

A Roadmap to Commercialization: Meeting Investor Needs With Discovery & Validation

*Martin Kleckner III PhD MBA
University of San Diego, the Brink SBDC
June 13, 2019*

Disrupting



Old

Habits



4th in a Four-Part Series

Winning SBIR & STTR Grants: The Basics

SBIR & STTR Grant – Phase II (Beyond the Basics)

Funding Your Innovation

Roadmap to Commercialization (I-Corps)

Where I'm Coming From

1) Six Launches; Two Exits

- RegeneMed
- InSilicoMed
- SpyFinder (Sold)
- Sal-Flex (Sold)
- + RefluxMD, U P Labs



Adjunct Faculty/Advisor: University of Southern California, California Institute of Technology, U C Irvine, Georgia Tech, U C Riverside, Ohio State, SDSU, CSU Fullerton; Santiago, Chile (CORFA Know Hub); Bogotá D.C. Columbia

2) Not-For-Profit 501 (c) 3 life science research

3) SBIR/STTR: NSF, NIH, DoD, DOE, DOT, DoEd, USDA, Coulter, Drexel; University of California; Cal State; L. A. BioMed Research Institute

4) General Electric, Roche, Toshiba, Honeywell (Europe, Asia, Americas)

5) \$55.8 MM in Capital & Grants Q2 2016 – Q2 2019

6) *Tech Innovation & Commercialization (BRINK SBDC) Univ of San Diego*

... Where We're Going

Seed Fund – Accelerator Cohort
National Science Foundation I-Corps
San Diego Investor Angel Conference

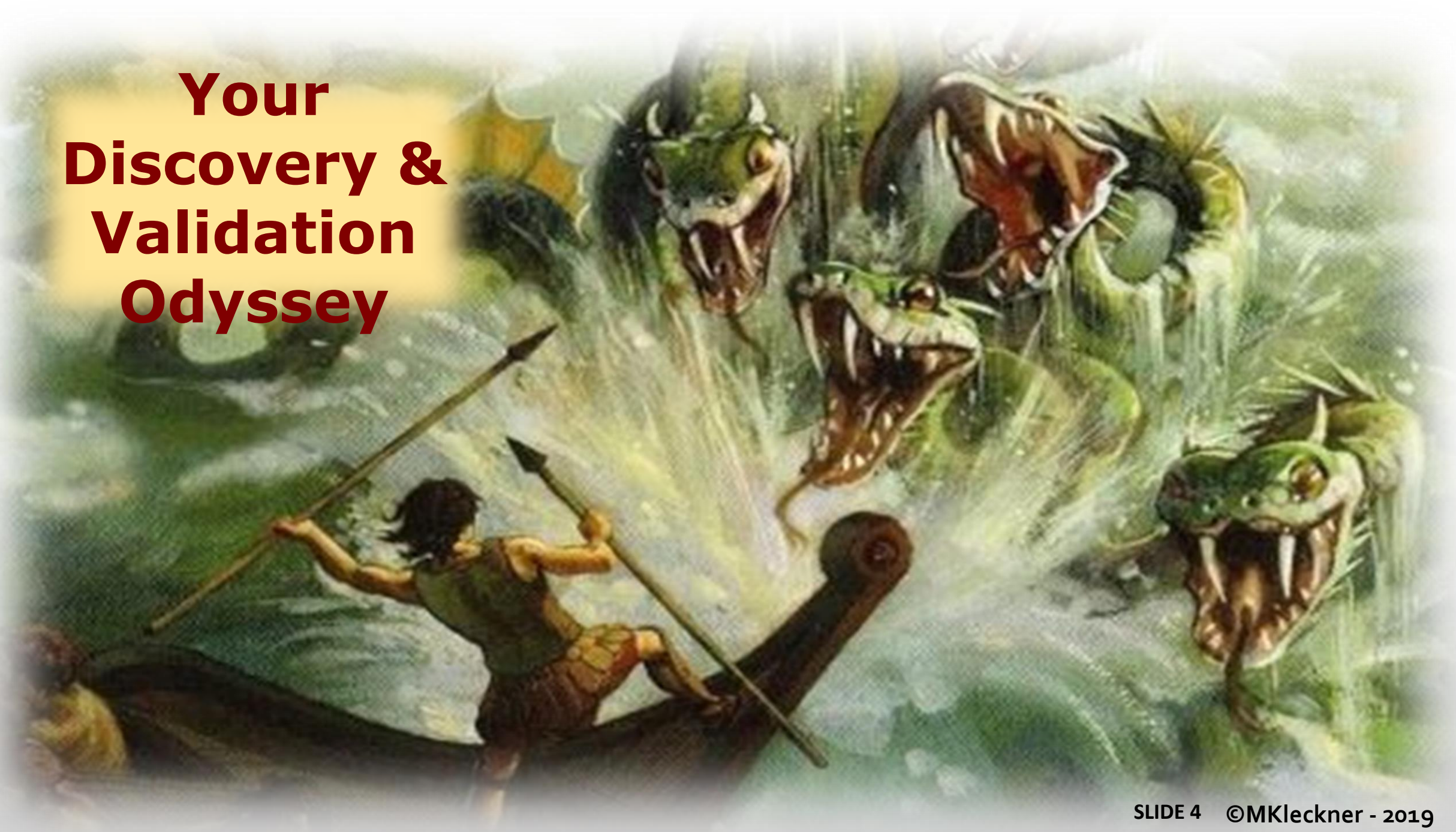


“Taking Your Phase I SBIR to the Brink”

Curt Becker – NIH September 5 Submission

June 6	Finding “FOA”s; Instructions; Begin Writing
June 13	Webinar: Registration - DUNS, EIN
June 20	Specific Aims, Team, Budget
June 27	Webinar: Registration - SAM, eRA Commons, et al.
July 11	Workplan, Innovation & Impact
July 25	Research Plan, Budget
August 1	Review Research Plan, Commercialization Plan
August 15	Review Commercialization Plan, Final Document
August 22	Wrap-Up; Closure

Your Discovery & Validation Odyssey

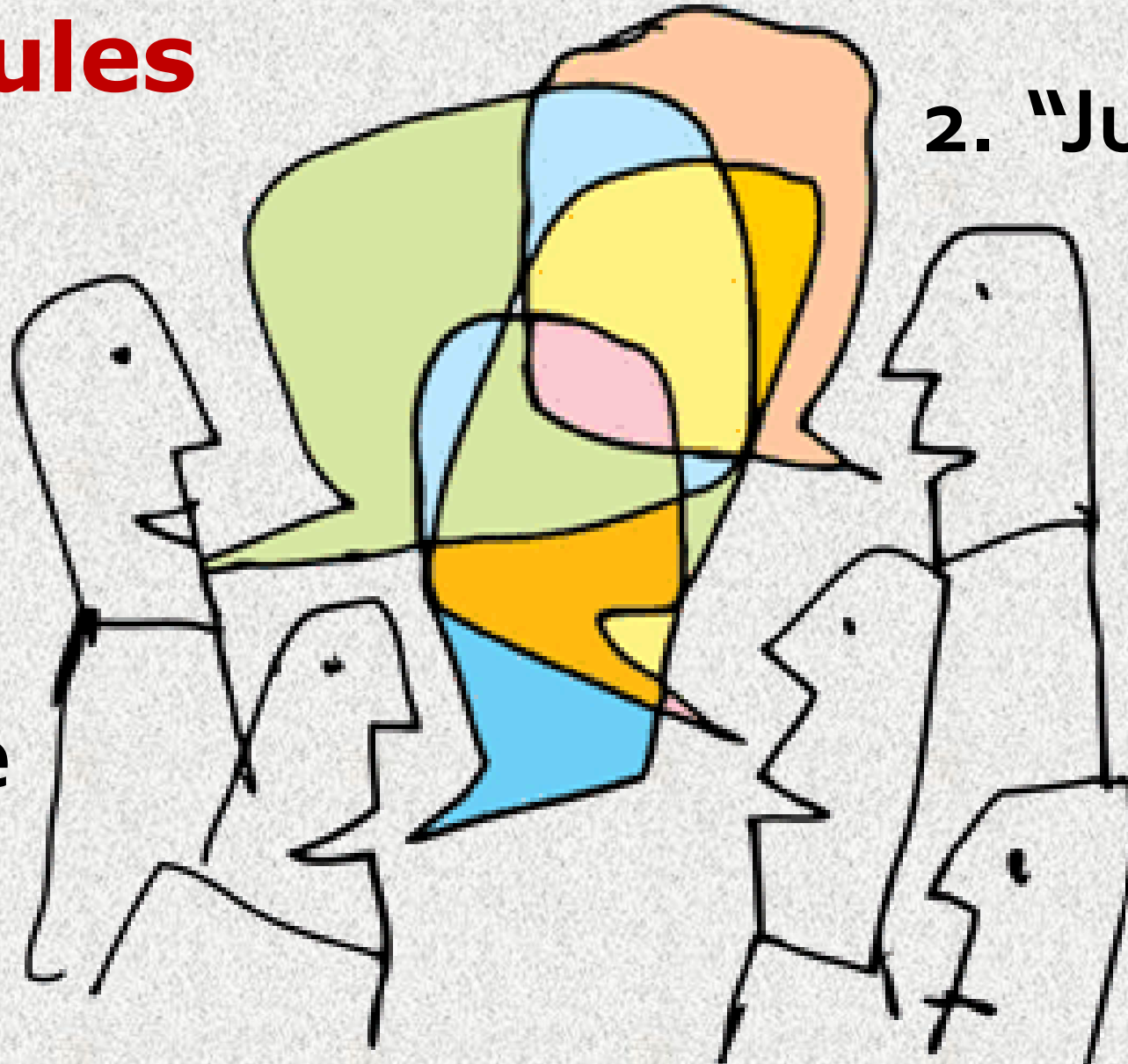


Essential Rules

1. Ask
Questions

3. Contribute

2. "Jump In"



Different Perspectives/ Comparable Needs



**SBIR/STTR
Agencies**
-
**Customers
("Early-vangelist")**
-
**Strategic
Partners**
-
**Investors
(Angel Groups,
Corporate, Venture
Philanthropy)**



"The Great Uncertainty"

(followed the Great Recession, 2008,
& the "dot.com burst", 2000)

Disruptive
(or "Discontinuous")
Innovation or
Creative Destruction:
What is an unknown may
be a barrier

Downsizing,
Unemployment,
M & A,
Intense
Competition
Failed Ventures

"Power Laws"

Makes gaining
"Market Traction" a
tough door to go
through

**(1) What is your [Evidence-Based]
Business Model?**

(2) How was your Model developed?

(3) What Traction have you gained?

Why I Stopped Investing (And You Should Never Start)

Tucker Max – August 11, 2015
<http://observer.com>

- 1) Not enough good people: “There is a huge number of people starting companies who have no business at all doing (it).”**
- 2) (They cannot execute effectively in a start-up environment.)**



**We're turning the
industry upside down**

The Angel (VC) Conundrum

[Power Laws]: “It’s common to make money from your single best angel investment than all the rest put together. The consequence of this is that the real risk is missing out on that outstanding investment.”

Sam Altman (March 25, 2013)
<http://blog.samaltman.com/upside-risk>

What Angel Investors Value Most When Choosing What to Fund

Nicole Torres, Harvard Business Review – August 6, 2015

<https://hbr.org/2015/08/what-angel-investors-value-most-when-choosing-what-to-fund>

**Angel List Experiment: Three Factors: (1) The Founding Team,
(2) Traction, & (3) Existing Lead Investors**

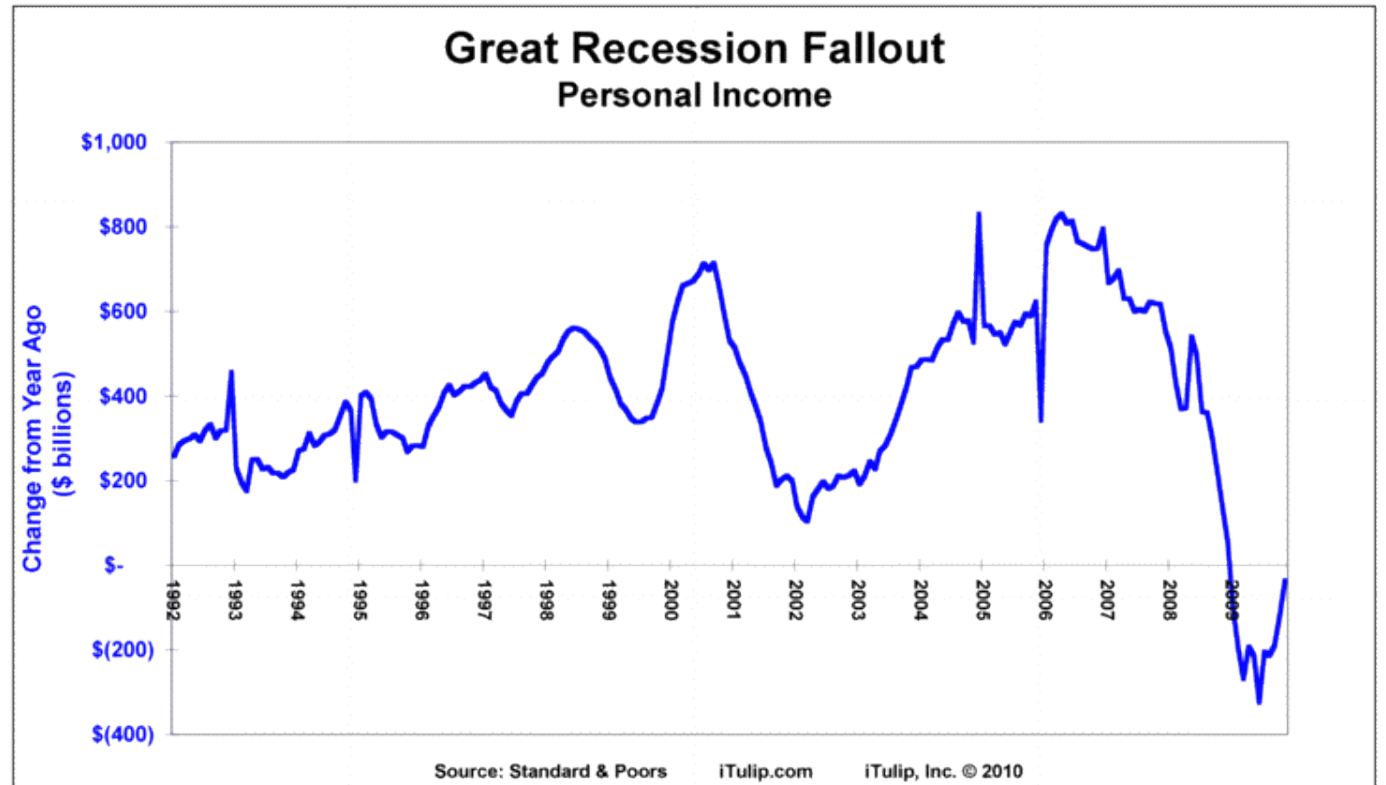
“Attracting Early Stage Investors: Evidence from a Randomized Field Experiment”, Shai Bernstein, Arthur Korteweg, & Kevin Laws
(http://web.stanford.edu/~shaib/BernsteinKortewegLaws_052014.pdf)

The (*Not So*) Puzzling Behavior of Angel Investors¹

1. Angel investing is not necessarily a purely financial exercise
2. Angels “usually develop an emotional attachment to the business venture.”
3. Motivators: the chance to participate; to be active in the venture; “psychic income”, “for-profit philanthropy”²

1. Darian M. Ibrahim, William & Mary Law School, <http://scholarship.law.wm.edu/facpubs/1685>
2. Feld Thoughts, Is it Angel Investing or For-Profit Philanthropy?, <http://www.feld.com/blog/archives/002013.html> (Oct. 23, 2006, 18:42 EST).

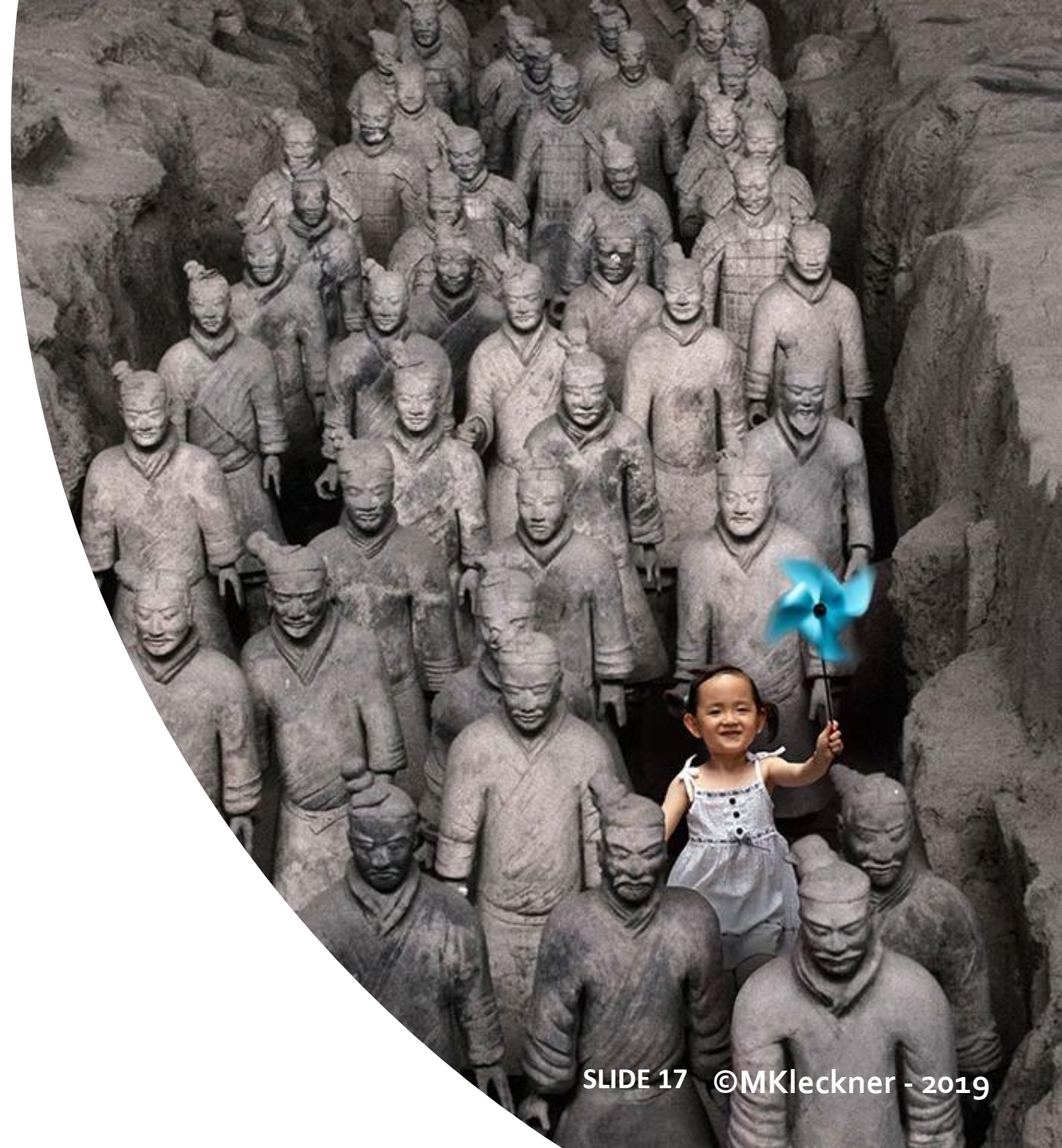
Investors Lost Also





NO
DISRUPTORS
ALLOWED!
THIS MEANS YOU!

**OK, well maybe we
do like some
disrupters**



Loss Aversion

The Pain of Loss
is stronger than
the Joy of Gain

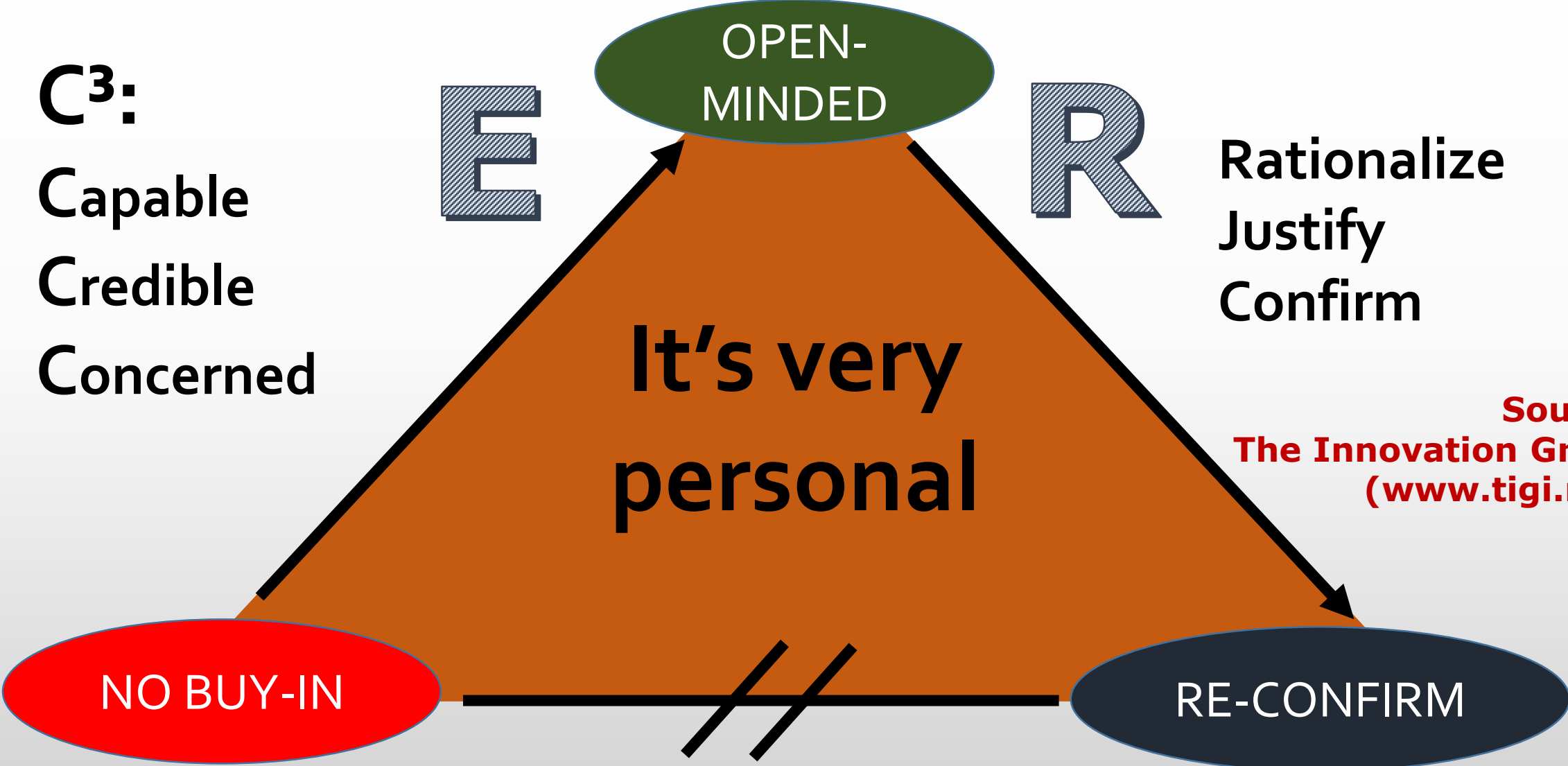
January 27, 2017

Written by Ashley Hamer

<https://curiosity.com/topics/loss-aversion-says-that-the-pain-of-loss-is-stronger-than-the-joy-of-gain-curiosity/>

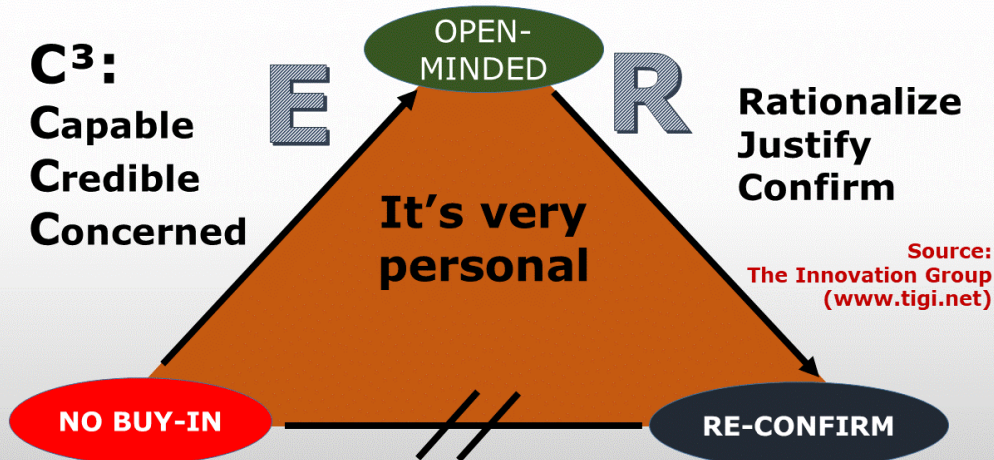
Amos Tversky and Daniel Kahneman, "Loss Aversion in Riskless Choice: A Reference-Dependent Model" (1991)

People Buy Emotionally, Rationalize After



How Decisions Are Made

People Buy Emotionally, Rationalize After



How Well Do You Understand
(Know) Me?

- 1) Decisions typically occur in precise, psychological order
 - About us
 - About our company
 - About our product or service
 - About our ask/price
 - About the time to invest/buy
- 2) Two Key Issues: (a) Our Integrity, (b) Our Judgment
 - How well does our product knowledge match our understanding of their needs?
 - WE Will Be Assessed

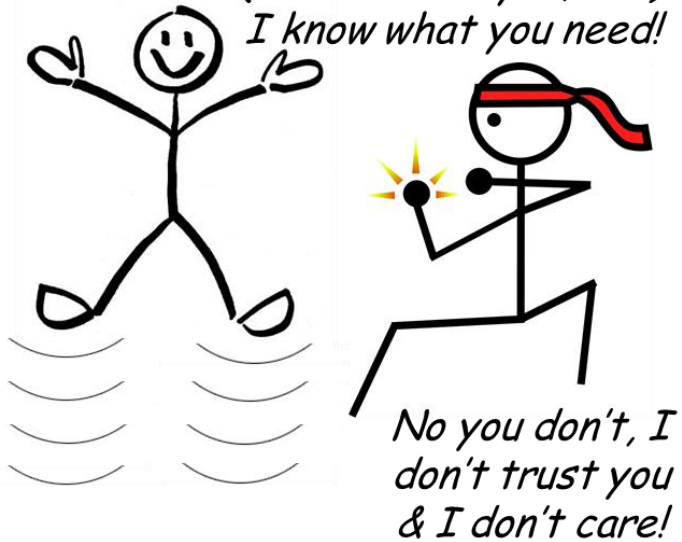
I have a cool new tissue product for you!



My product is a disruptive innovation!

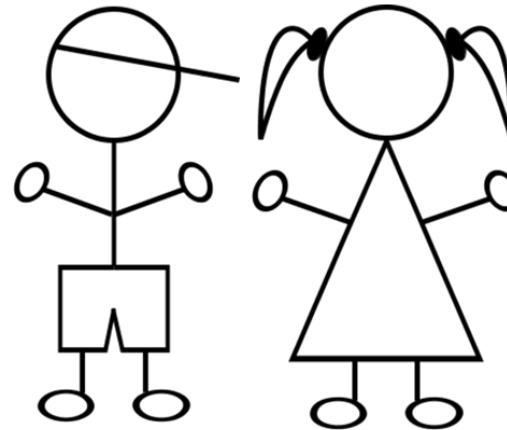


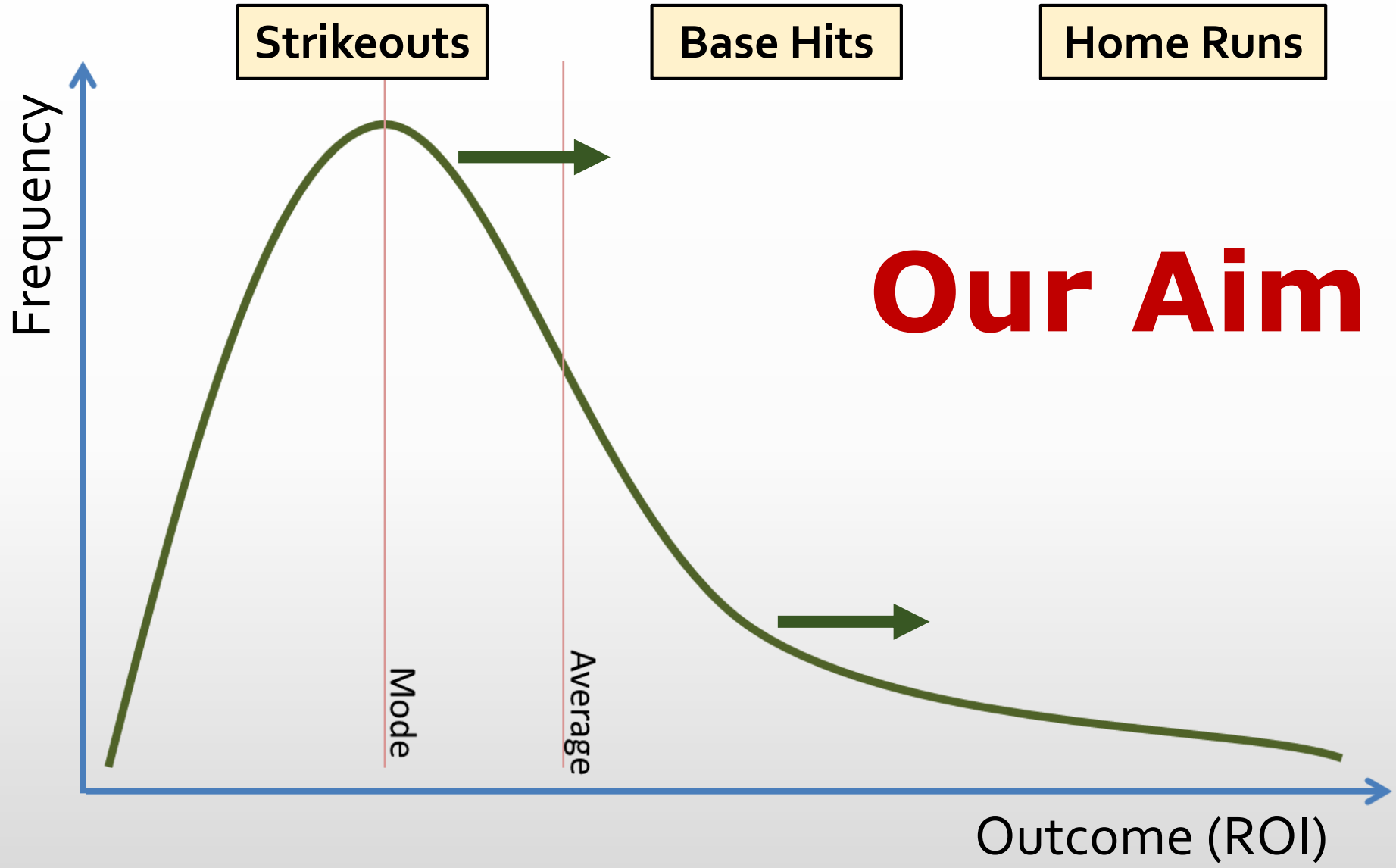
*(I don't know you, but)
I know what you need!*



ACK!! What do you want?

FINALLY!! I am glad you asked...





Strikeouts

Base Hits

Home Runs

Our Aim

Mode

Average

Outcome (ROI)



Can Our Dog Hunt?

(How do we
get there?)

Evidence-Based Pathway

- 1) Start-ups v. Companies
- 2) Strategy, Process & Organization
- 3) Business Plans v. Models
- 4) Business Model Generation
- 5) Customer Discovery & Validation



FELIX HELLER 2012

ADAPTED FROM AN ORIGINAL BY F. HELLER

What We Used To Believe

Startups are a **Smaller Version** of a Large Company

What We Now Know

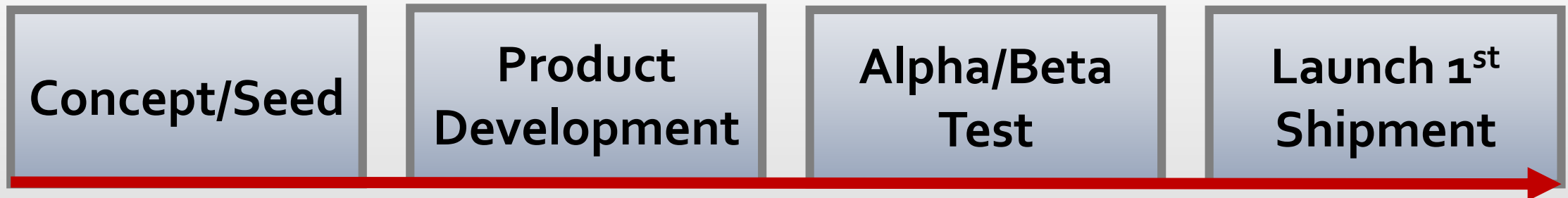
Startups Search Companies Execute

Memo: Larry Bossidy, Execution – The Discipline of Getting Things Done (2002)

“Execution is a systematic way of exposing reality and acting on it.”

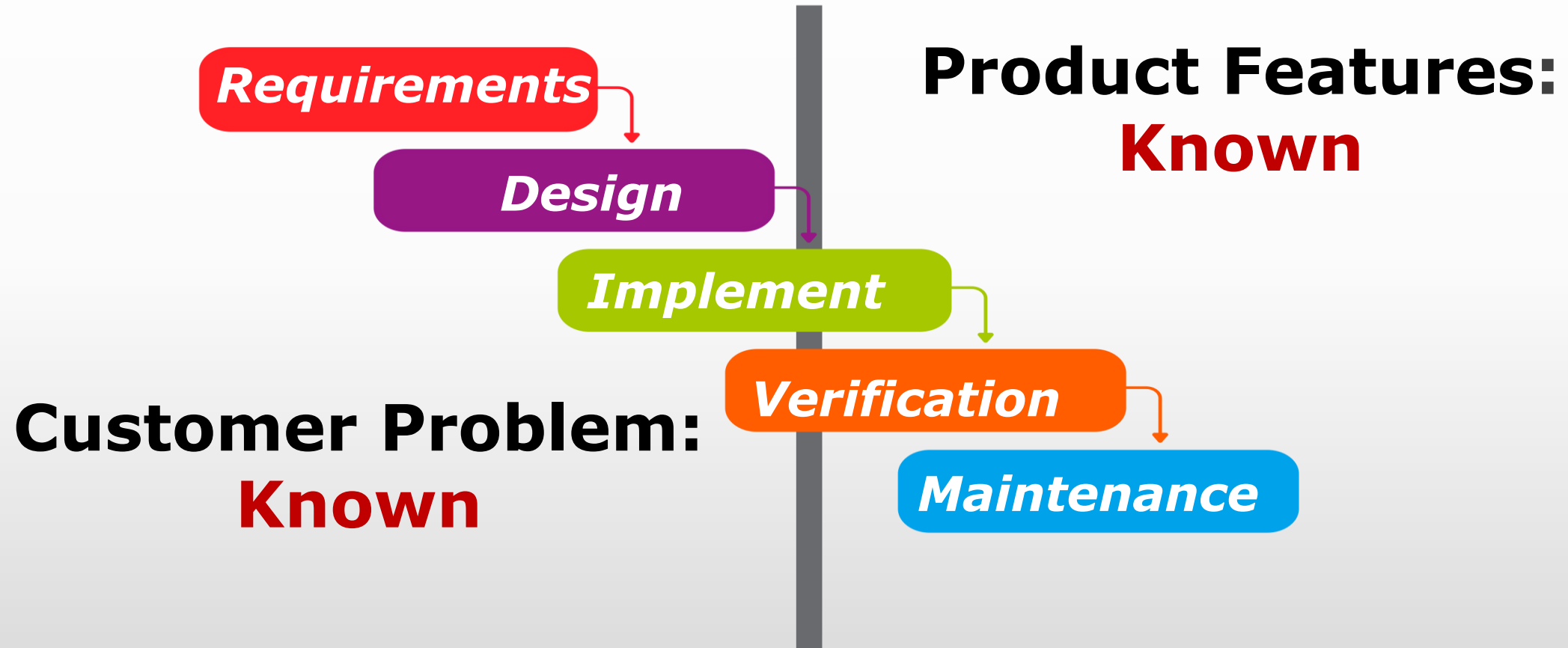
What We Used to Believe

Strategy



NEW PRODUCT INTRODUCTION MODEL

Waterfall / Product Management Execution on Two "Knowns"



Source: Eric Ries
<http://startuplessonslearned.blogspot.com>

What We Now Know

**It's a Process
(of Discovery & Learning)**

What We Used to Believe

Education

Entrepreneurial Education was **About** **Execution**

What We Now Know

**Entrepreneurial Education
Begins with the **Search** for a
Business Model**

Putting Search First is a Radical Change

**It's Not Just One More
Methodology**

Experiential Immersion

48 COMPANIES
70+ CONVERSATIONS

Total Customers Contacted: 86

127 Interviews ("Experiments")

Spoke to: firms covering 60%-80% of the global radiopharmaceutical market, 15 clinical PET users, and 7 GMP PET manufacturers, 5 officials of state economic development (>90 people total)

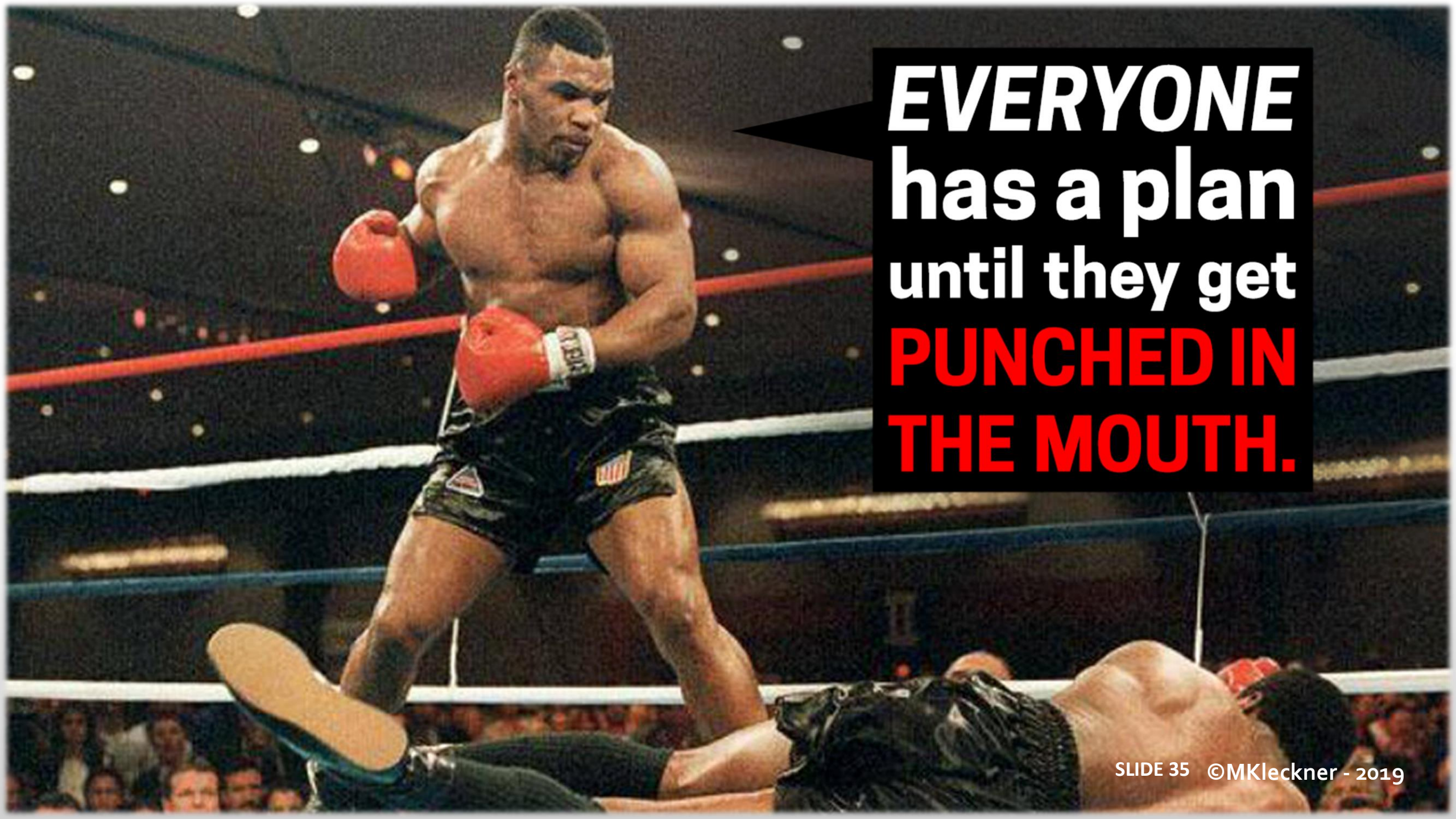
of customers: ~85 people

We talked to >60 physicians, patients, entrepreneurs, potential OEM partners, and many others

**Investors
Want
Evidence**

What We Used to Believe

Start With a Business Plan
and Financial Model



EVERYONE
has a plan
until they get
PUNCHED IN
THE MOUTH.

No battle plan survives first contact with the enemy.

- Helmuth von Moltke¹

No Business Plan survives first contact w/ customers.

- Steve Blank²

We haven't read a business plan in over twenty years.

- Brad Feld/Jason Mendelson³



(1) 19th-century head of the Prussian army; (2) Stanford & U C Berkeley (I-Corps); (3) Foundry Group, Boulder, CO

Five - Year Plans

Venture Capitalists

Soviet Union



BUSINESS PLAN

Prepared by:
Clayton A. Woodard
P.O. Box 2249
Frederick, MD 21705
(301) 695-4200

BUSINESS PLAN

Prepared by:
Clayton D. Accordia, LLC
P.O. Box 2249
Frederick, MD 21705
(201) 695-4200

	A	B	C	D	E	G	H	I	J	K	L	M	N	
32	Balance Sheet											Year		
33									1999	2000	2001	2002	2003	
34	Assets													
35		Cash and cash equivalents*							\$4.27	\$6.38	\$7.62	\$8.83	\$7.00	
36		Accounts receivable*							\$20.58	\$24.39	\$28.77	\$34.11	\$32.00	
37		Inventories*							\$26.73	\$30.45	\$36.75	\$43.27	\$38.00	
38		Deferred income taxes*							\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
39		Total current assets							\$51.58	\$61.22	\$73.14	\$86.21	\$77.00	
40		Fixed assets												
41		Cost*							\$331.64	\$423.92	\$503.87	\$613.28	\$650.00	
42		Accumulated Depreciation*							\$98.72	\$105.09	\$112.40	\$122.26	\$115.00	
43		Net fixed assets							\$232.92	\$318.83	\$391.47	\$491.02	\$535.00	
44		Goodwill*							\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
45		Intangible assets*							\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
46		Other assets*							\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
47		Total assets							\$284.50	\$380.05	\$464.61	\$577.23	\$612.00	
48	Liabilities													
49		Accounts payable*							\$31.83	\$63.43	\$83.84	\$94.41	\$80.00	
50		Current debt*							\$30.86	\$43.83	\$44.85	\$79.49	\$0.00	
51		Total current liabilities							\$62.69	\$106.46	\$148.69	\$173.90	\$80.00	
52		Long-term debt*							\$40.00	\$46.92	\$53.41	\$73.57	\$214.54	
53		Other long-term liabilities*							\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
54		Total liabilities							\$102.69	\$153.38	\$202.10	\$247.47	\$294.54	
55	Shareholders' equity													
56		Common Stock and Additional Paid in Capital*							\$90.00	\$130.00	\$160.00	\$220.00	\$200.00	
57		Retained Earnings*							\$91.81	\$96.67	\$162.51	\$169.76	\$117.46	
58		Total Shareholders' Equity							\$181.81	\$226.67	\$322.51	\$389.76	\$317.46	
59		Total liabilities and shareholders' Equity							\$284.50	\$380.05	\$464.61	\$577.23	\$612.00	

BUSINESS PLAN

Prepared by:
 Claudio Accodato
 P.O. Box 2249
 Frederick, MD 21705
 (201) 695-4200

	Year				
	1999	2000	2001	2002	2003
Cash and cash equivalents	\$4.27	\$6.38	\$7.62	\$8.83	\$7.00
Accounts receivable*	\$20.58	\$24.39	\$28.77	\$34.11	\$32.00
Inventories*	\$26.73	\$30.45	\$36.75	\$43.27	\$38.00
Deferred income taxes*	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total current assets	\$51.58	\$61.22	\$73.14	\$86.21	\$77.00
Fixed assets					
Cost*	\$101.64	\$423.92	\$593.87	\$613.28	\$650.00
Accumulated Depreciation*	\$98.72	\$105.09	\$112.40	\$122.26	\$115.00
Net fixed assets	\$22.92	\$318.83	\$481.47	\$491.02	\$535.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Intangible Assets*	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Other	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total assets	\$284.50	\$380.05	\$464.61	\$577.23	\$612.00
Liabilities					
Accounts payable	\$31.83	\$63.43	\$83.84	\$94.41	\$80.00
Current debt*	\$30.86	\$43.83	\$44.85	\$79.49	\$0.00
Total current liabilities	\$62.69	\$106.46	\$148.69	\$173.90	\$80.00
Long-term debt*	\$40.00	\$46.92	\$53.41	\$73.57	\$214.54
Other long-term liabilities*	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total liabilities	\$102.69	\$153.38	\$202.10	\$247.47	\$294.54
Shareholders' equity					
Common Stock	\$90.00	\$130.00	\$160.00	\$220.00	\$200.00
Retained Earnings	\$91.81	\$96.67	\$102.51	\$109.76	\$117.46
Total Shareholders' Equity	\$181.81	\$226.67	\$262.51	\$329.76	\$317.46
Total Shareholders' Equity	\$284.50	\$380.05	\$464.61	\$577.23	\$612.00

**Plans are worthless, but
planning is everything.***

- Dwight D. Eisenhower

*** National Defense Executive Reserve Conference, Washington DC, November 14, 1957**

**Instead of creating
business plans...**

**Today we discover
*business models.***



**Through Discovery
We Engage** so that
we can develop an
understanding of
(their) needs,
desires, behaviors,
characteristics,
beliefs, influences,
motivations,
(dimensions) . . .

“Excellent strategy, General...Though I fear the enemy
might be full size...”

What we Used to Believe

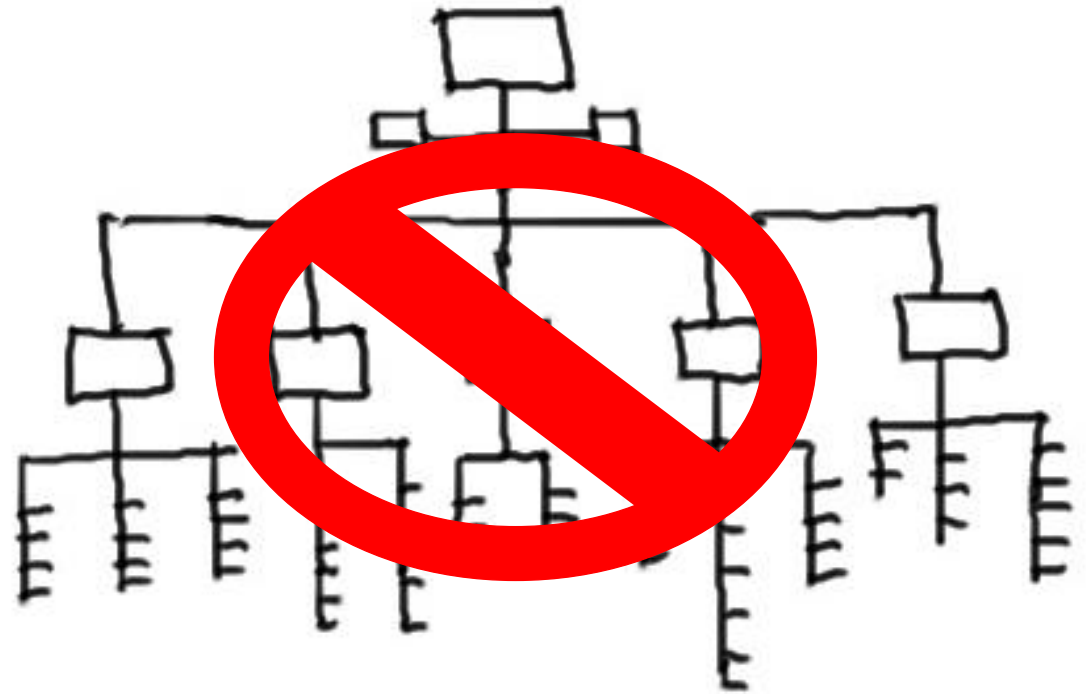
Organizations

**A founder does not run sales,
marketing or business
development...**

**A founder runs a customer
development team.**

Organizations

Classical
Company



Team
Member

Team
Member

Mentor

**Startups operate as teams,
not as hierarchies.**

Companies vs. startups

A company is a business organization that sells a product or service in exchange for revenue & profit.

A startup is a *temporary* organization designed to search for a repeatable and scalable business model.

Organizations & Business Models

A company is organized to deliver
value via its business model.

A startup organizes itself to discover
opportunities and create a business model.

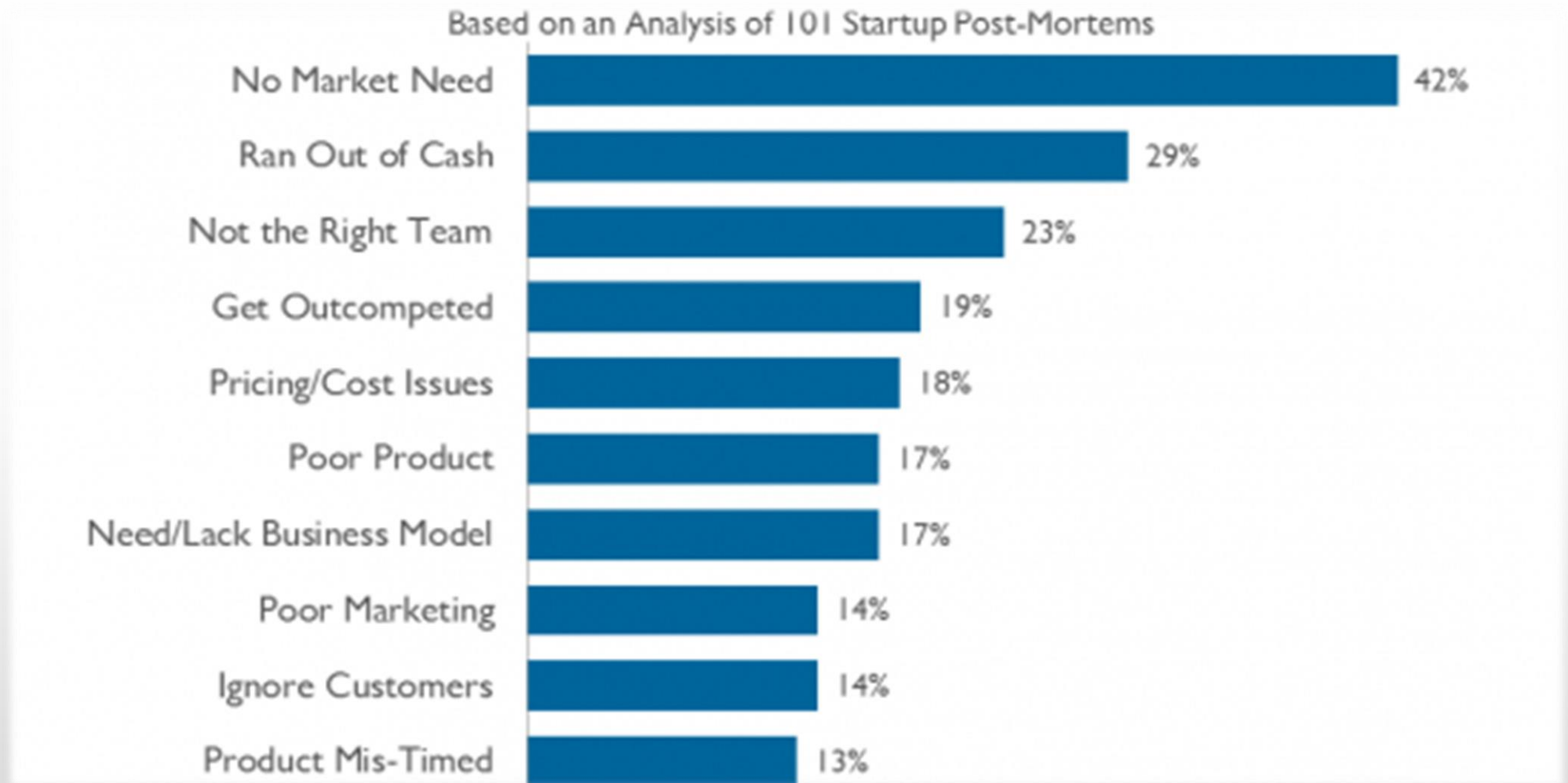
Startup's Goal

To become a company!

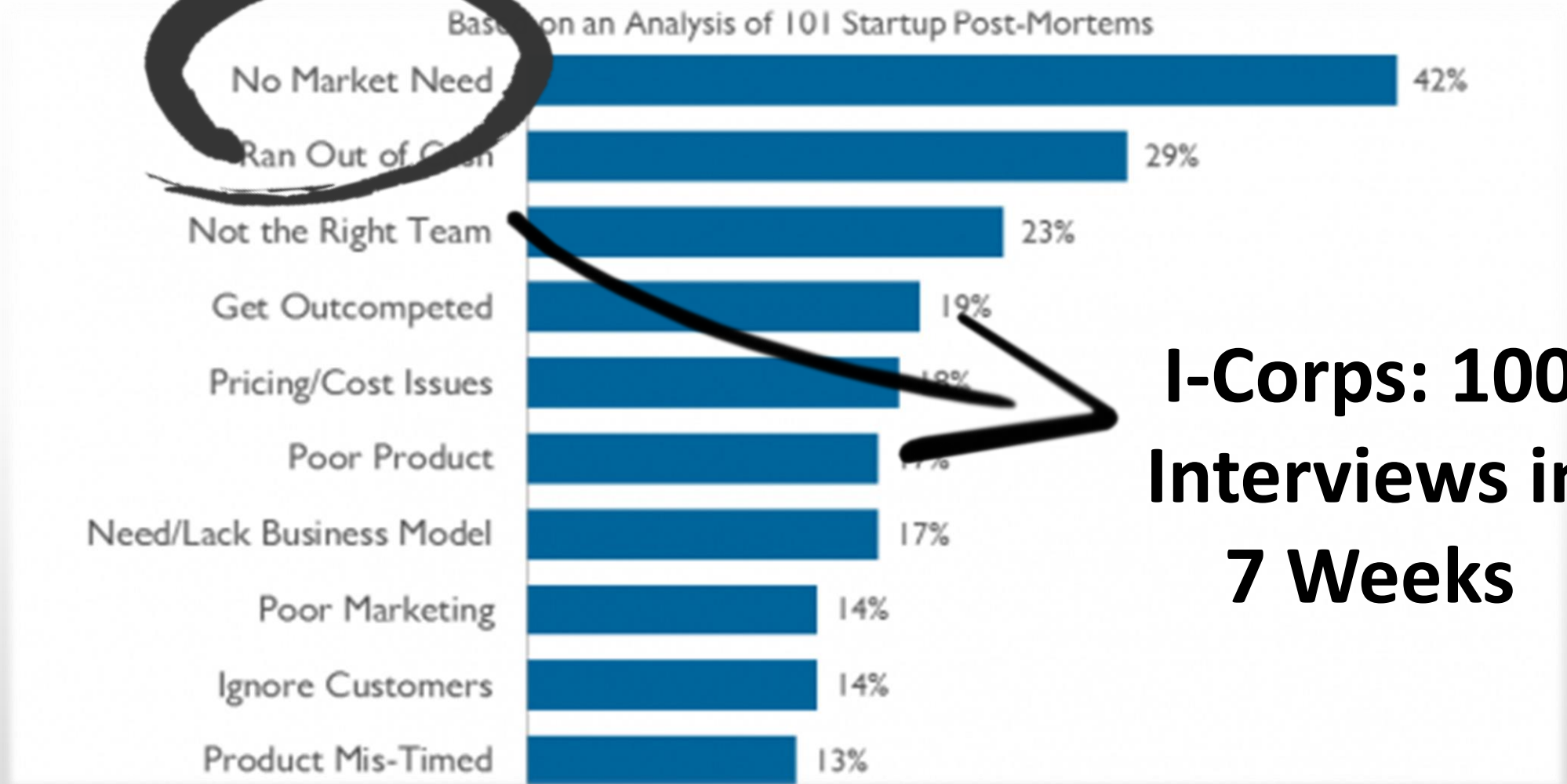
**A startup becomes a company
AFTER its customer discovery
leads to a repeatable, scalable,
and profitable business model.**

Why Do Start-Ups Fail?

Why Do Start-Ups Fail?



Why Do Start-Ups Fail?



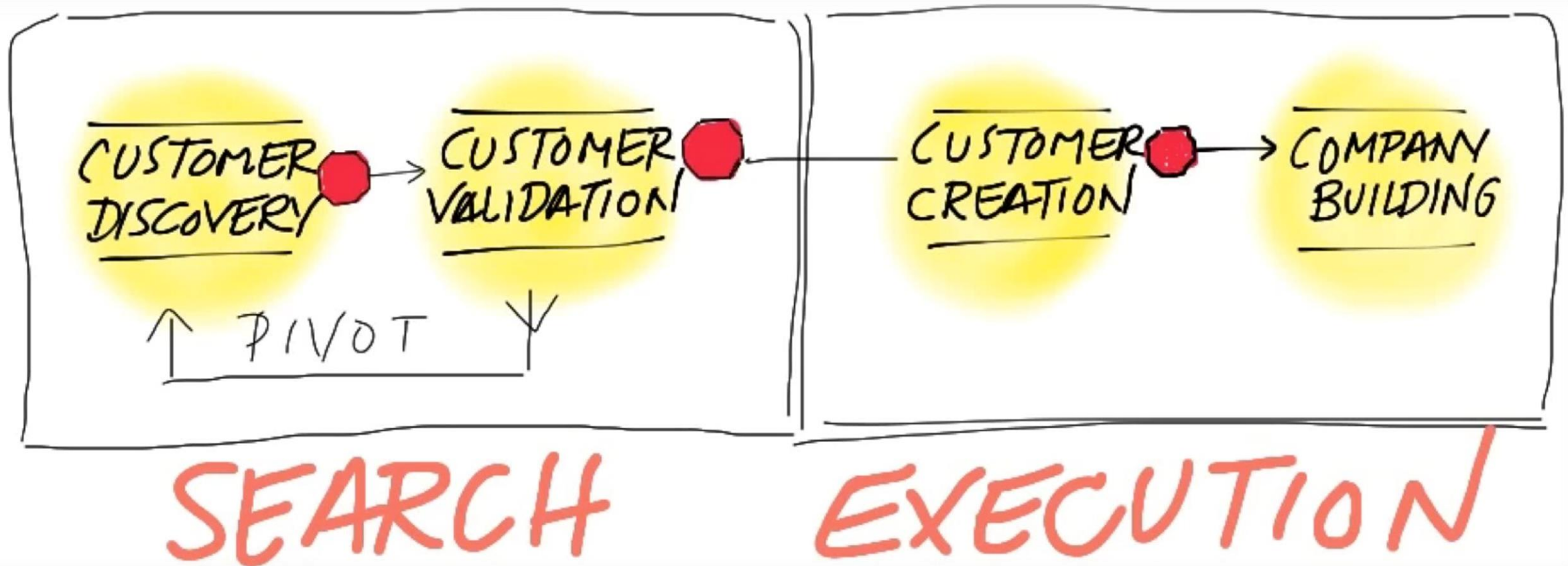
**More startups fail from
a lack of customers than
from a failure of product
development**

**Therefore,
Investors, SBIR Reviewers
And Our Customers
Need Us To**

DISCOVER & VALIDATE

Before Trying to Sell . . .

. . . Customer Development



Business Model Generation **(Customer Discovery & Validation)**

Alexander Osterwalder & Yves Pigneur, Business Model Generation (2010)

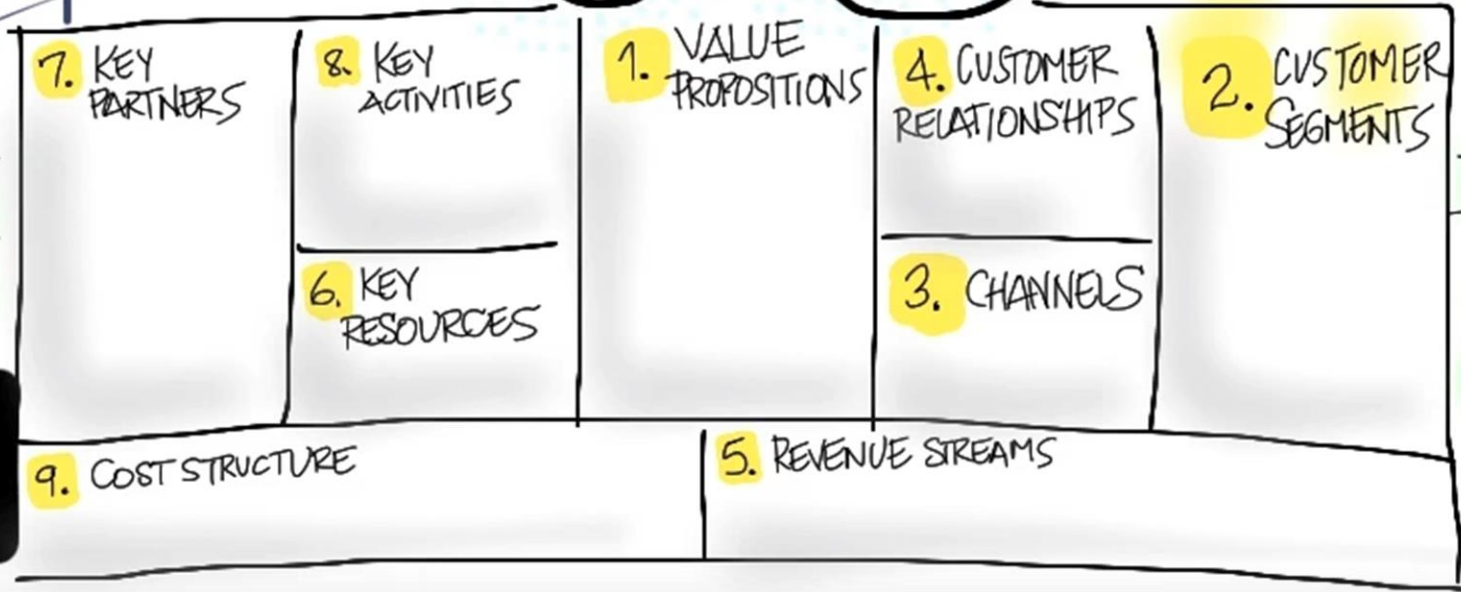


WHAT is a
BUSINESS MODEL?

WHAT is a BUSINESS MODEL?

How a company **CREATES VALUE** for **ITSELF** while delivering products or services for customers.

9 Components...



7. KEY PARTNERS

8. KEY ACTIVITIES

1. VALUE PROPOSITIONS

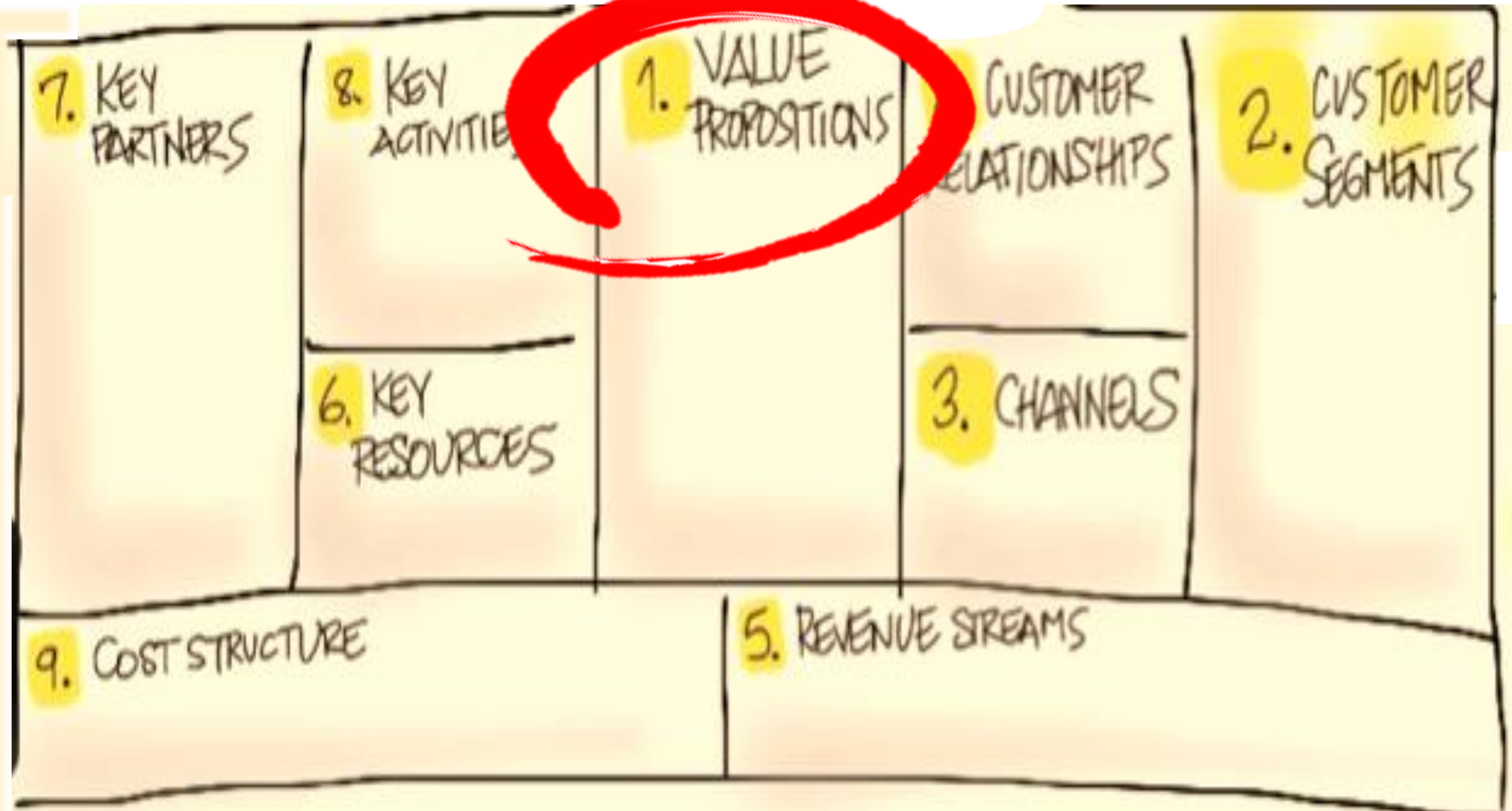
4. CUSTOMER RELATIONSHIPS

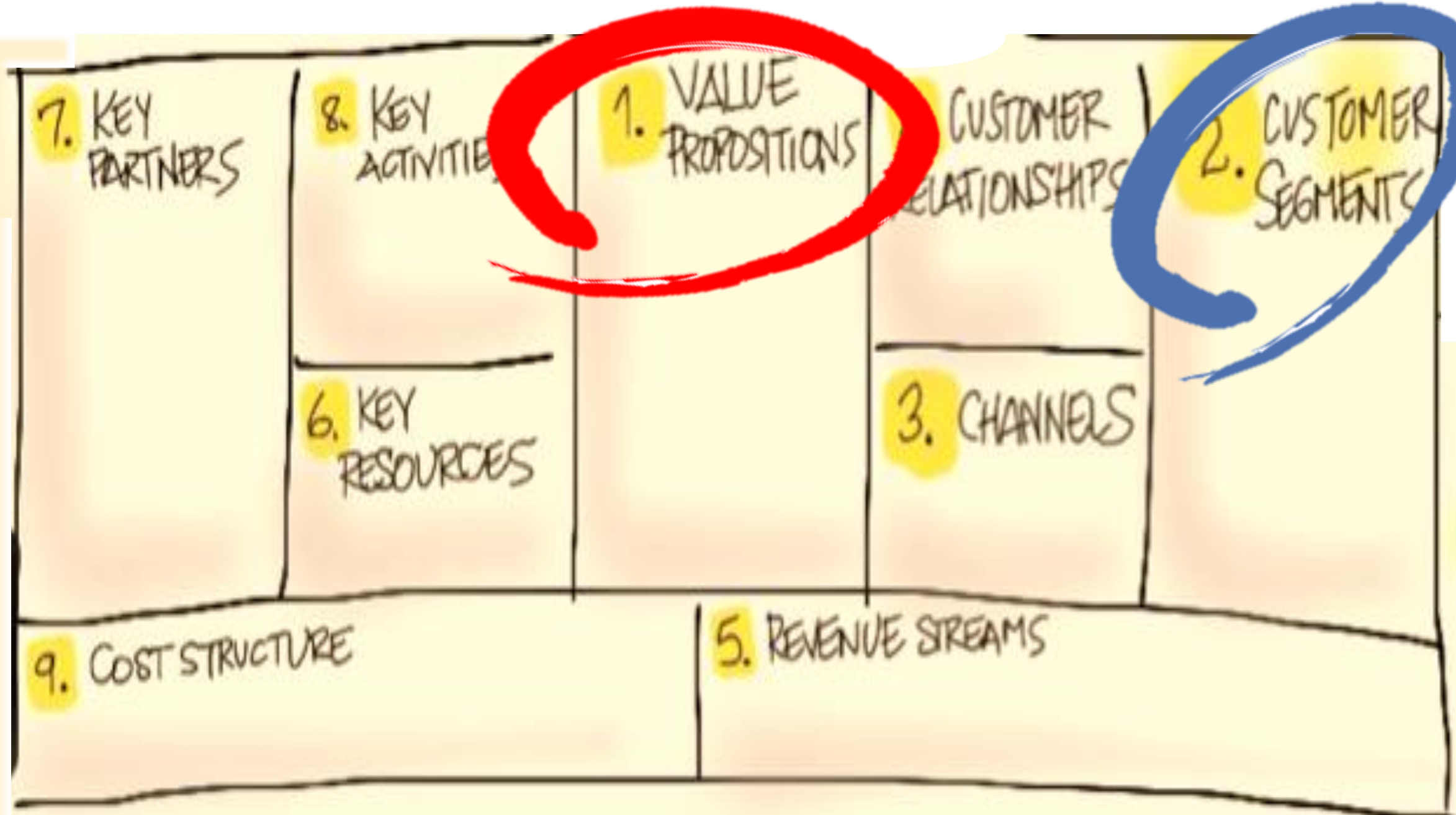
2. CUSTOMER SEGMENTS

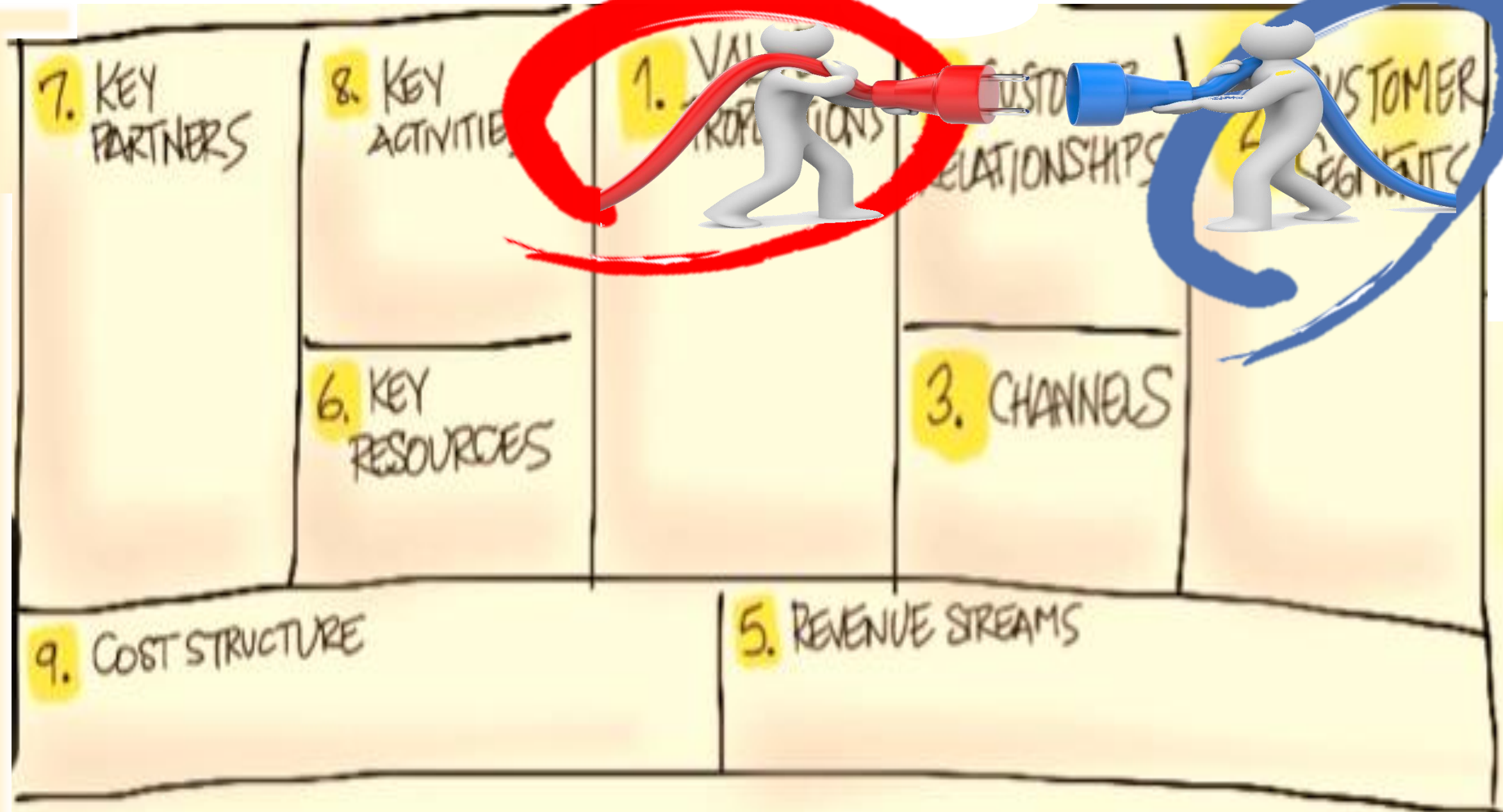
THE LOGIC OF HOW WE WILL MAKE MONEY
AKA HOW "THEY" WILL PROFIT

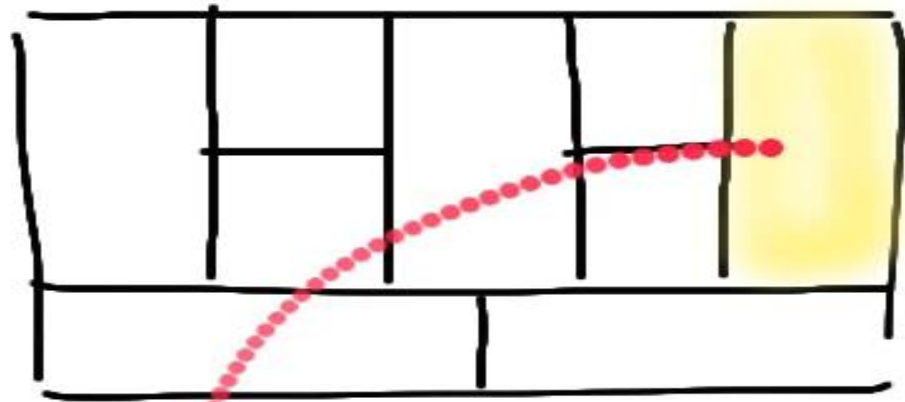
9. COST STRUCTURE

5. REVENUE STREAMS







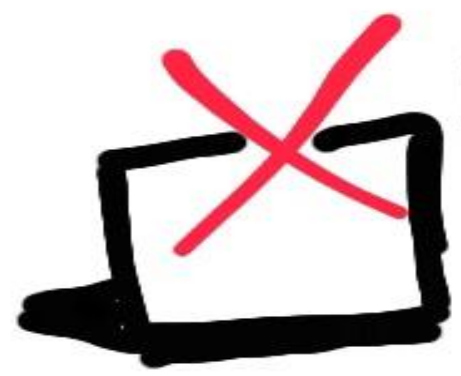


Customer
ARCHETYPE..

WHO are they?
WHY would they buy?

2. CUSTOMER SEGMENTS

- GEOGRAPHIC
- SOCIAL
- DEMOGRAPHIC



Your customers do not exist to **BUY**.
You exist for them.

OH?

- ← 24 years old
- ← Male
- ← City dweller
- ← Avid social media user
- Single
- inc

Customer Segments and Customer Types

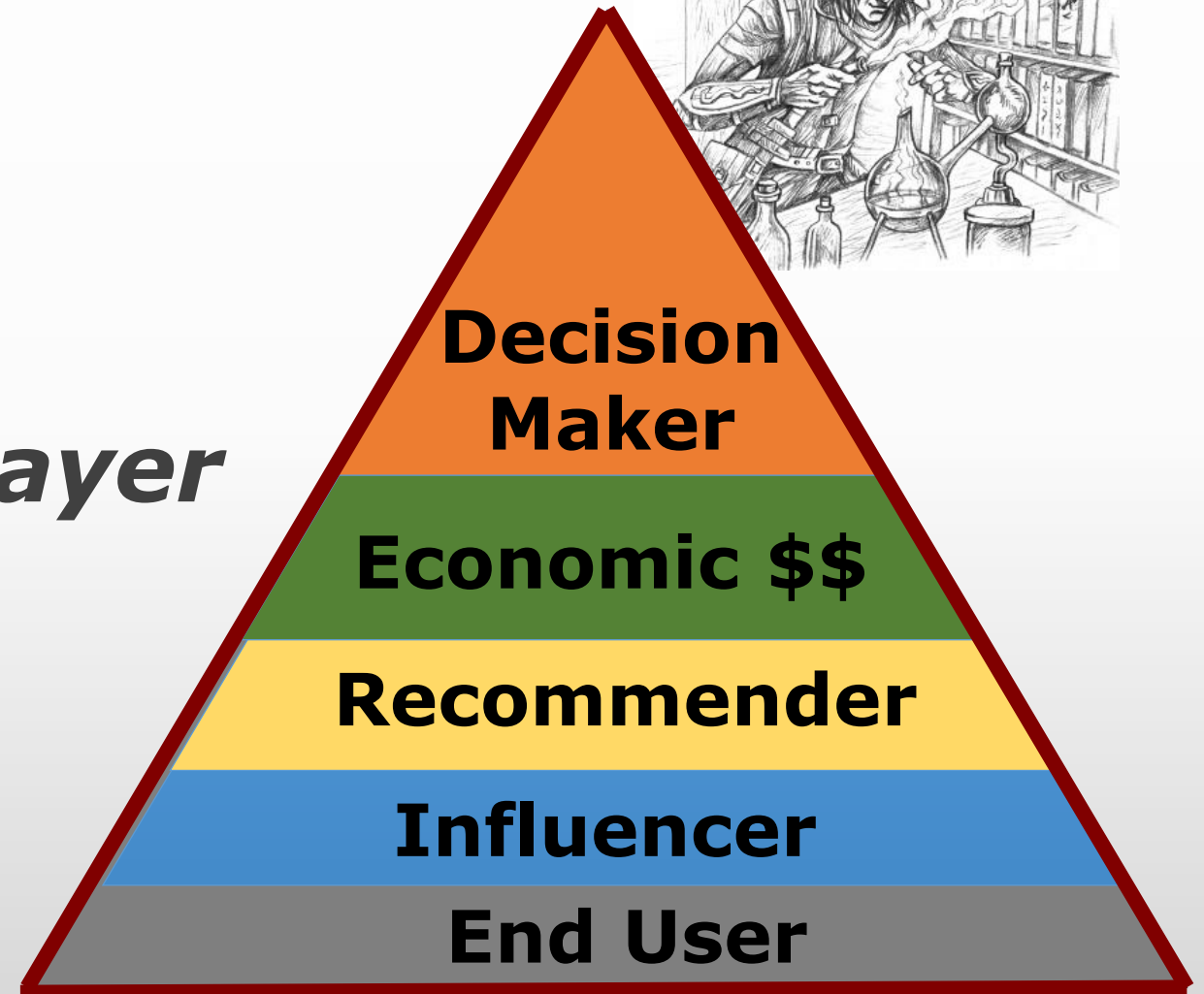
A Customer Segment is a subset of the marketplace that makes decisions in a defined way.

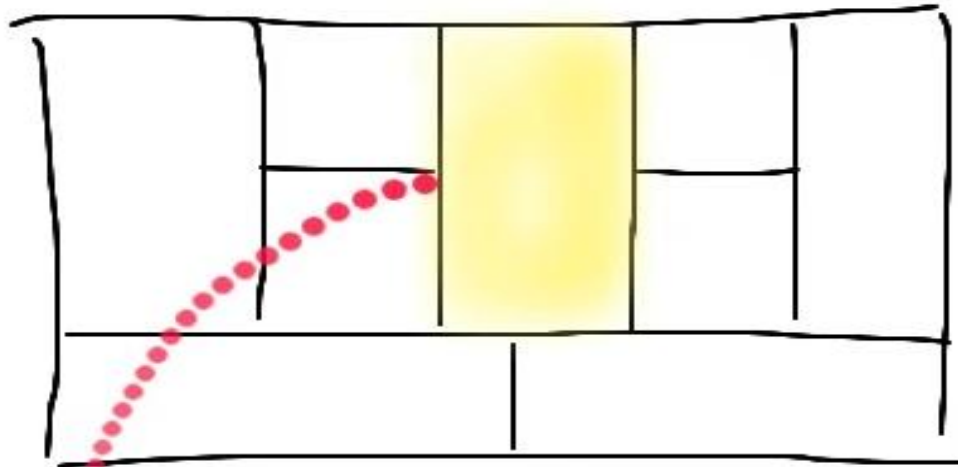
A Customer Type defines a role within the customer segment.

Customer Types

- *End User*
- *Influencer**
- *Recommender*
- *Economic Buyer/Payer*
- *Decision Maker*
- *Saboteur*

* Remember William Dawes?





HEAR YOU...
It's about SOLVING a **NEED** or **PROBLEM**.

It's about **SATISFYING** a customer need.
YAY!
I'm DELIGHTED!

1. VALUE PROPOSITIONS

✗ "It's not about your **IDEA** or **PRODUCT**!"



...and **WHO** are your customers?

Business Model Generation

7. KEY PARTNERS

8. KEY ACTIVITIES

1. VALUE PROPOSITIONS

4. CUSTOMER RELATIONSHIPS

2. CUSTOMER SEGMENTS

START WITH A BLANK CANVAS

9. COST STRUCTURE

5. REVENUE STREAMS

Launching the Canvas

We begin with Hypotheses

Also known as Educated Guesses

We urgently need Facts

7. KEY PARTNERS

8. KEY ACTIVITIES

1. VALUE PROPOSITIONS

4. CUSTOMER RELATIONSHIPS

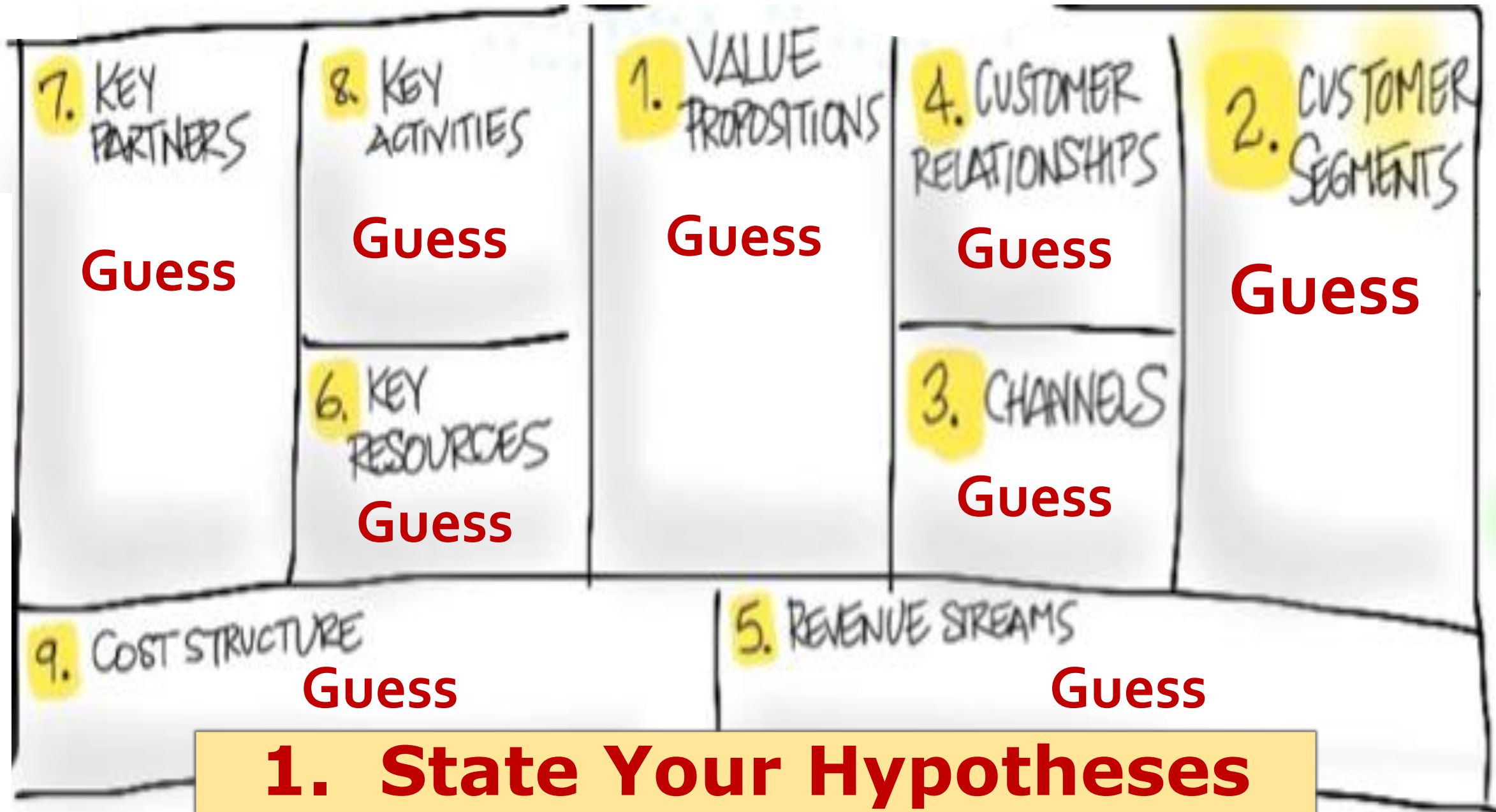
2. CUSTOMER SEGMENTS

Customer Development Process:

1. Here's what I think (Hypothesis)
2. So, here's what I did (Experiment)
3. What I found out (Discover)
4. So, here's what I will do next (Test)

9. COST STRUCTURE

Customer Discovery: Four (Easy?) Steps



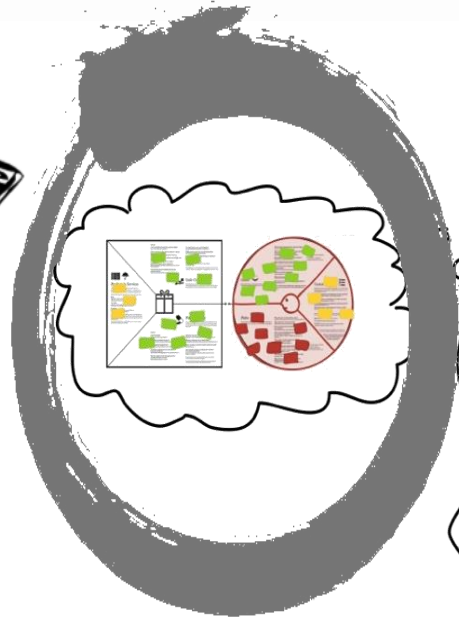
2. Test Your Hypotheses

Value Propositions

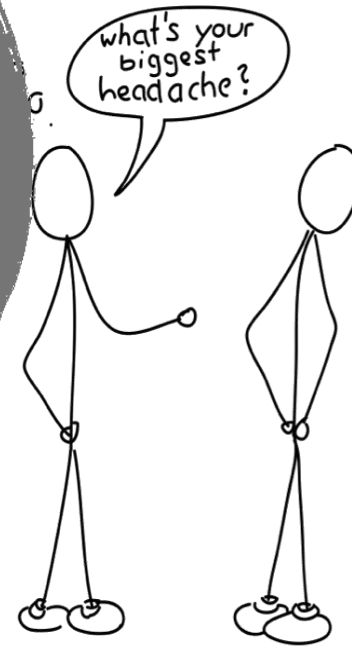


Identify customer
Problems & Needs

Test hypotheses about CS
and VPs...

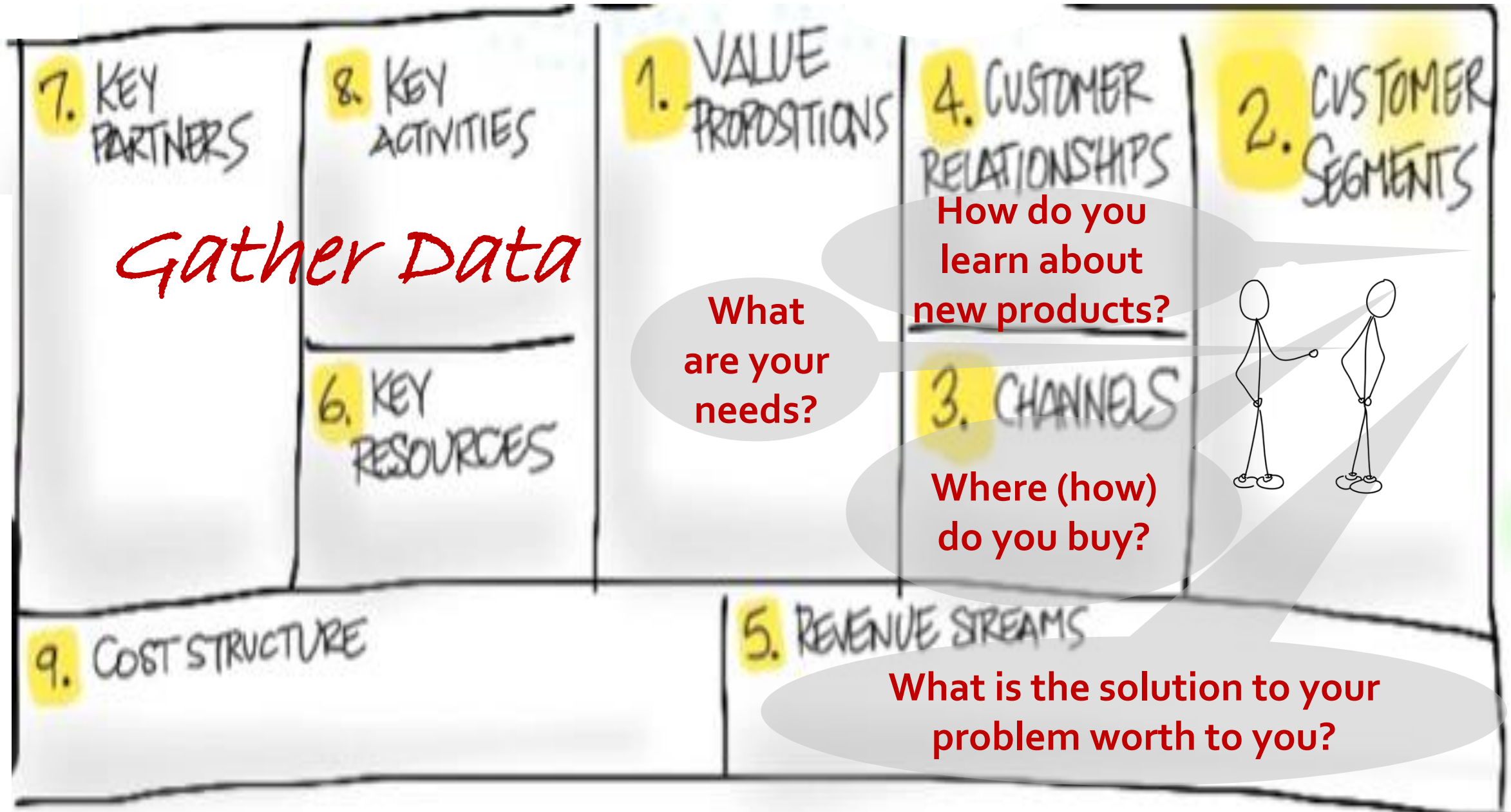


Customer Segments



... Iterate & Pivot

NO SELLING! EXPLORE & DISCOVER ONLY



7.

Track Your Evolving Model

Audio Middleware Companies

Problem Solving

Refine and improve 3D audio algorithms

Better Performance

3D immersive sound
Higher gaming scores
More realism
~~Reduced ear fatigue~~
Pinpoint sounds

Personal Assistance and Self-service

Small support staff, emphasize web support

PC Gamers

PC Game Developers

6.

Intellectual Property

Proprietary knowledge, brand, patents, trade secrets,

~~Audio experts~~
software developers

3. CHANNELS

Game Engine Companies

~~Audio Middleware Companies~~

Note changes from last iteration

9. COST STRUCTURE

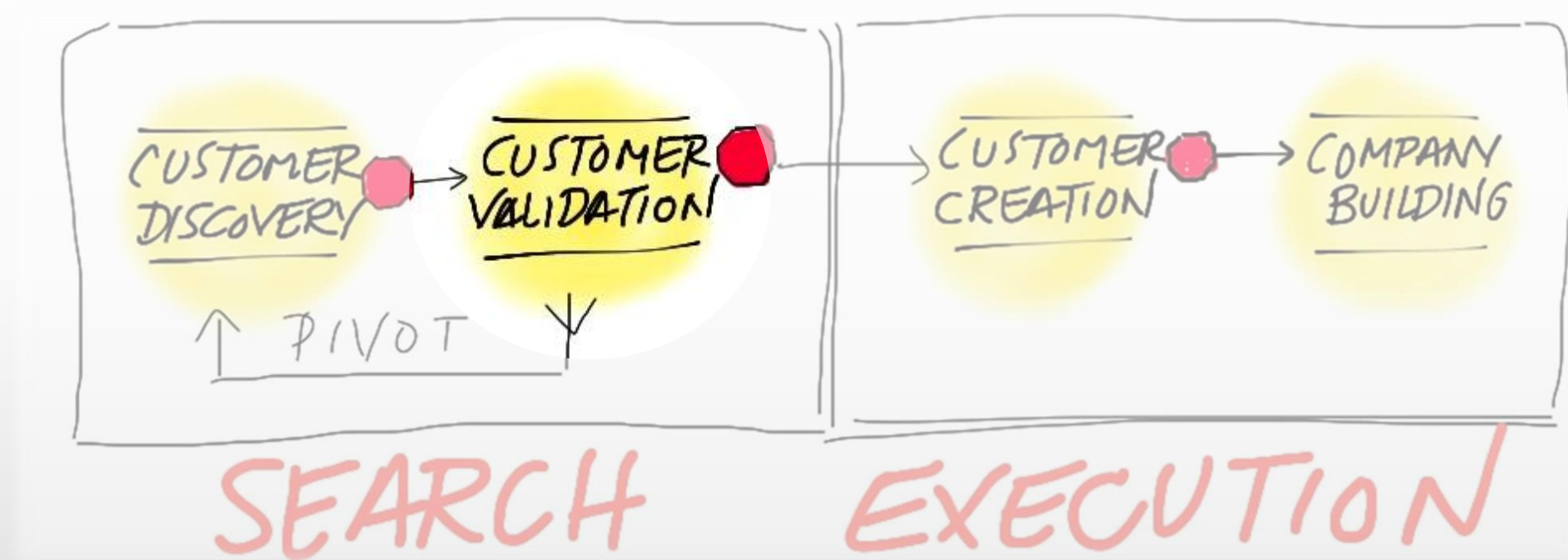
Software development tools

IP License Fee to UMD

5. REVENUE STREAMS

SW License, Per Title, Per Seat for Plug-in

Iterations: Pivot or Proceed



3. Test Your Potential Solution

Value Propositions

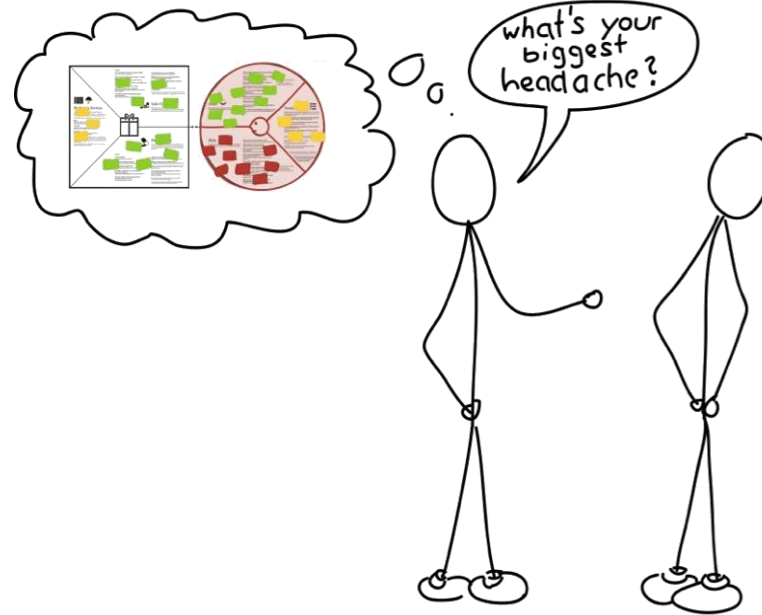
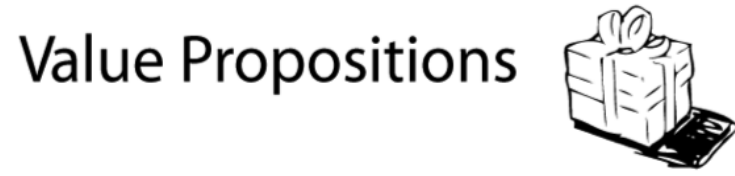


Customer Segments



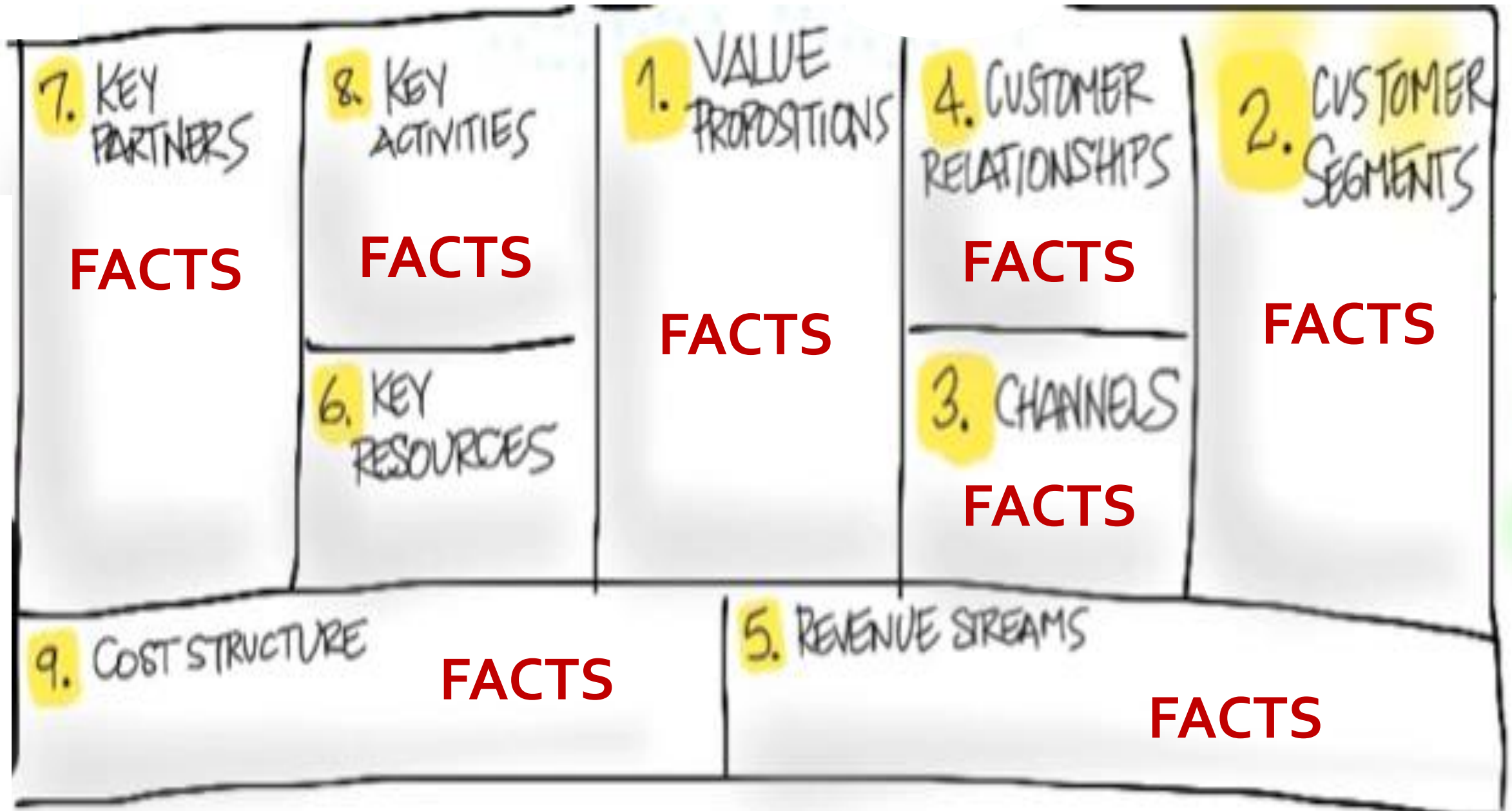
Test potential Minimum Viable Product features: Do they satisfy problems or needs?

4. Pivot or Proceed



~~NEW GUESS~~
FACT

~~NEW GUESS~~
FACT



Different customer segments
have different needs & may
require different Business
Models to serve them.

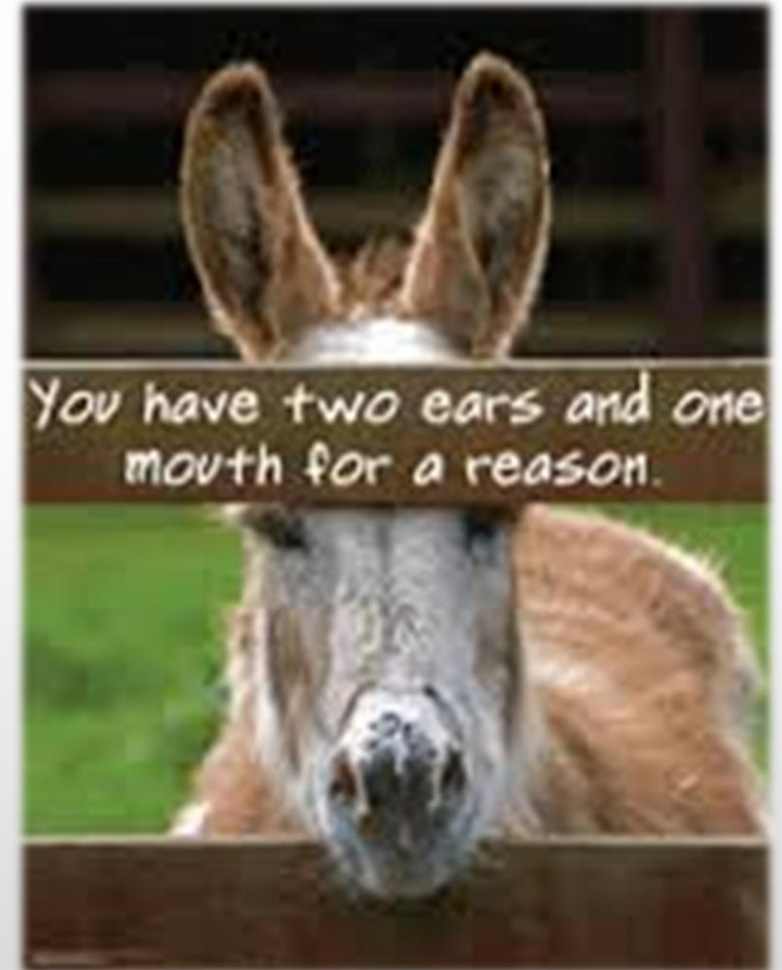
Customer Discovery . . . in a Nutshell

**We are learning about Customer Needs...
... not asking them to define a product....
... or asking them to buy!**

The Most Important Skill

**Your customers
have needs . . .**

**They will be
happy to tell you -
if you give them
the chance.**



Interviewing Logistics



- **Interview efficiently –**
(Define an Archetype, Persona)
- **Talk to strangers; go with your partner**
- **Ask for 10 minutes**
- **Be honest with yourself;**
- **Listen, don't talk**

Finding Archetypes

Google™



**Professional
Societies**



How Do I Make Contact?

- Target second-rank companies
- Target mid-level management
- Email, then call; then email, then call
- Play the “student” card (*No Company; No Product*)
- Cold call? – Research your target
- Network – get a warm introduction

Interviewing

- Make a goal: Test only **1-2 Hypotheses**
- **Group-Meet** if possible: **Face-to-Face** > Skype > phone
- NO email interviews or surveys
- Focus on **Their Pain Points**, not yours
- Ask **Open-Ended Questions**
- **Ask "Why?"** (Listen and probe w/ a follow-up)
- Ask about current efforts (e. g. to solve the problem)
- Embrace bad news; Be humble and Ask for Help.

- **DO NOT SELL!!**
- **DON'T TALK ABOUT YOUR TECHNOLOGY!!**

Interview Questions

- What are they currently experiencing?
- How are they doing things right now?
- What do they think about the way things are now?
- What would they like to see or do differently?
- In an ideal world, how would things be?
- Have you tried to “fix” the problem? If so, how?

End User Story: “A Day in the Life”

“Don’t interview like a Journalist”

**“Success starts with
understanding your customers.”**

Talking to Humans
Giff Constable © 2014
1st edition, V1.72

**“Seek First to Understand, then
Seek to be Understood”**

Stephen R. Covey, The 7 Habits of Highly Effective People
<https://www.stephencovey.com/7habits/7habits-habit5.php>

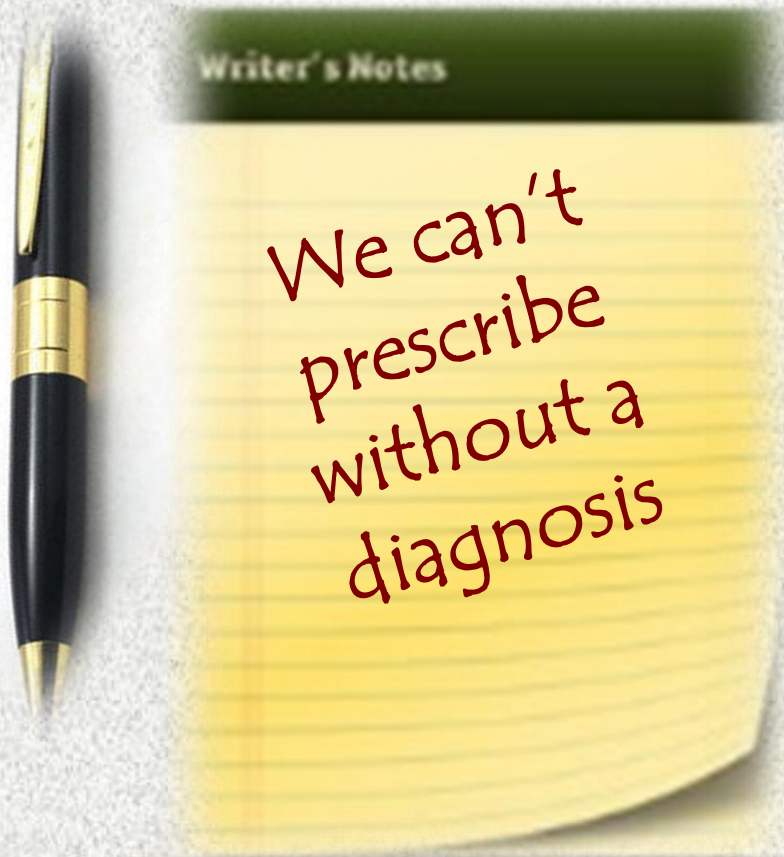
Seek First To Understand, Then Seek To Be Understood*



How We "Listen":

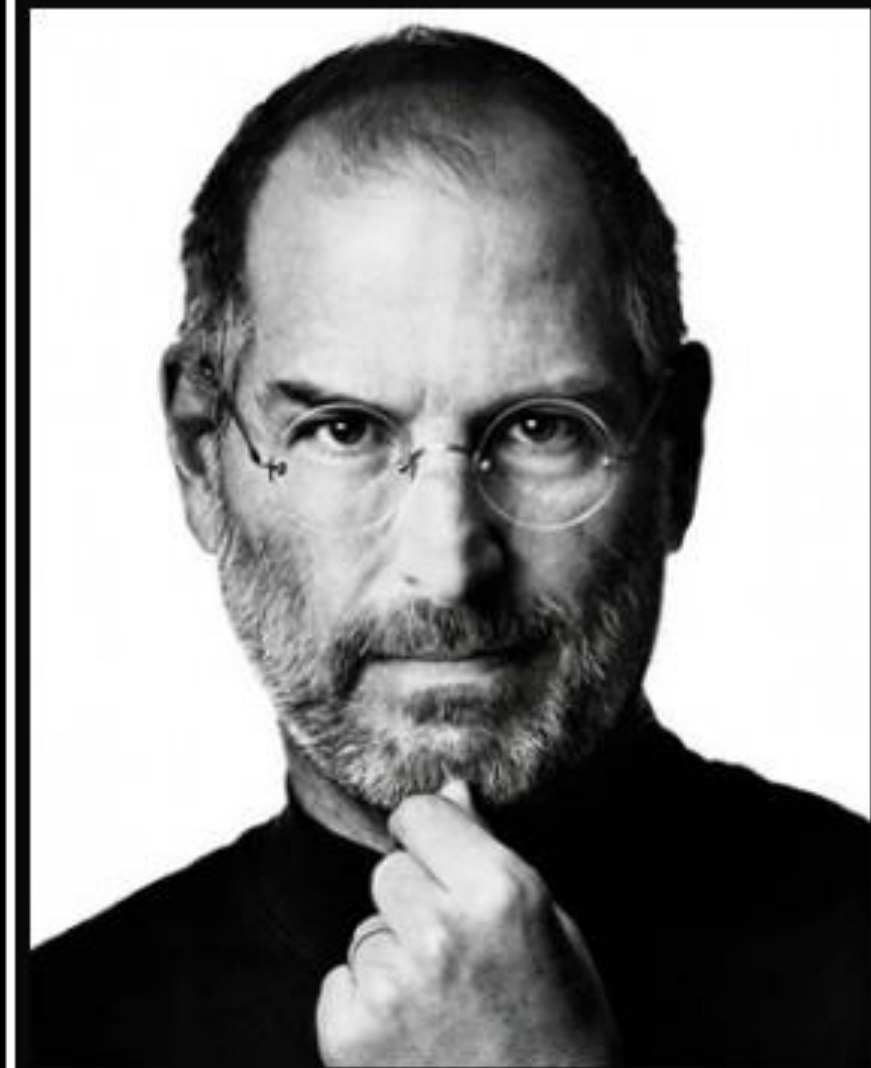
1. Ignore
2. Pretend
3. Be Selective
4. Be "Active"
 - Mimic (Rephrase or Reflect)
5. Be Empathic

Seek First To Understand, Then Seek To Be Understood*



How We "Listen":

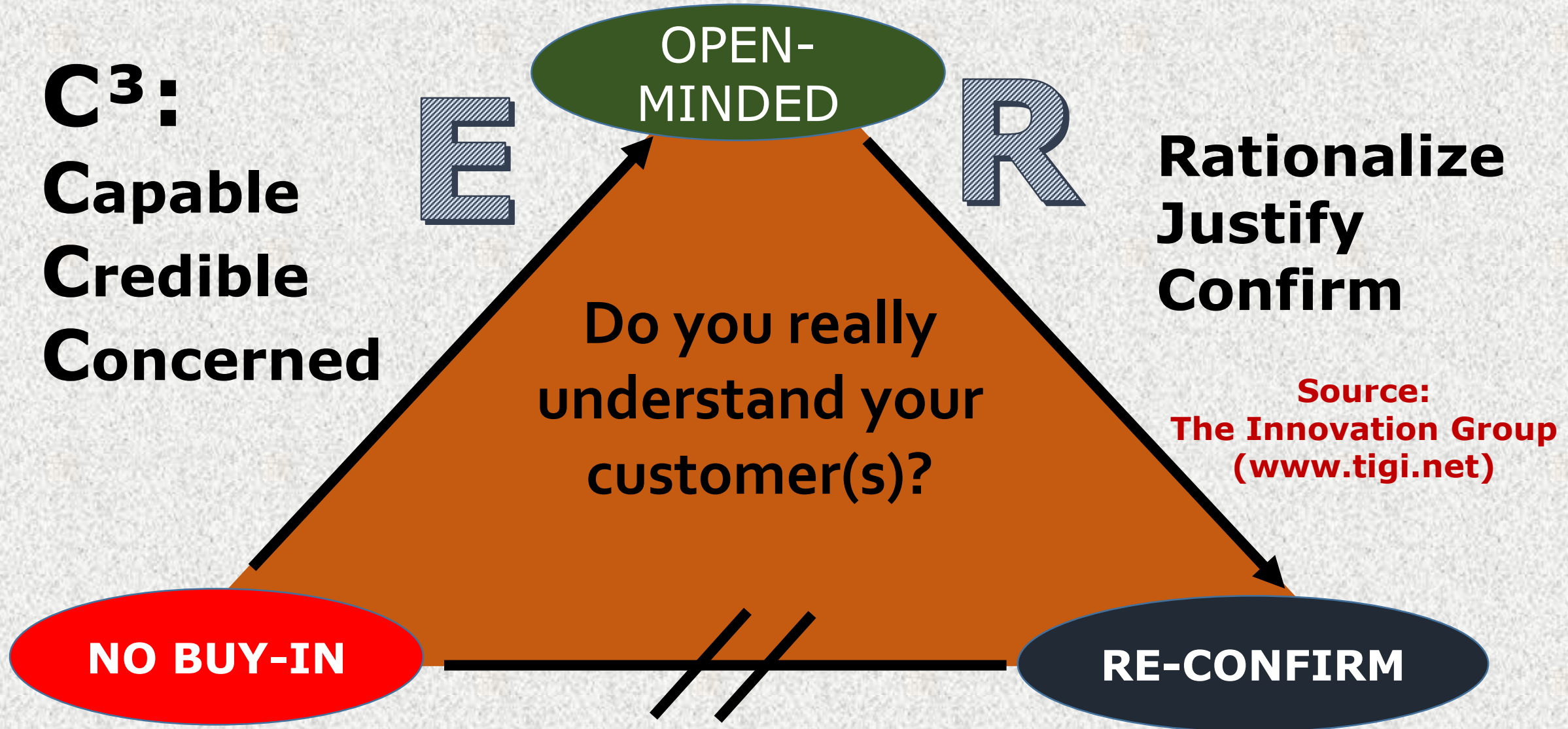
1. Ignore
2. Pretend
3. Be Selective
4. Be "Active"
 - ~~Mimic (Rephrase or Reflect)~~
5. Be Empathic



You've got to start with the customer experience and work back toward the technology - not the other way around.

(Steve Jobs)

Remember: Balance Your Vision w/ Reality



Cute Baby?



The last two questions

- **What haven't I asked you?**
- **Can you suggest another person for me to talk with?**

Practice

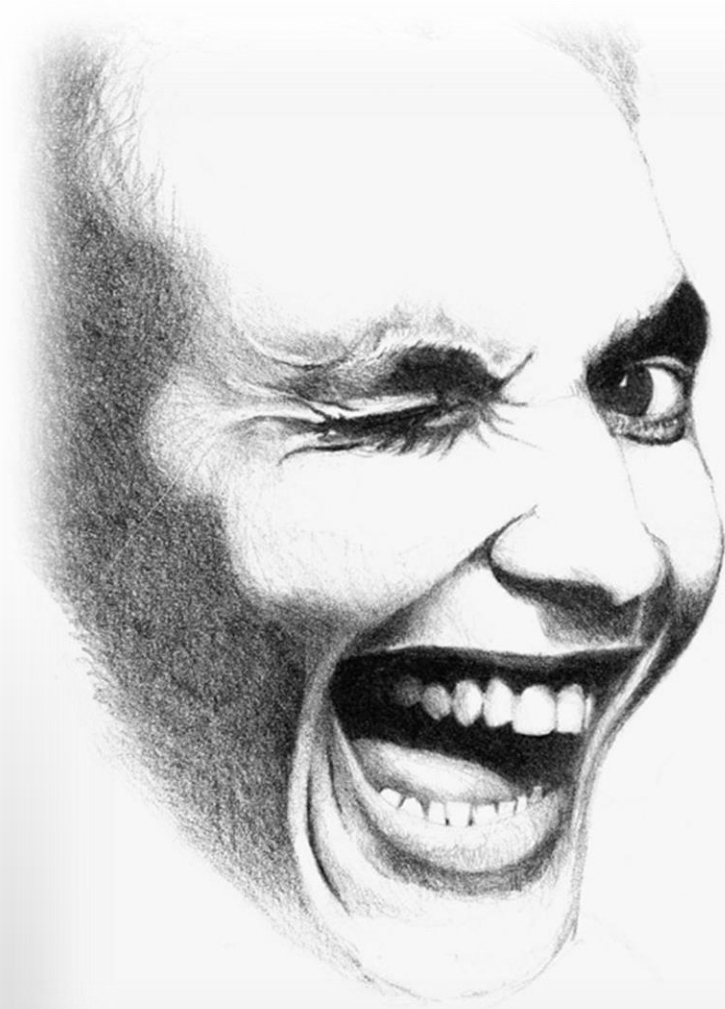
The Trap

CONFIRMATION BIAS

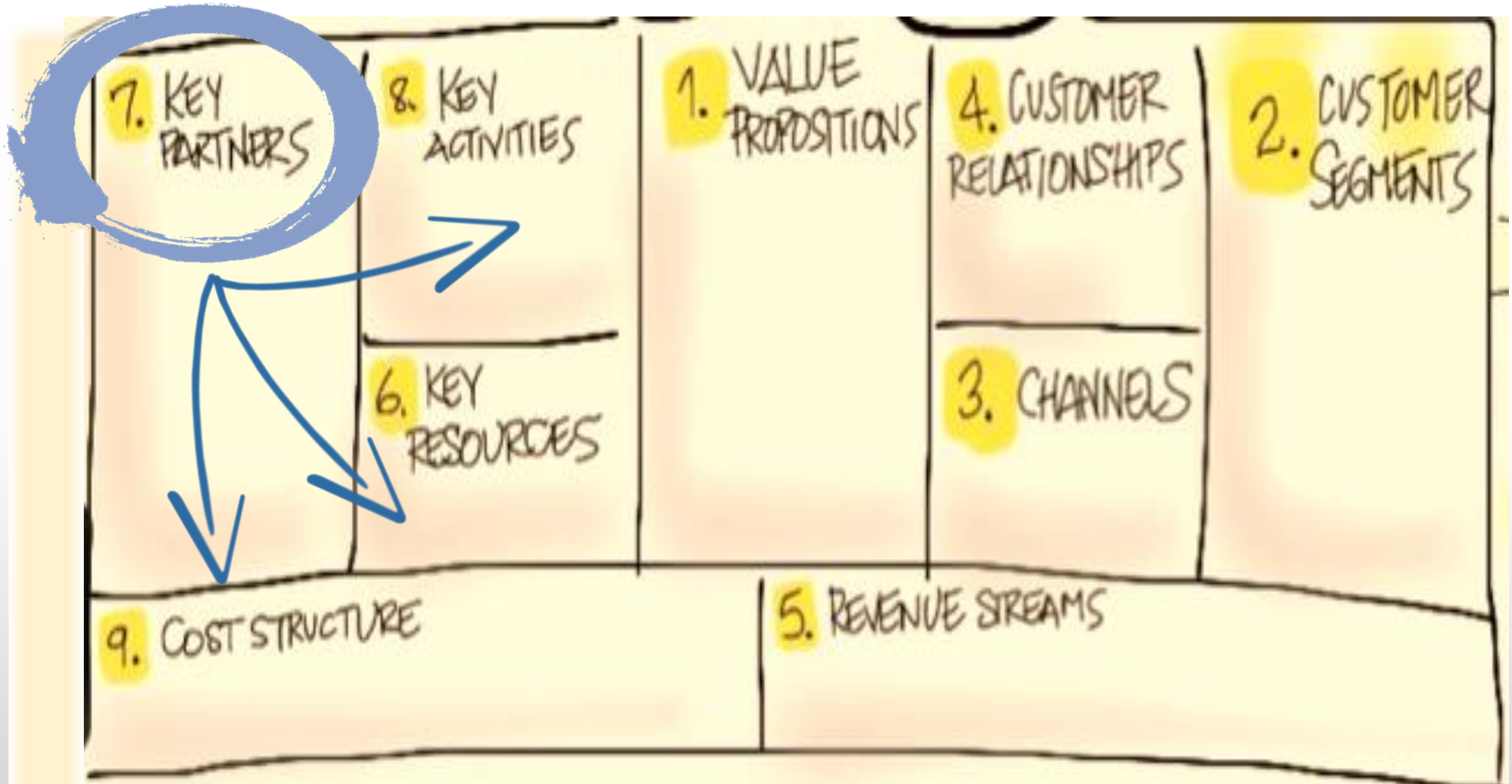
Confirmation Bias

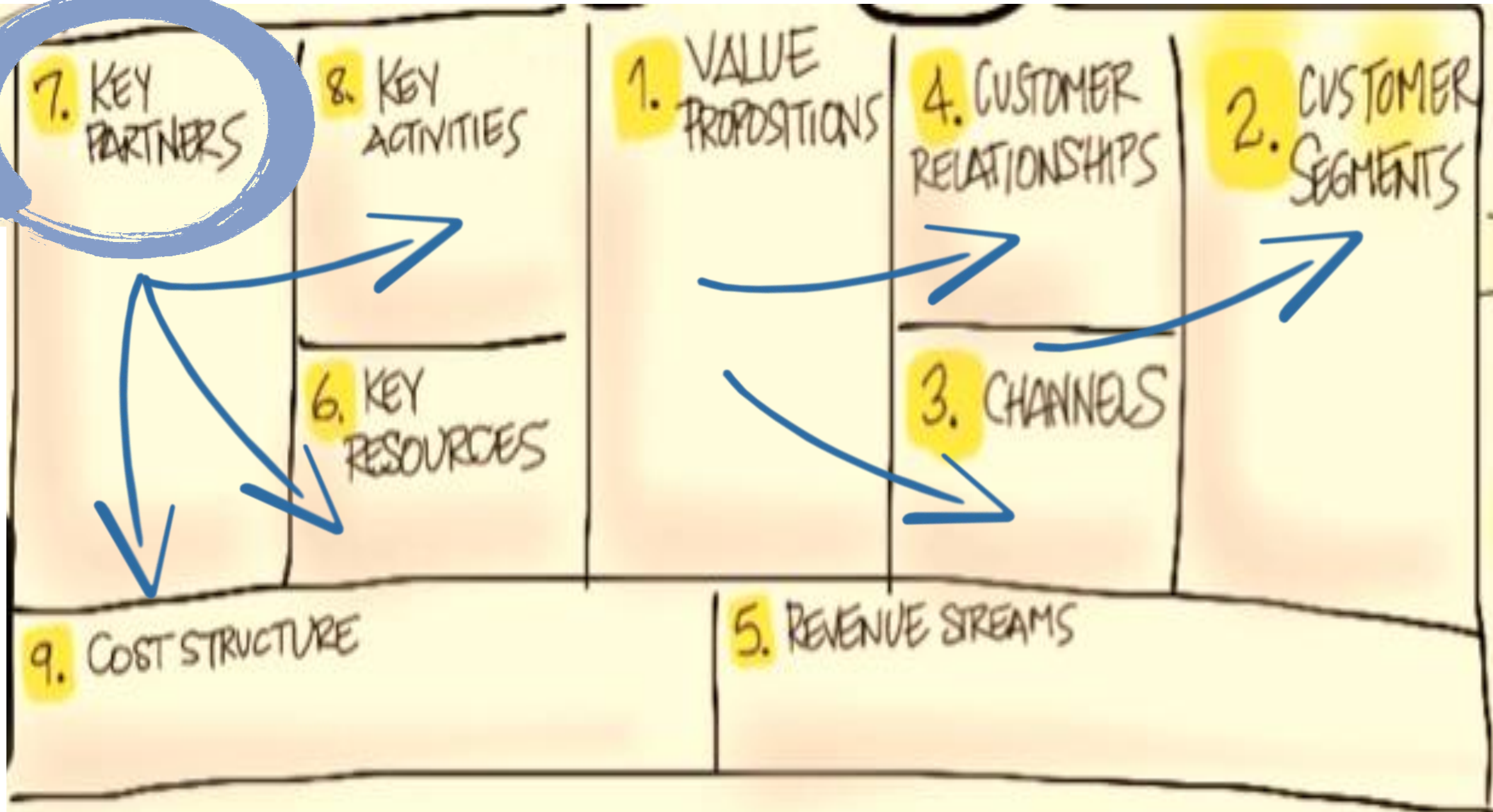


Where may your first customers come from?



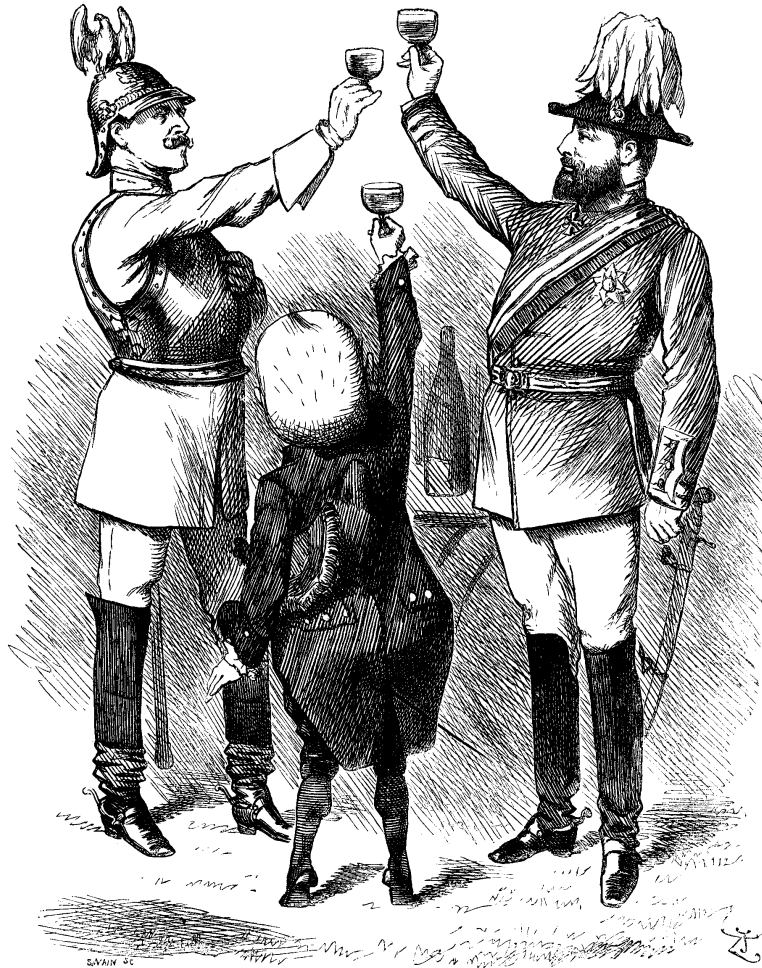
Using Business Alliances as a Growth Strategy





Why?

Increased Cash
Keep Up w/ Market
Viable Solution
Fend off Competitor
Market Share
Cost
-
Duration Varies



Disneyland
Coca-Cola, Eastman Kodak

Wal-Mart
Bristol Myers

KFC, Taco Bell, GrubHub

One World, Star Alliance

Paramount Pictures
20th Century Fox
(Titanic)

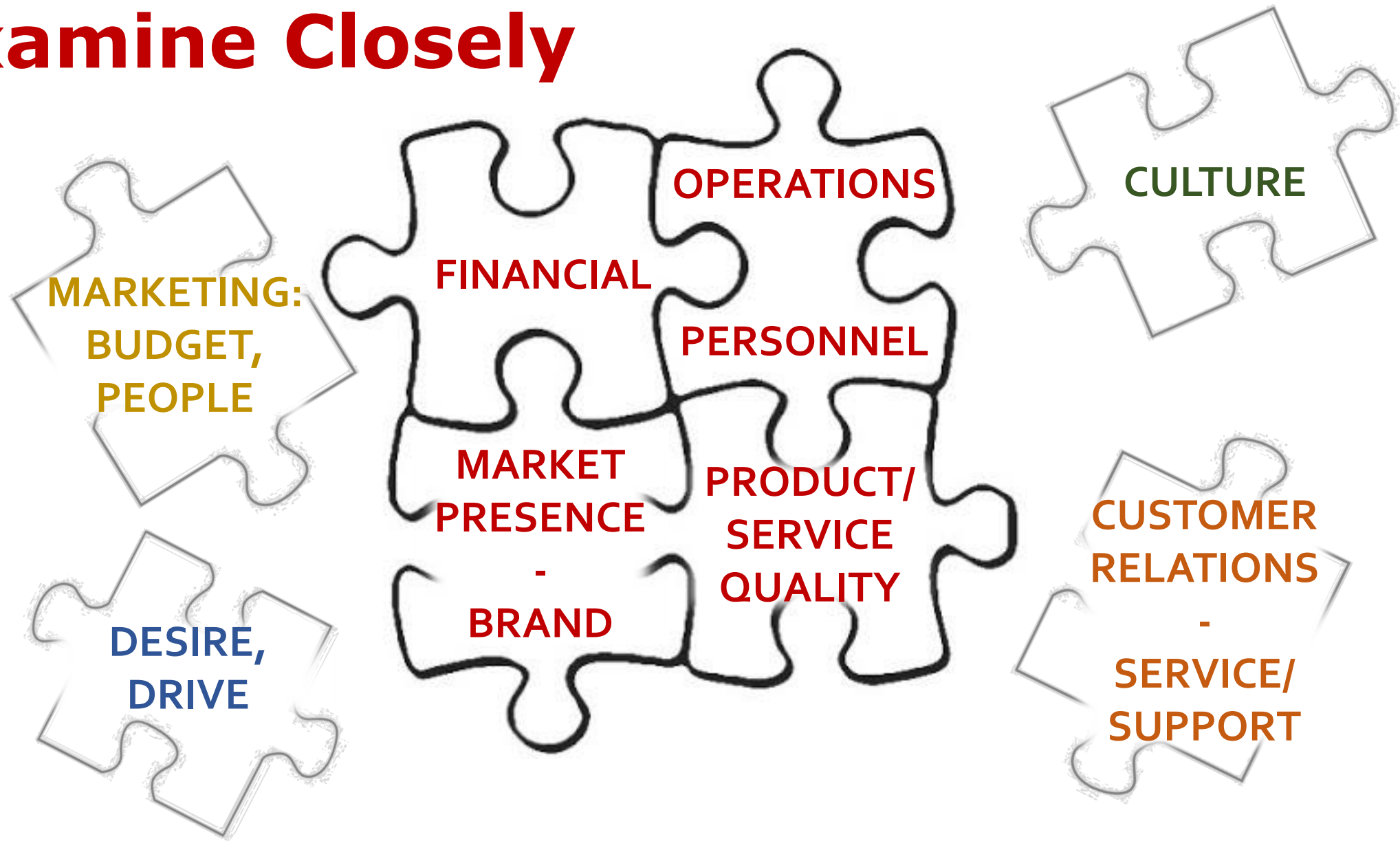
AT & T, MCI
Legislation, Regulatory Affairs

Sales, Distribution

Production, Manufacturing

Co-Branding

Examine Closely



Do I Fully Understand . . .

- 1) Financial Situation (Cash Flow, Balance Sheet)**
- 2) Annual Revenue**
- 3) Annual Growth**
- 4) How the company is organized**
- 5) Their experience and backgrounds**

. . . And their

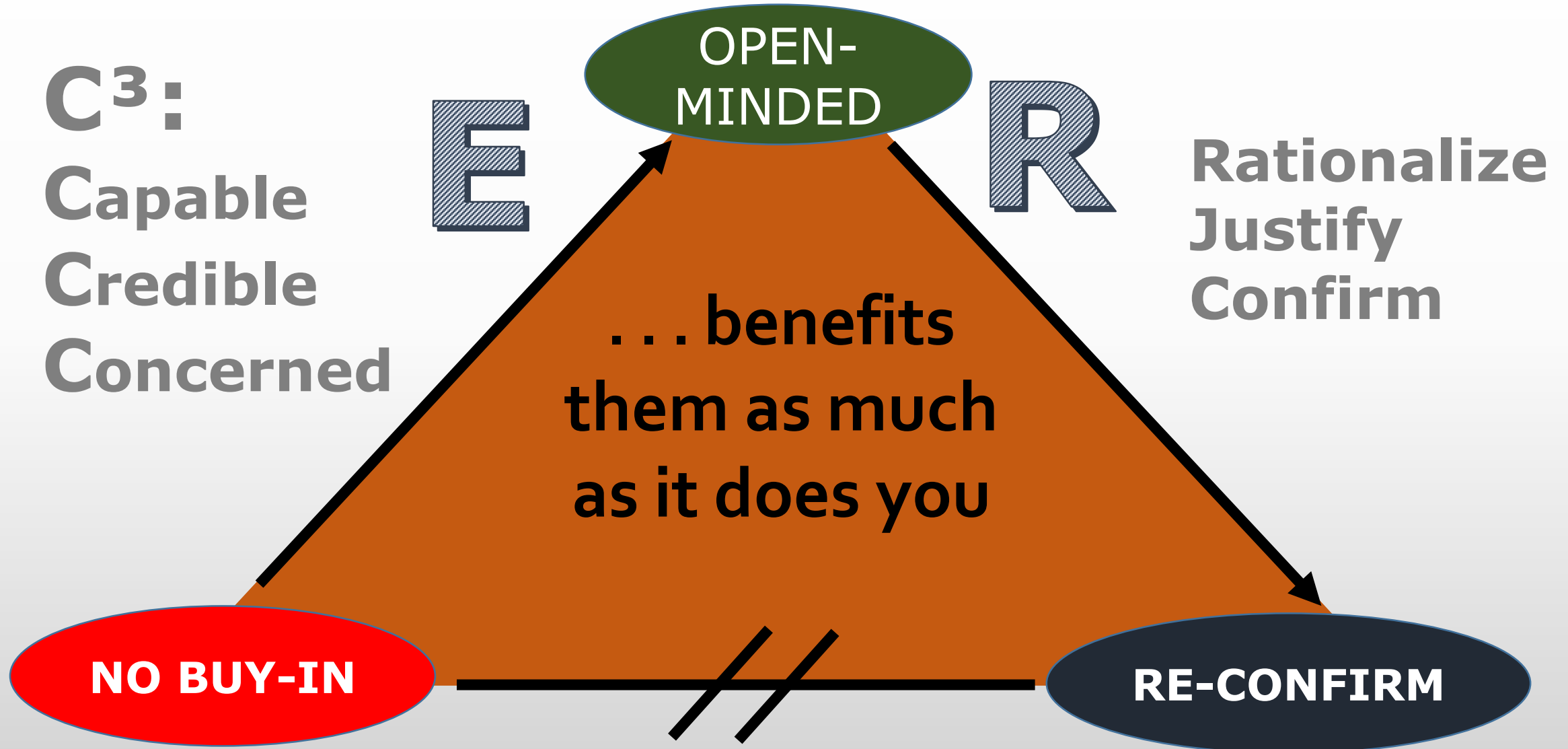
- 6) Market Presence**
- 7) Their Markets (Beachhead, Niche, Brands)**
- 8) Growth Opportunities**
- 9) Quality Standards, Controls, Values**
- 10) Customer (Archetypes), Feedback**

. . . Plus

- 11) Customer Relationships, Complaint Management**
- 12) Marketing Process, Tactics**
- 13) Prior Deals (with others)**

Do you approve how they sell and develop their market(s); do they have the funds and personnel to handle this alliance; do they share your enthusiasm?

The Deal that you propose . . .



Preparation Checklist

- **Very Clear: Business Opportunity at Hand; Value Proposition**
- **Financial Resources & Responsibilities**
- **Specific Steps to get Alliance (Ops, Mktg, Sales) Moving**
- **Technology, Service: Specific Steps**
- **Who Supplies What People**
- **Long-Term Commitment v. Specific Product/Service**
- **Possible Future Products, Services**



Investors are interested in this

After 5, 10,
... 100

Interviews:
What's
Your
Story?



Why do our Stories Matter?

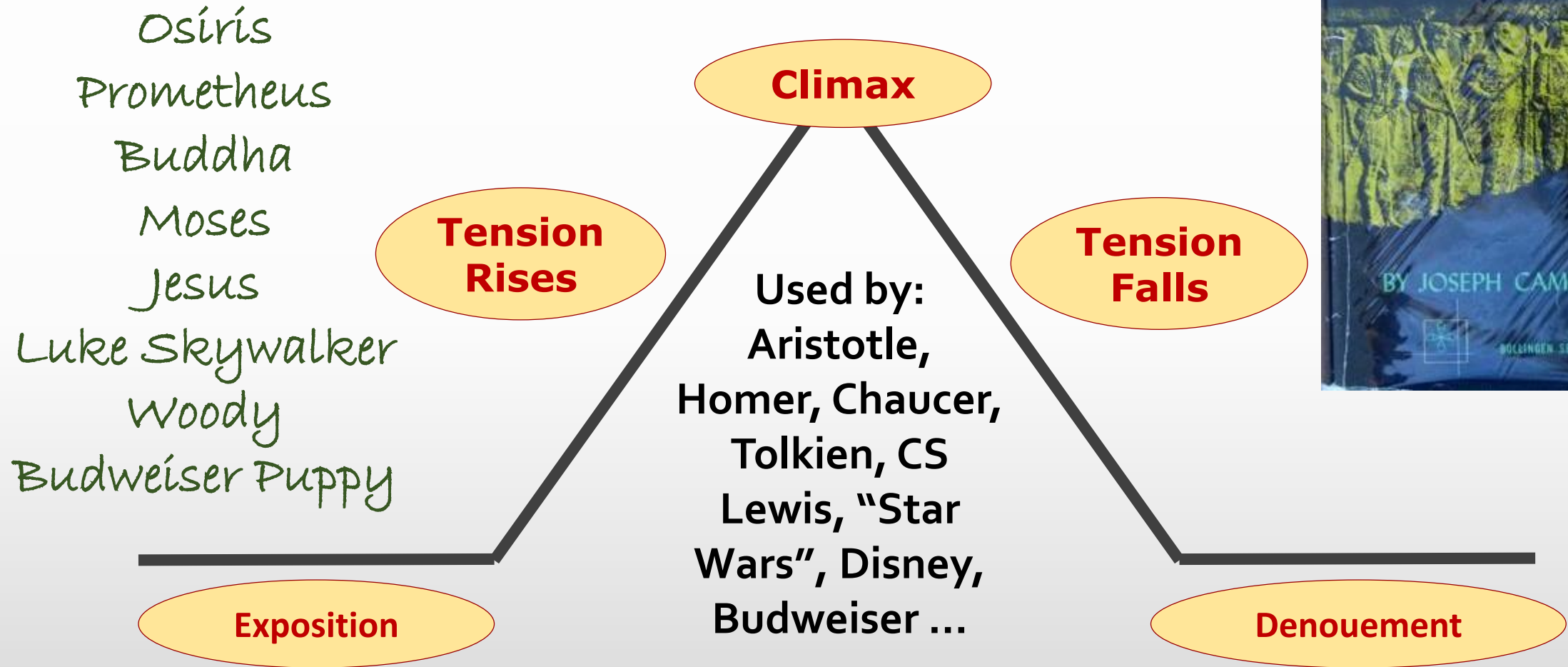
Brain Science: Insula

Dopamine (Hope/Optimism)

Cortisol (Stress)

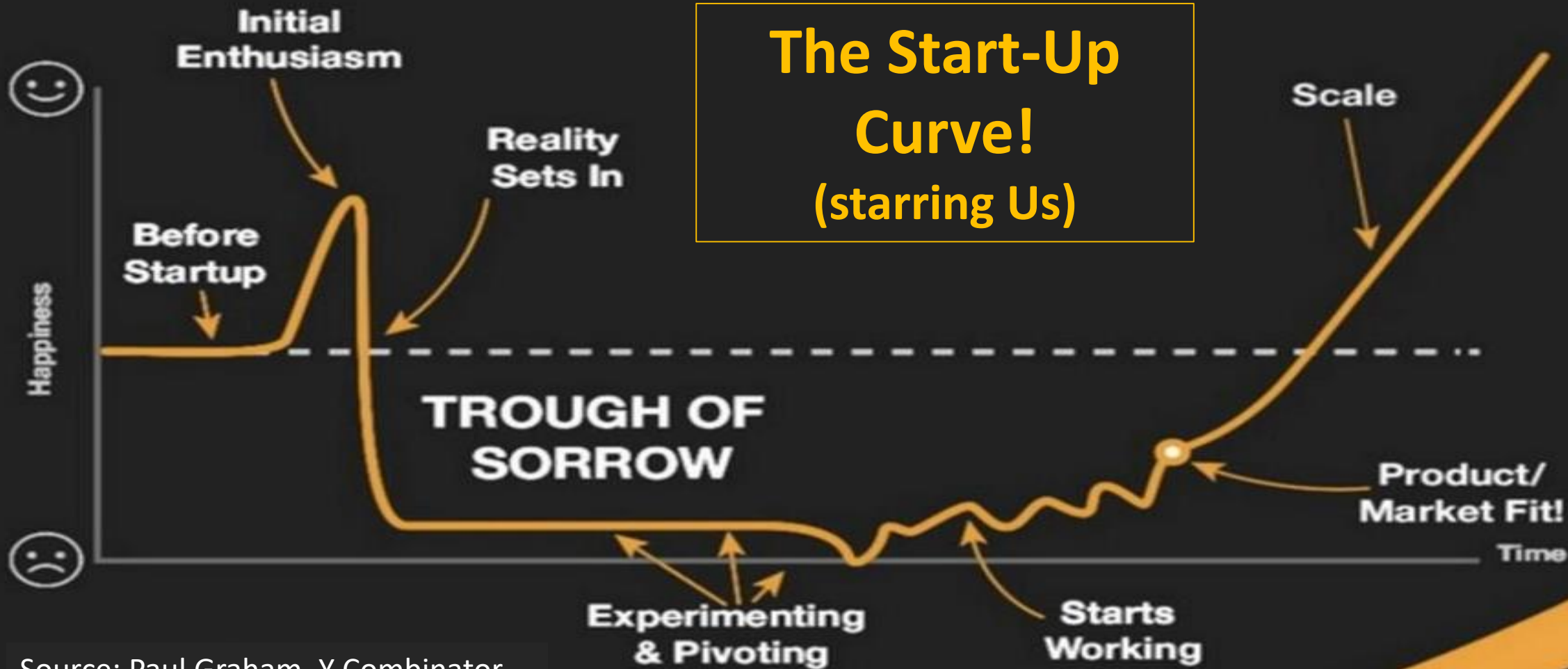
Oxytocin (Connection/Empathy)

Why Do Stories Matter?



How important are those customer interviews?

Behind Every Great Product is a Great Story



Source: Paul Graham, Y Combinator

Get Out of the Building!
Discover! Validate!

Martin Kleckner III PhD MBA
University of San Diego, the Brink SBDC
(619) 892-2565 • mkleckner@cox.net