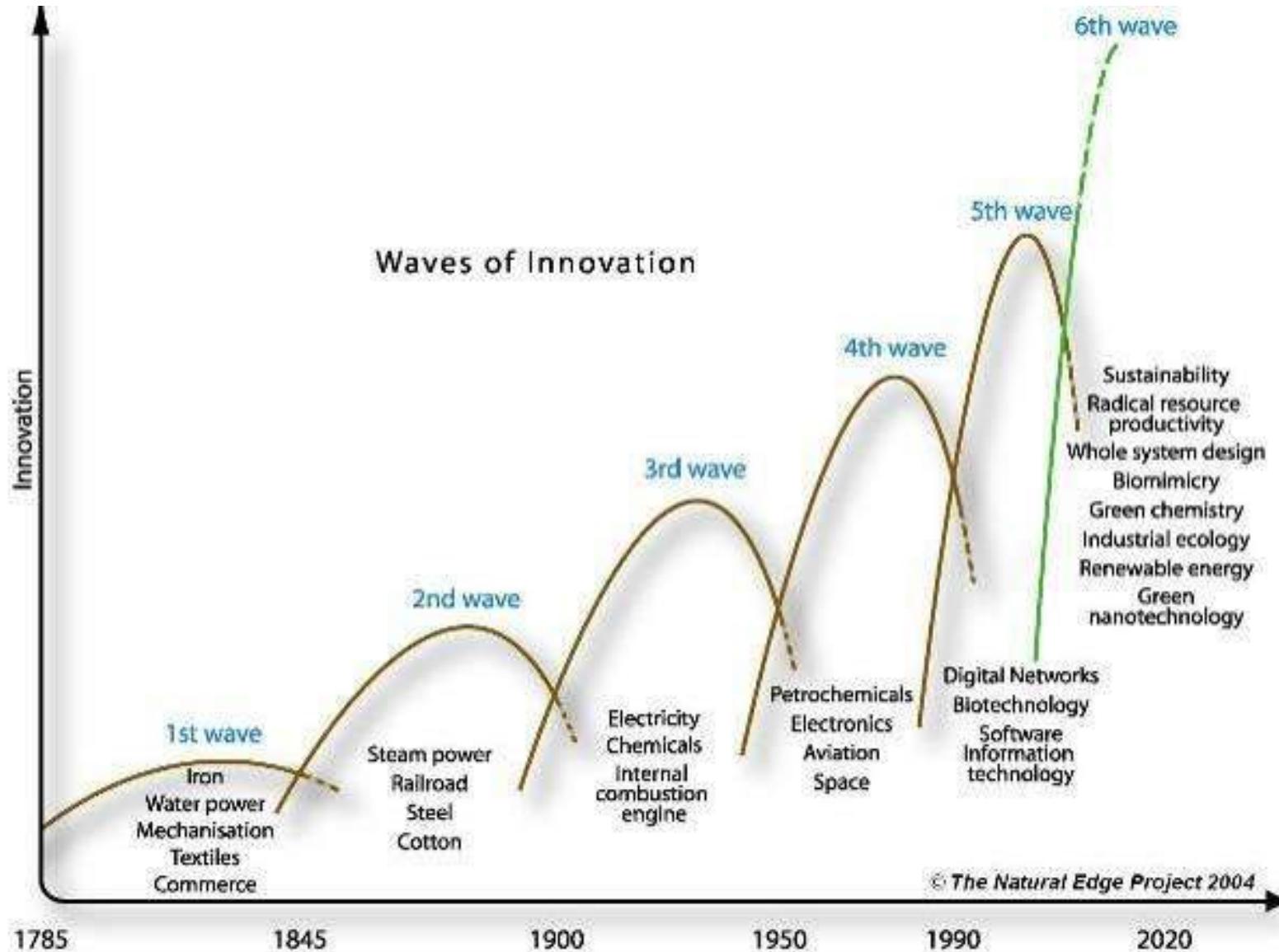
History of five technological revolutions:

1. Water-powered mechanization
2. Steam-powered mechanization
3. Electrification
4. Motorization
5. Computerization



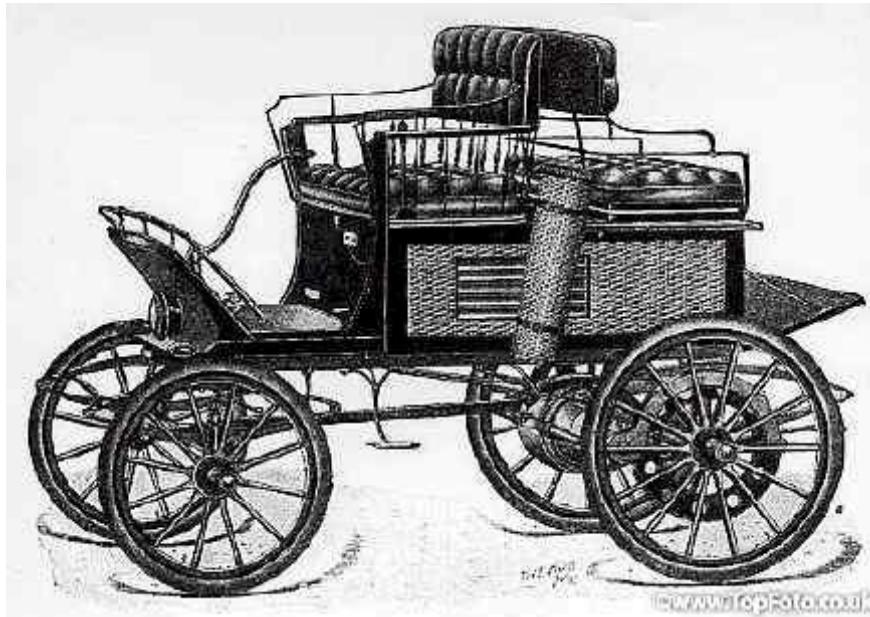
Demonstrate the necessity to take account of politics, culture, organizational change, and entrepreneurship, as well as science and technology in the analysis of economic growth

Kondratieff, Kuhn and Freeman & Perez



Let's look at the automotive industry

In which wave(s) came the last, key enabler for the emergence of the auto industry?



Early 20th auto industry in the US

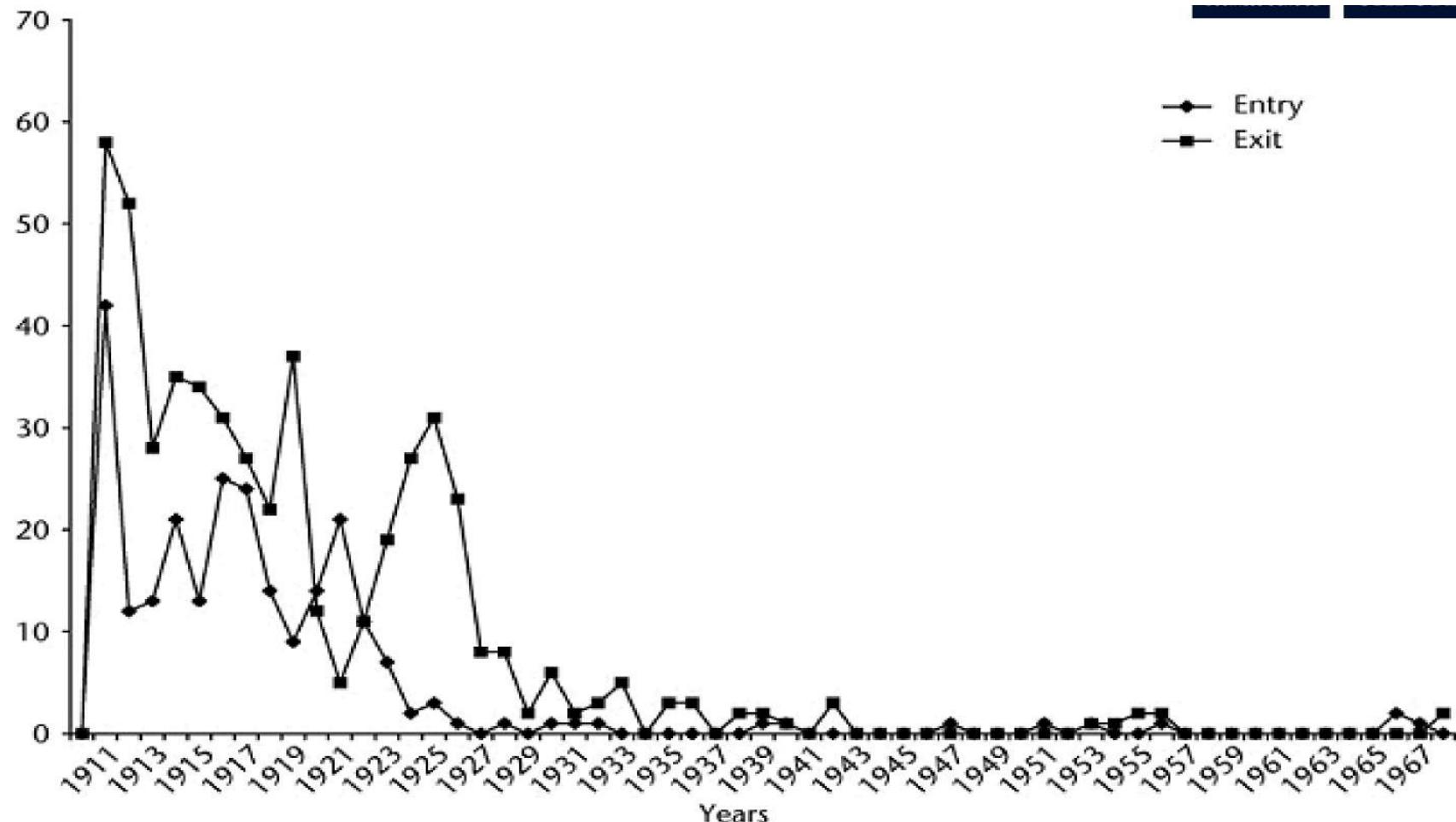


Figure 3.1 Entry and exit of producer firms in the US automobile industry

Why does this happen?

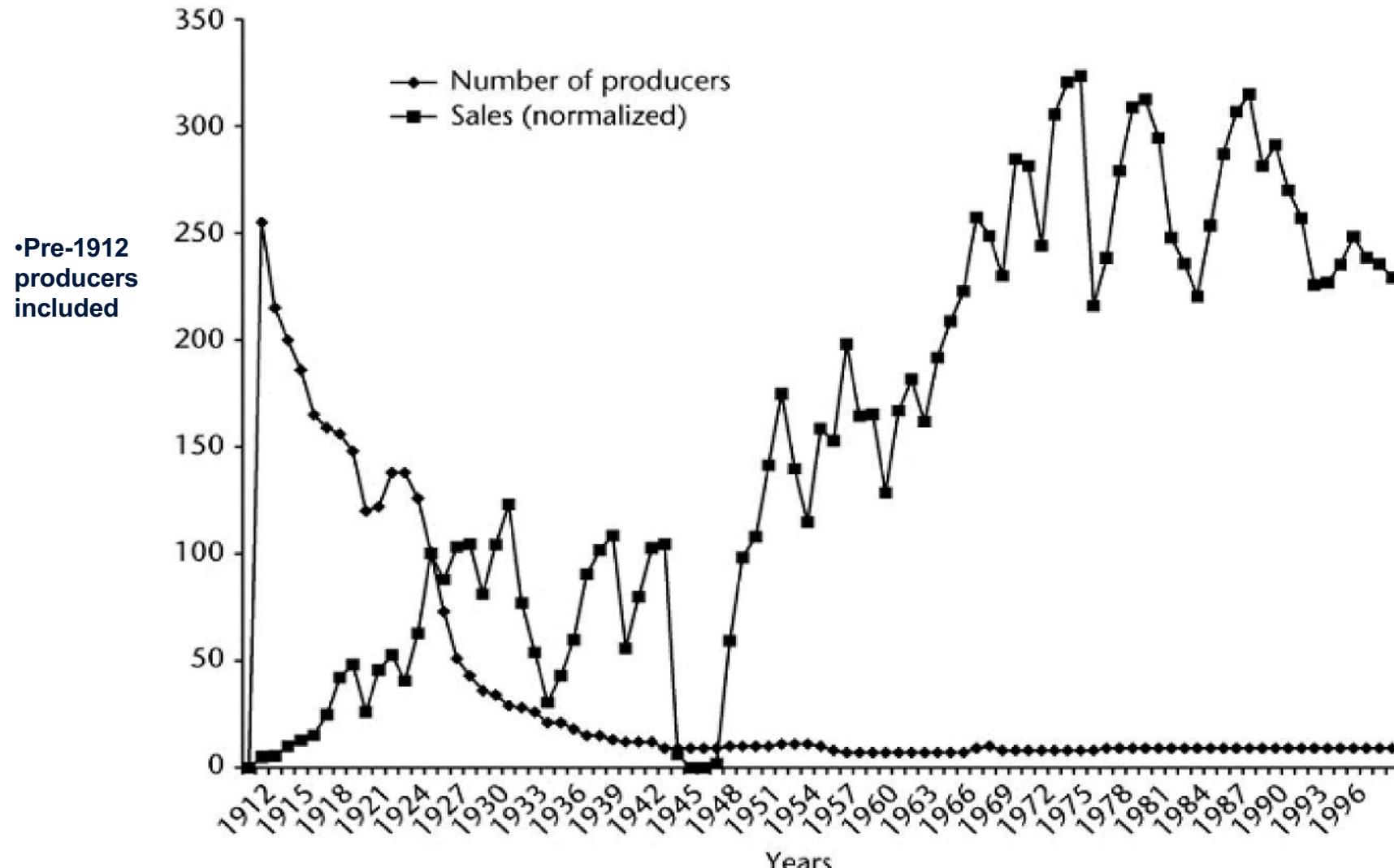


Figure 3.2 Number of U.S. automobile producers and total industry sales.

Source: Geroski, 1991

Reflect and discuss

- How did Ford ‘find’ new customers?
- Is ‘need’ or ‘want’ = ‘demand’?
- What else needed to be in place for the automotive industry to flourish?



Complementarity

- What assets and components make it possible to realize the potential value of an innovation?
- Early auto industry case:
 - Infrastructure: Paved roads, petrol stations, repairs, driving expertise and certification
 - Intermediaries: Insurance, secondary markets (used cars), motels and restaurants
 - Institutional rules: Agreement about right of way, cultural understandings about auto (e.g., speed, freedom, discretion/responsibility, drinking, etc.)

Auto companies turned into assemblies

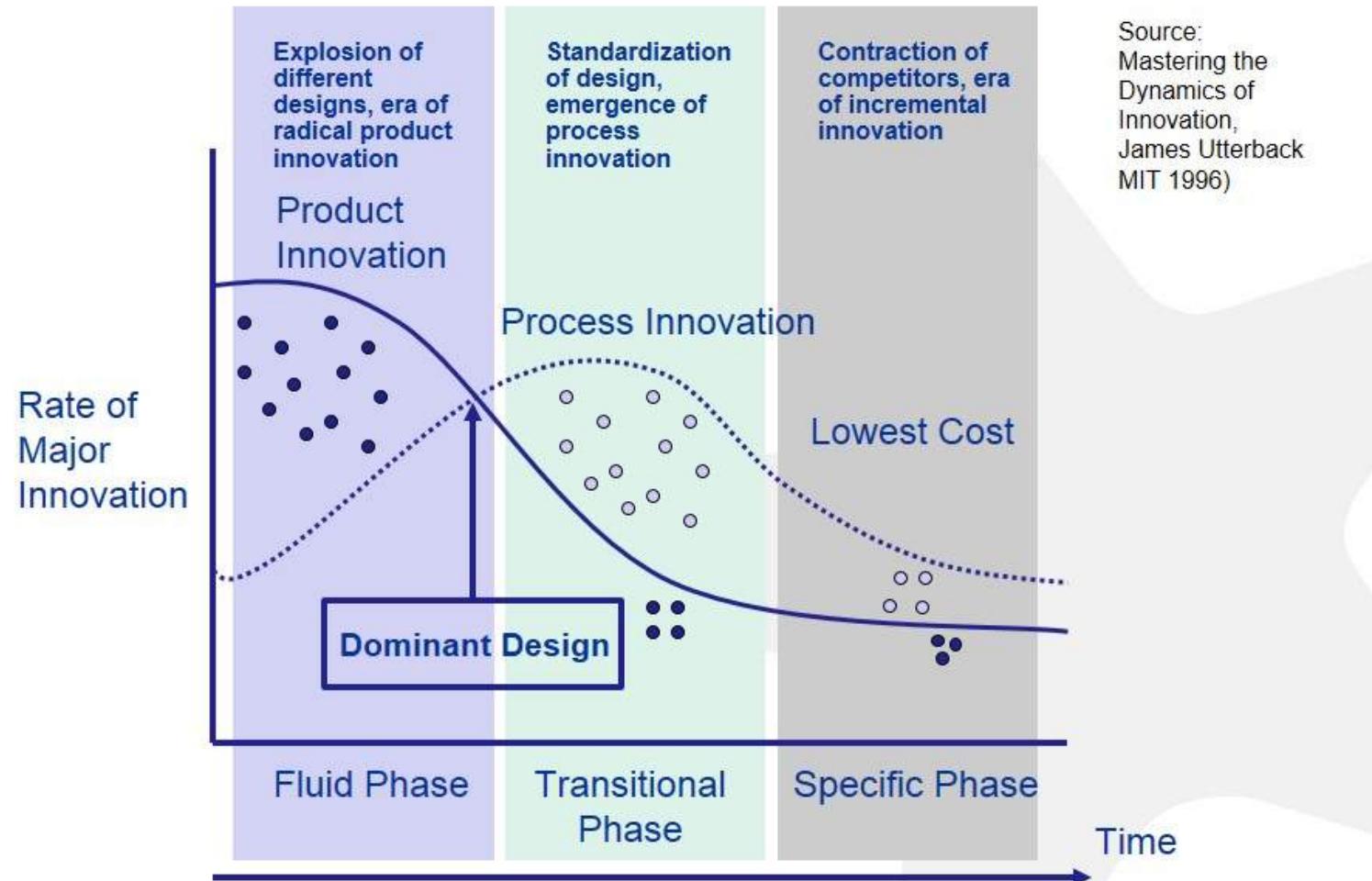
Year	Firm	Product Innovation	Process Innovation
1890		Commercialization	
1893	Duryea	Single plate clutch	
1895	Haynes-Apperson	Aluminum engine	
1896	King	En-bloc engine	
1896	Duryea		1st multiple production of one car design
1898	Duryea	Internal-expanding brakes	
1898	Columbus	Enclosed car body of wood/steel	
1899		Number of Firms Takes Off	
1899	Packard	Automatic spark advance	
1900	Most Producers		Gasoline engine mounted in front
1901	Autocar	1st shaft-driven Am. car	
1901	Oldsmobile		1st mass-produced auto
1902	Locomobile	4-cylinder, front-mounted engine	
1902	Northern	3-point suspension of power unit	
1902	Northern	Planetary gear set	
1902	Northern	Integral engine and transmission unit	
1902	Marmon		1st all metal body (aluminum casting)
1903	A.O. Smith	Pressed steel frame	
1904	Ford	Torque tube drive	
1906	Ford	Wiring harness for elec. system	
1907	Ford		Multiple simultaneous machining ops
1908	Ford	Detachable cylinder heads	
1908	Ford	Magneto integrated into flywheel	
1908	Ford		Vanadium steel components
1909		Sales Takeoff	
1910	Ford		1st branch assembly plants
1913	Ford		Moving flywheel-magneto assembly line
1914	Ford		Elevated moving chassis assembly line
1914	Cadillac (GM)	1st large scale production of V8 engine	
1917	Ford		Baked enamel finishes
1920	Ford		Continuous pouring of molten iron

- What does it mean?
- What kind of innovation do they focus on?
- Who else in the ‘ecosystem’?

Dominant design



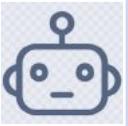
Utterback's 3-Phases of Innovation



Dominant design vs technical features



Best technical features do not mean commercial success



Having a cutting-edge technology doesn't mean you'll profit from it



Lock-in and path dependence

Qwerty's lock-in



ACCORD model for tech diffusion

(Rogers, 2003)

- Advantage to what it replaces
- Compatibility with customer environment
- Complexity of understanding, instalment, use
- Observability of benefit
- Riskiness (perceived or actual) in adoption
- Divisibility: how it can be tried on a limited basis

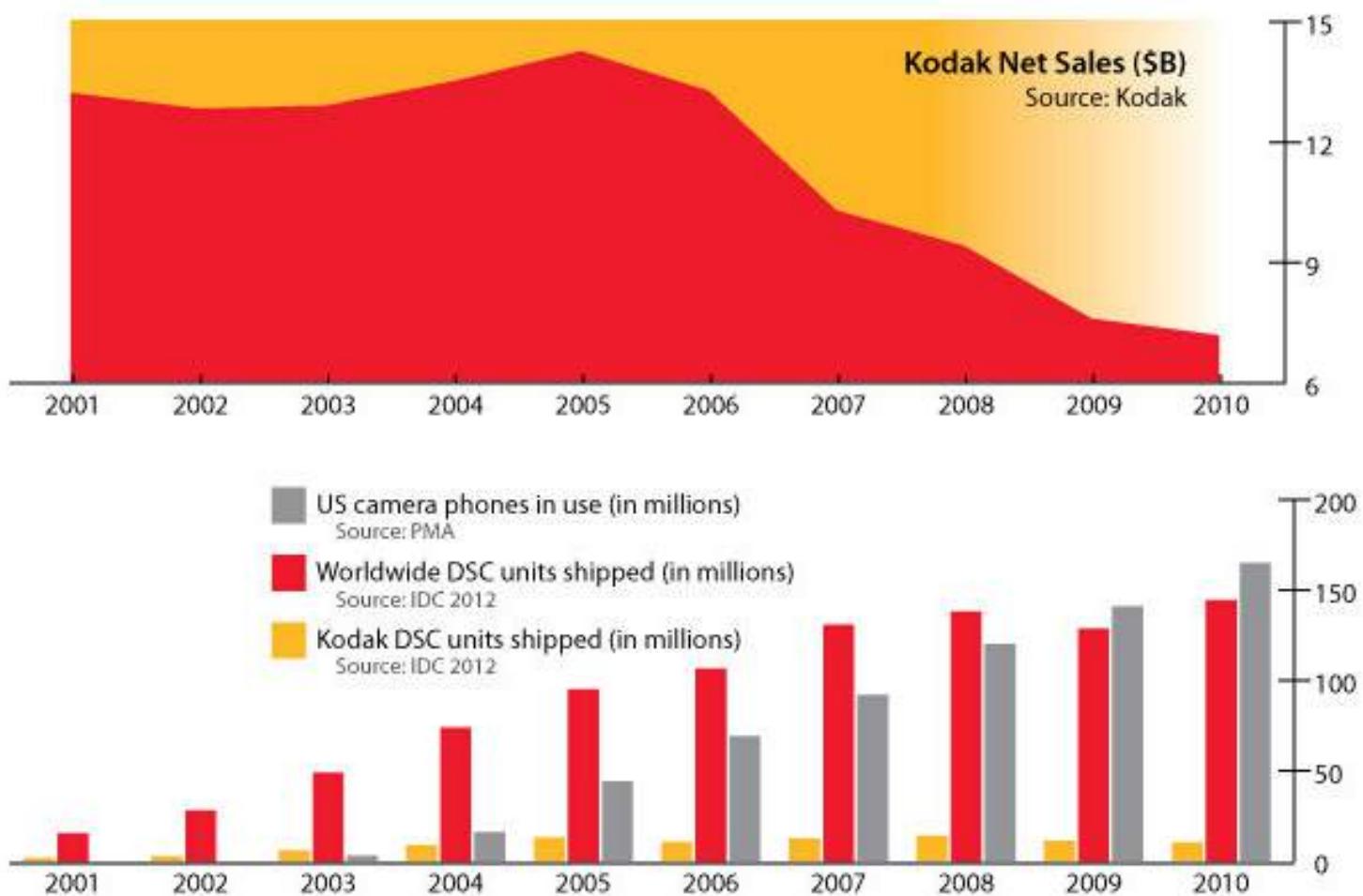
Why do incumbents stumble?

- One of the most recognizable brands
 - Cutting-edge tech
 - Excellent marketing
 - Best machinery
 - Powerful distribution networks
- ...



But it didn't survive a technological shift. Why?

Did Kodak nap?



Conventional wisdom suggests that Kodak lacked digital imaging capabilities

or

digital tech caught Kodak napping

Both are wrong

The “hopeful monstrosities”

(Mokyr, 1990)

Hype Cycle for Emerging Technologies, 2020

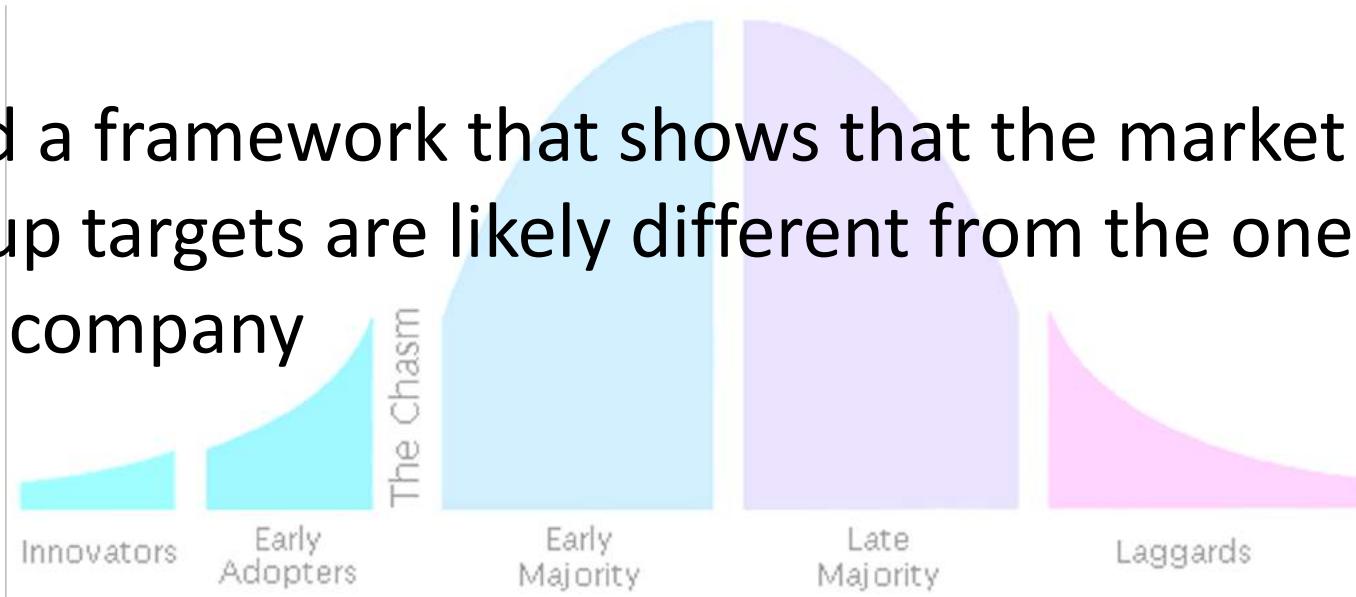


Source: Gartner Institute

Why do start-ups fail to scale?

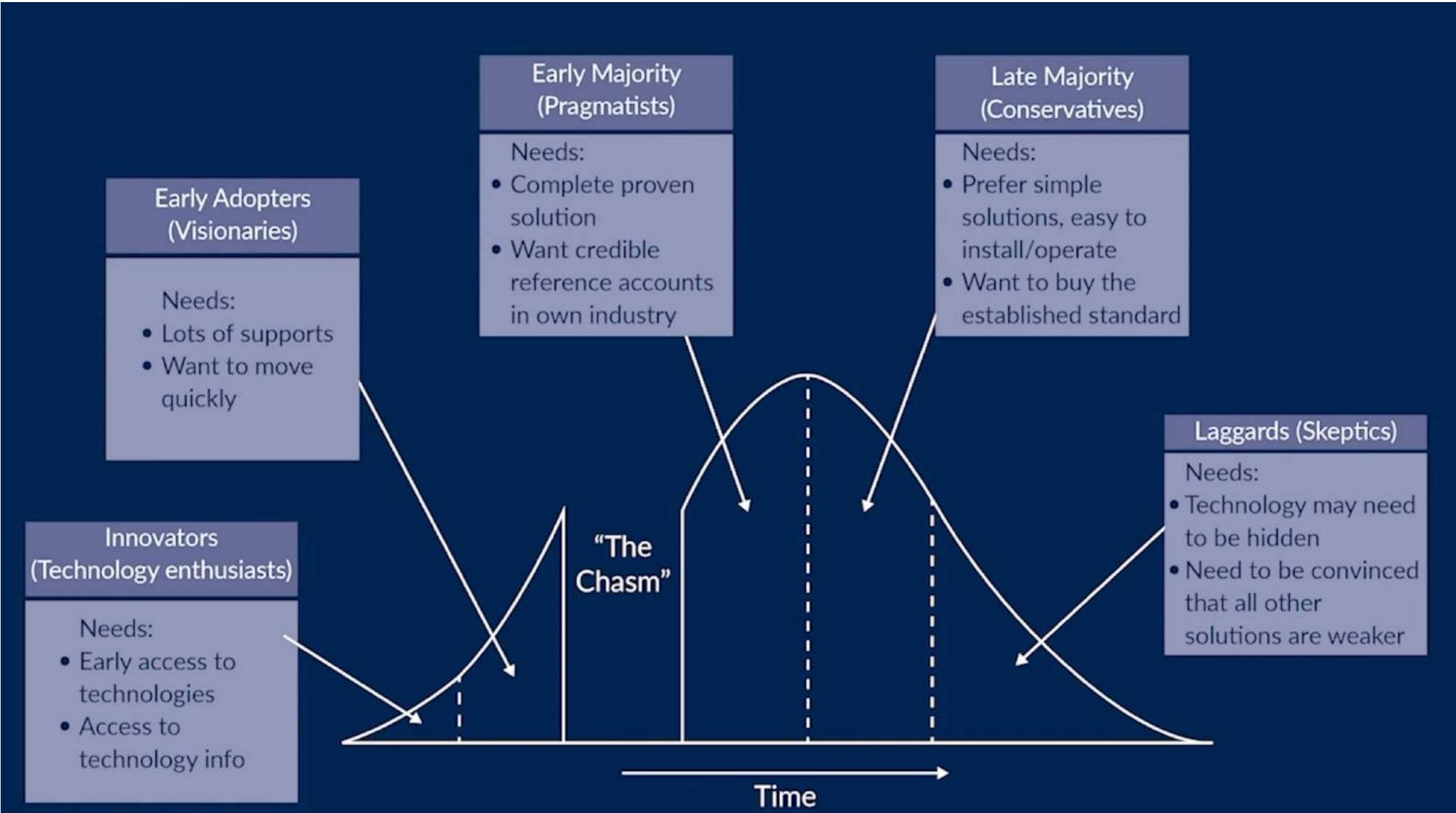
(Moore, 1991)

- Why so many start-ups fail to scale?
- They don't understand customer market segmentation
- He provided a framework that shows that the market segments that a startup targets are likely different from the ones of a more established company



Crossing the chasm

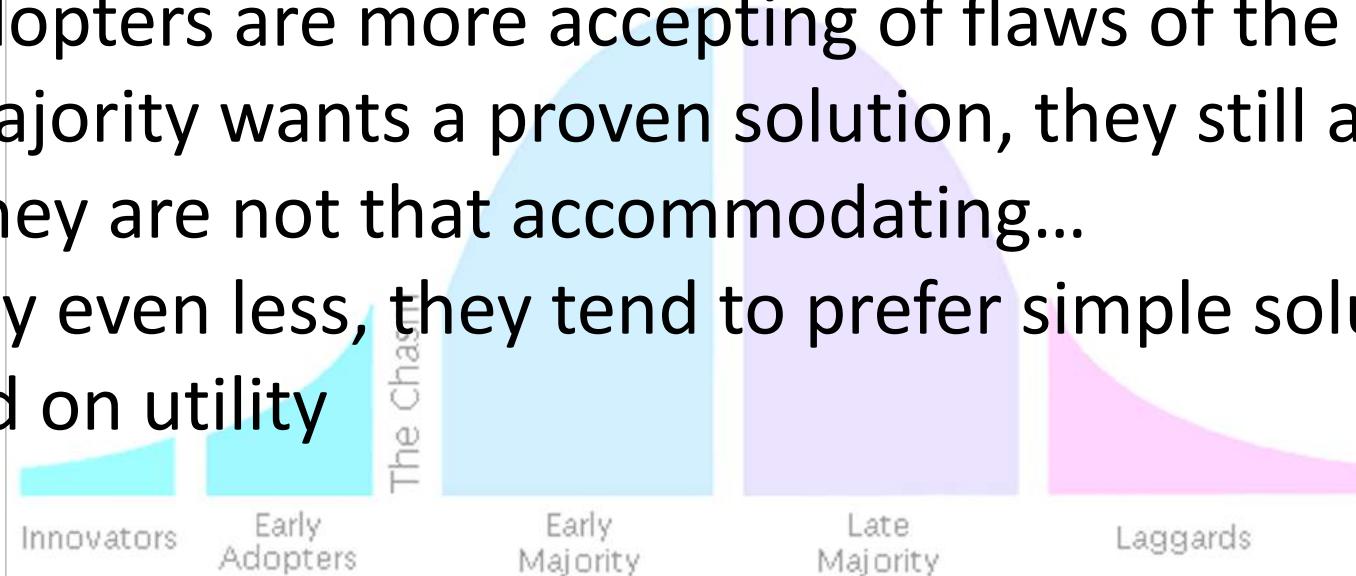
(Moore, 1991)



Focus for new entrants

(Moore, 1991)

- Entrepreneur starting a new business in a new market and with a very new technology: focus on the early adopters
- The average is not the early adopter! A start-up may not care much about the “average consumer”!
- The early adopters are more accepting of flaws of the product
- The early majority wants a proven solution, they still accept some flaws, but they are not that accommodating...
- Late majority even less, they tend to prefer simple solutions, they are very focused on utility



Challenges to work in nascent markets

(Santos & Eisenhardt, 2009)

- Nascent markets - high ambiguity & rapid change
- Unclear product definitions, undefined or fluid industry structure, and no clear dominant action logic
- Entrants have the challenge to turn context ambiguity into favorable positions, assembling resources, and finding new opportunities for value creation and exchange

When did new entrants enter?

	Fluid phase: Era of ferment	Transitional phase: Dominant design / incremental change	Specific phase: New discontinuity possible
Innovation	Many major product changes	Many process changes to meet demand	Incremental product improvements
Products	Diverse customized designs	Stable dominant design	Standard products
Manufacture	Small craft production	General purpose scale mfg	Large-scale and specialized
Change costs	Low	Medium	High
Basis of competition	Product function	Product variation	Price
Organizational characteristics	Entrepreneurial	Project based	Functional control: rule-based
New entrant strategies	Imitative and product improvements	More efficient production and distribution	Superior substitutes

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Making decisions

Session 8

Analysis paralysis

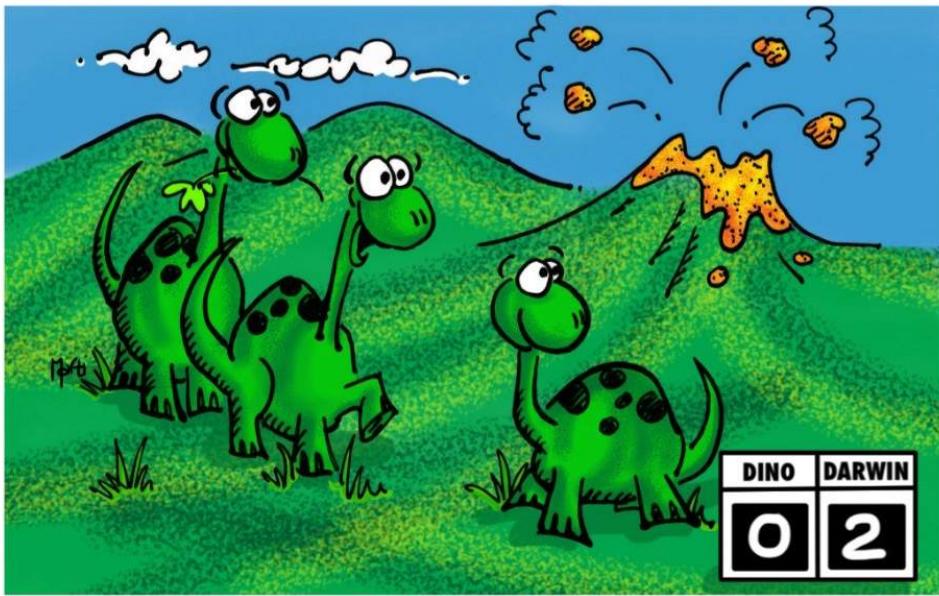
“I come from an environment where, if you see a snake, you kill it. At GM, if you see a snake, the first thing you do is go hire a consultant on snakes. Then you get a committee on snakes, and then you discuss it for a couple of years. The most likely course of action is — nothing. You figure the snake hasn’t bitten anybody yet, so you just let him crawl around on the factory door.” (Ross Perot)

Source: Langley, 1995



Extinction by instinct

JUST OUTSIDE THE BOX



Copyright www.justoutsidetheboxcartoon.com

“Ill-conceived and arbitrary decisions made without systematic study and reflection”

“There was internal disagreement. People were trying to block. And if somebody is going to block something, they've got to come up with a reason. So both people are probably doing some kind of study — a study to cause the block and a study to unblock the block. And if the block is unblocked, then there's a new block, and you've got to have a study to unblock that, and so it goes on.”

Source: Langley, 1995

Time to reflect

Reflecting on your 3YP project and describe:

- how much data/information have you collected and used?
- From what sources, when did you stop searching for data, and why?
- How did you make important decisions, and how did you prioritize?

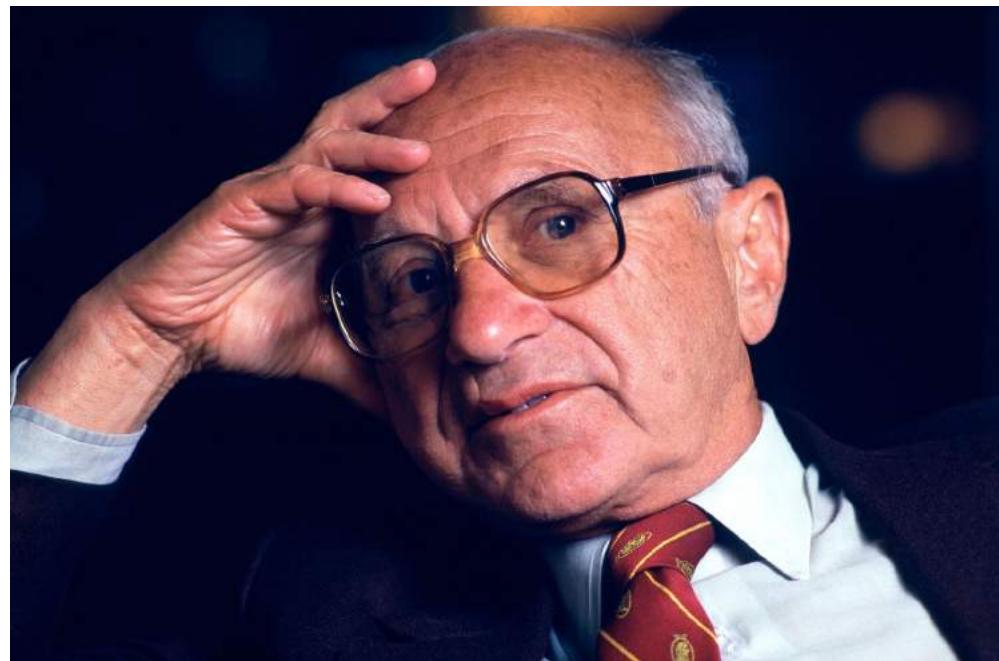
Neoliberalism

In defence of:

- Privatization
- Deregulation of the corporate sector
- Primacy to shareholders
- Focus on growth
- Lowering of income and corporate taxes
- De-unionizing

What are the core assumptions?

- Market equilibrium
- Laissez Faire → prosperity
- Rationality, information symmetry
- Models built on assumptions that ignore tensions and heterogeneity, and that legitimizes inequality



Critical views of neoliberal assumptions

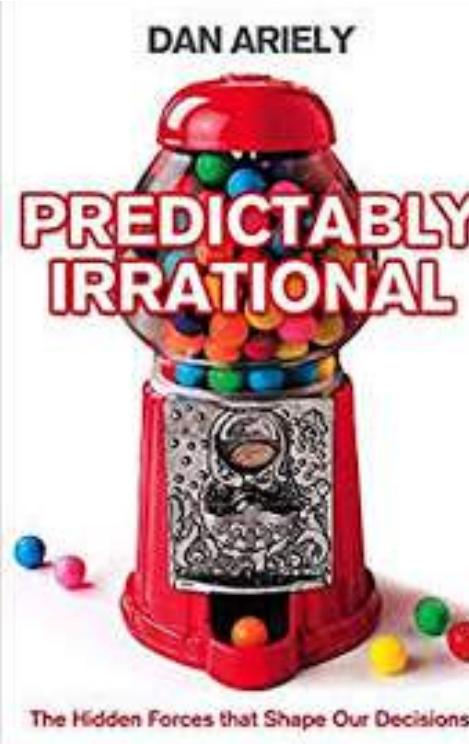
Simon

“Satisficing” –
not optimizing



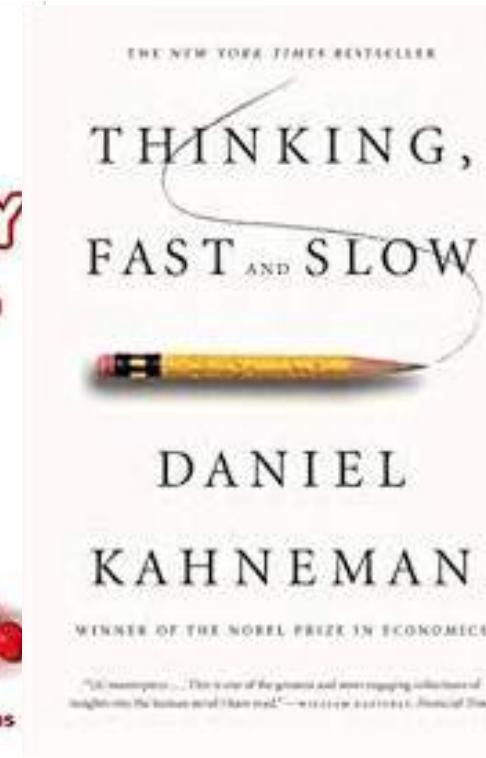
Ariely

Recurring
patterns of
irrationality



Kahneman

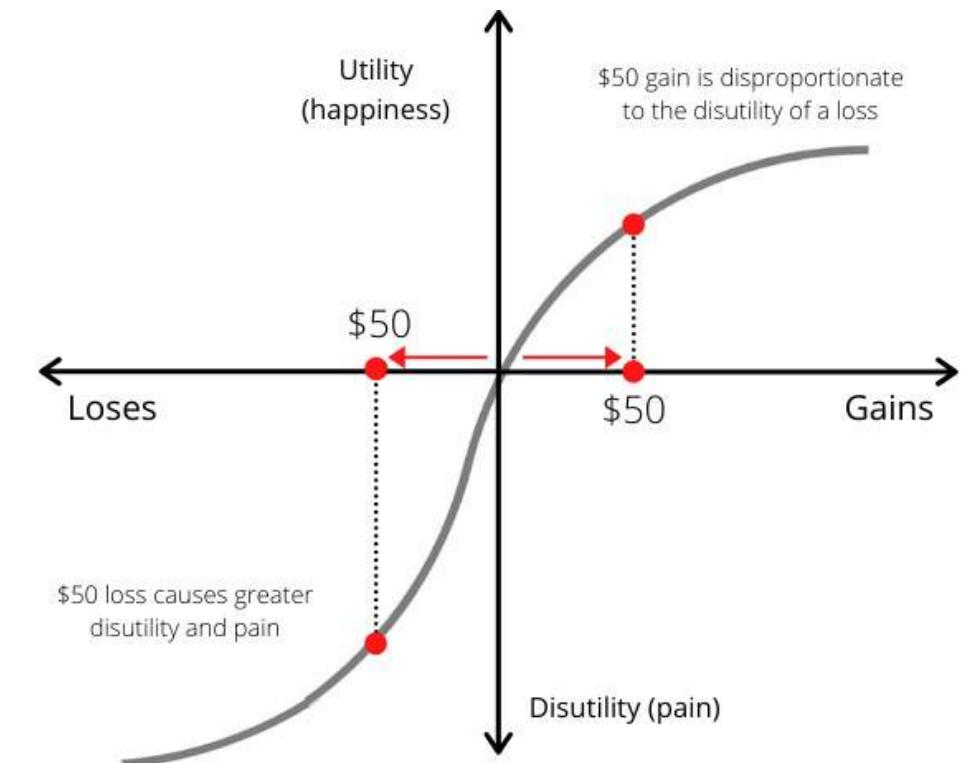
Hot and cold
cognitions



Kahneman &

Tversky

Loss aversion



Models behave badly

We don't always process all the information we have

We often over-process information too, looking for patterns that aren't there

We judge things in qualitative terms, not just quantitatively

So what's really going on here?

Bounded rationality

Bounded rationality is the idea that in decision-making, rationality of individuals is limited by the information they have, the cognitive limitations of their minds, and the finite amount of time they have to make decisions.

Satisficing solutions. Select the option that seems to meet a given need or most needs.

A haystack with 1000 different needles, you won't search for all of them, you'll take the first one that does the job



A glimpse of behavioural economics

- Field of study, located at the intersection between psychology and microeconomics
- Recognises that some apparent errors occur repeatedly, with different people making the same “mistakes” and for the exact same reasons
- Looks for systematic errors such as these to investigate experimentally, the goal being to understand errors in the models we are using and improve them

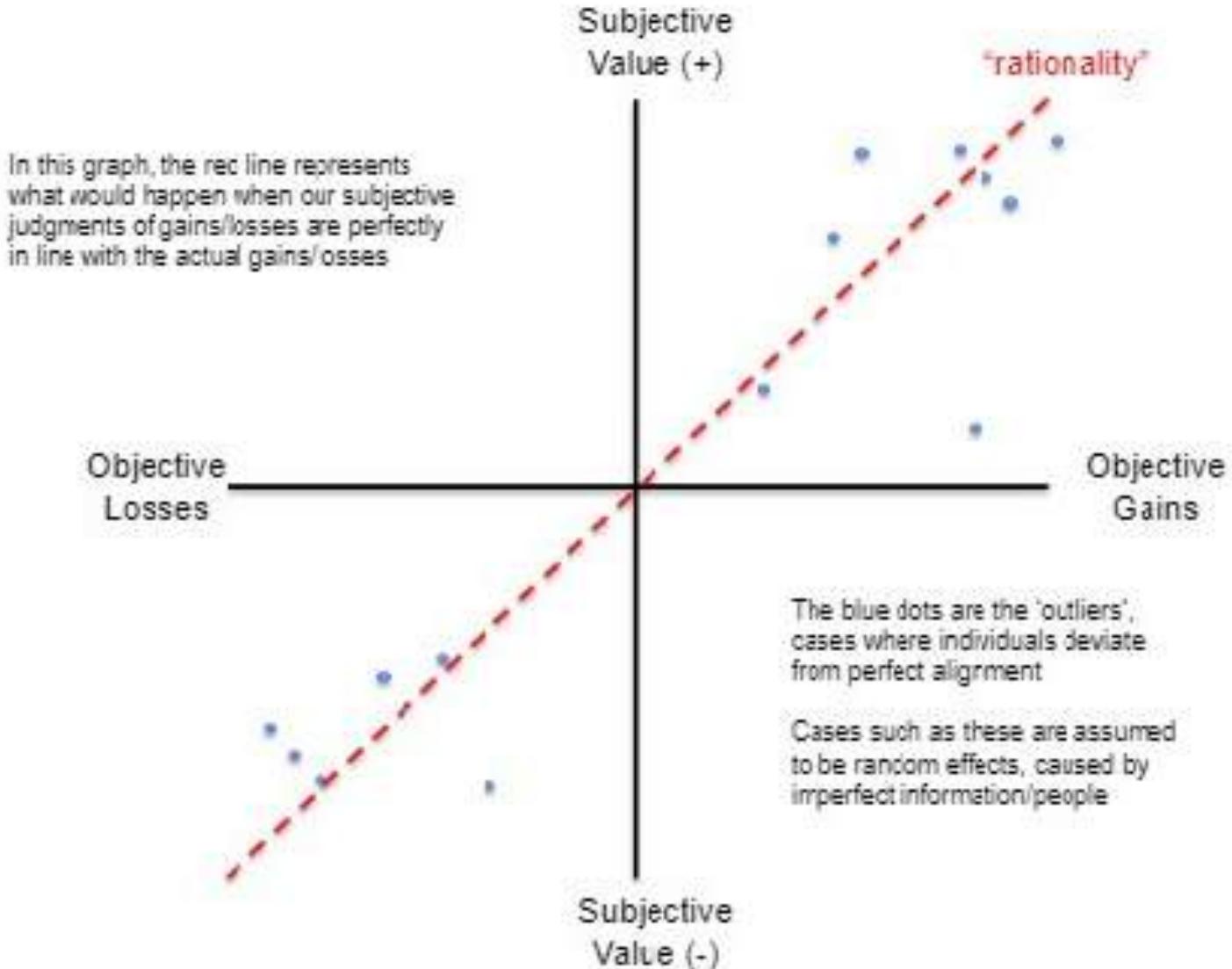
Prospect theory

- Kahneman & Tversky (1979) studied numerous examples of decisions that appear to have “irrational” outcomes
- Particular focus on changes in the subjective value we assign to a decision’s gains/losses (its prospects)
- Large numbers of people found to be varying systematically from what would be considered a “rational” outcome as a result of two interrelated factors

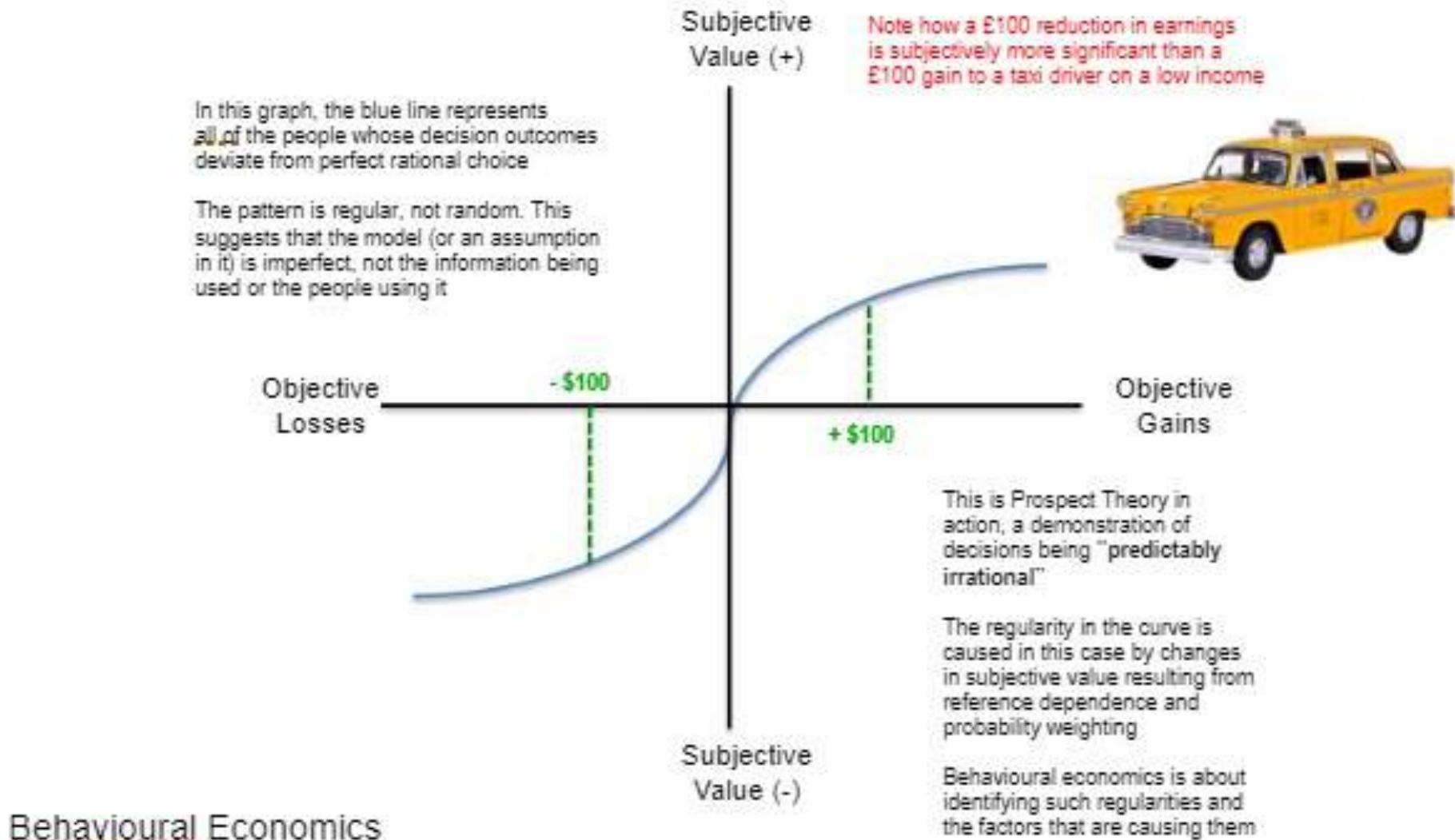


(McKayla's silver medal)

Gains and losses



Irrational taxi drivers



Thinking fast and slow

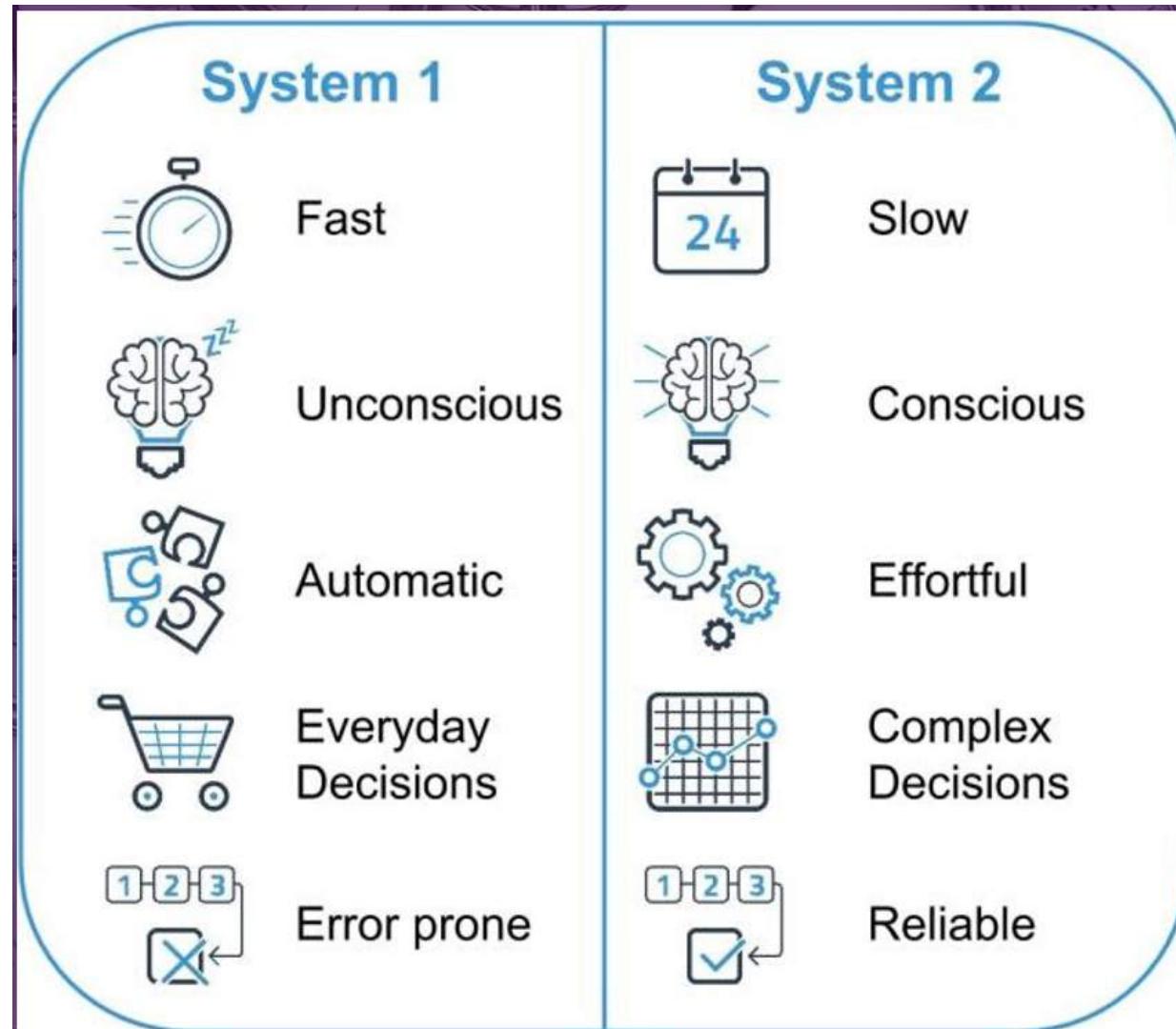
Kahneman, 2011

COLD RATIONALITY...



...AND HOT COGNITION!

Dual-process theory



Heuristics

Trevisan (2013)

THE ANCHORING HEURISTIC

Evaluating something on the basis of a current or recent comparator (e.g. prices on a first visit to Starbucks)

THE DEAL EFFECT

Associating particular presentations of an offer with some value assumption (e.g. “3 for £1”)

THE CHOICE PARADOX

Becoming demotivated when the number of choices available is too large (e.g. the “six jams” rule)

MENTAL ACCOUNTING

Treating expenditure differently purely as a result of its categorization (e.g. losing a ticket vs losing cash)

THE ENDOWMENT EFFECT

The impact of mere ownership (or not) on the values we assign to things

How not to be ignorant about the world



Our knowledge assumptions

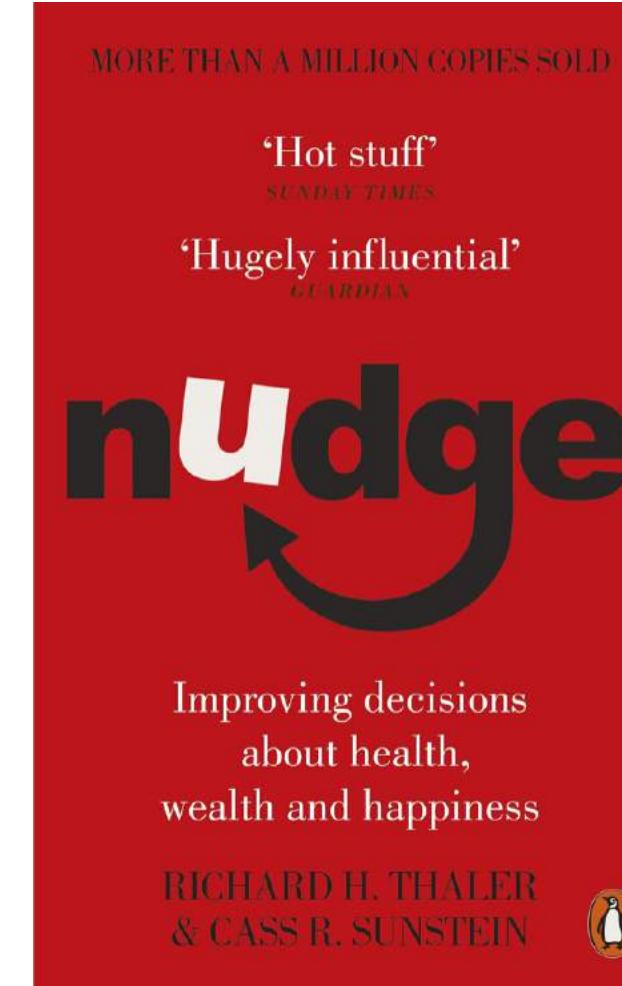
You may also want to learn a bit about crack dealing!



Nudges

- Any aspect of design “that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives” (Thaler and Sunstein 2008, 6).

- Focuses on impact of ways choices are presented: “Nudges are changes in the decision-making context that work with cognitive biases, and help prompt us, in subtle ways that often function below the level of our awareness, to make decisions...” (Selinger and Whyte, 2011)



Nudges in marketing

PICK THE SUBSCRIPTION YOU WANT TO BUY

Web Subscription \$59 **68%**

Web & Print Subscription \$125 **32%**

PICK THE SUBSCRIPTION YOU WANT TO BUY

Web Subscription \$59 **16%**

Print Subscription \$125 **0%**

Web & Print Subscription \$125 **84%**



If I wanted to give you homework...

Read these two articles and write a summary:

1. Gigerenzer & Gaissmaier (2011) – 35 pages

Article with a literature review on Heuristics

2. Selinger & Whyte (2011) – 13 pages

Article with a discussion on the ethical implications of Nudging

What if I reframed the task?

Choose TWO of the following articles to read and write a summary:

1. *Thaler & Sunstein (2009)* – 312 pages

Seminal book “Nudge”

2. *Gigerenzer & Gaissmaier (2011)* – 35 pages

Article with a literature review on Heuristics

3. *Selinger & Whyte (2011)* – 13 pages

Article with a discussion on the ethical implications of Nudging

4. *Trevisan (2013)* – 156 pages

Book “Irrational Consumer”, with a description of heuristics

Decision-making in organisations

Conventional view: causality

PROBLEM

DECISION

SOLUTION



The problem with ‘causality’

- Solutions may be proposed even when problems don’t exist
- Some problems are solved, others not
- Problems aren’t always intentionally prioritised
- There’s no clear indication of what is priority or not
- Choices are often made without solving problems

Keep the ball rolling

"Choice opportunities [are] occasions when an organisation is expected to produce behavior that can be called 'a decision'. Contracts must be signed; people hired, promoted or fired; money spent; responsibilities allocated."

(Cohen et al 1972)



Garbage Can model

(Cohen et al 1972)

Organized anarchies

Time orders how ‘choice’ occurs

Not ‘causality’, but ‘temporality’



Vectors that shape choice opportunities

(Cohen et al 1972)

PROBLEMS

how defined and
by whom?

SOLUTIONS

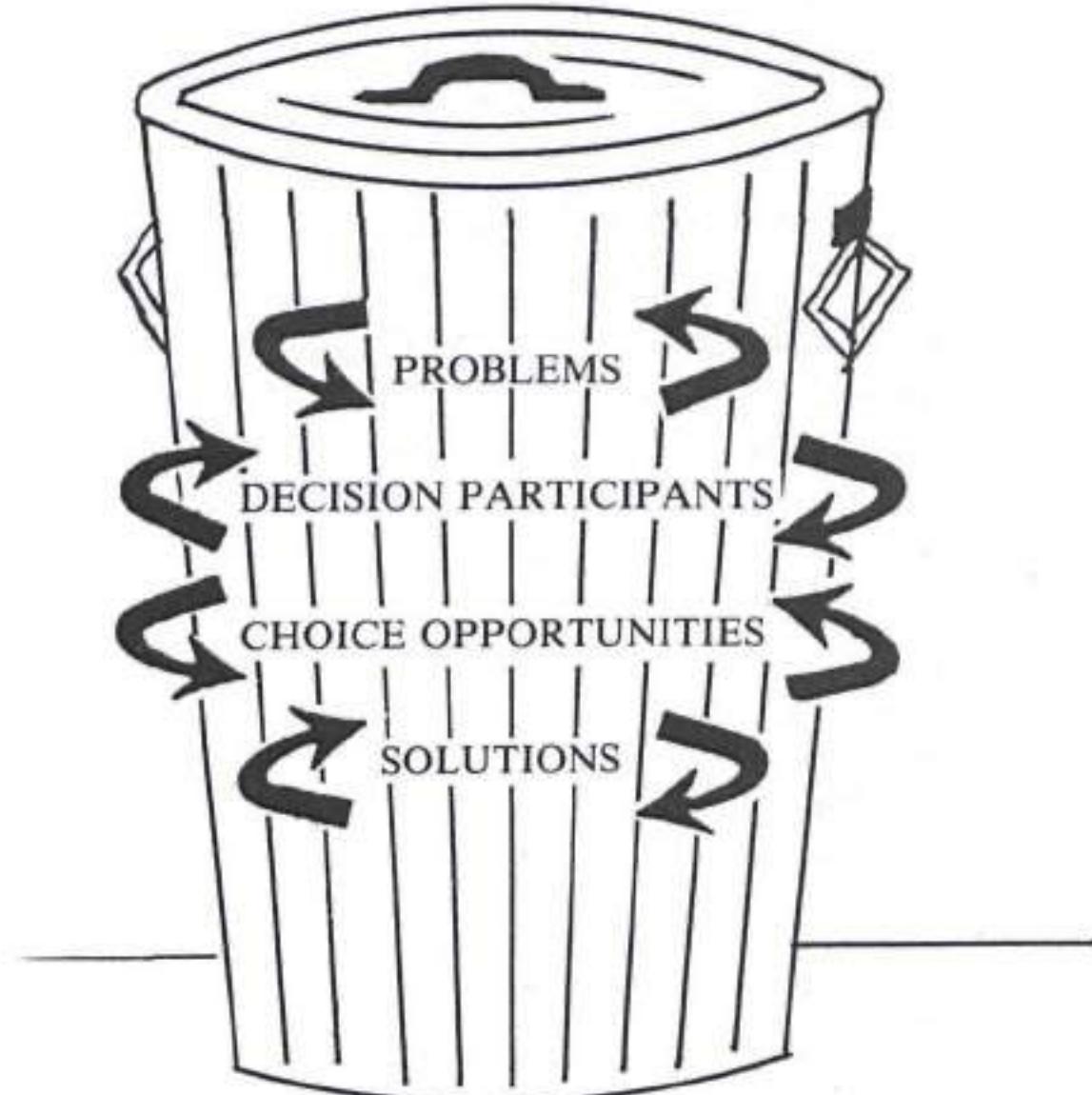
what do 'we' know
how to do?

PEOPLE

who is available,
present, or not?

CHOICE OPPORTUNITIES

what are structures
/ formal or informal
moments for action



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