

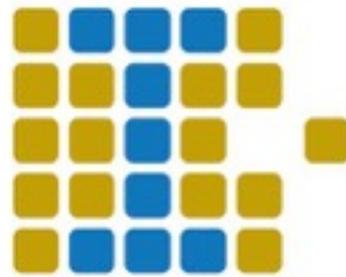


I-CORPS

Edmund Pendleton

*presented at*  
The U.S. Dept of Health and Human Services  
Ignite Summer 2015 Accelerator Boot Camp

**500+** *Teams*



**CORPS**  
NSF Innovation Corps

**Developed by**

***Entrepreneurs***

**Developed by**  
***Innovators***

**Taught by**

***Entrepreneurs***

**Taught by**  
***Innovators***

# **Innovation**

## ***Methodology***

...for *Products*

...for *Services*

...for *Processes*

---

# Leading *Questions*

**Are all ideas**  
*good ones?*

**Why are *you here?***

**Why are *we here?***

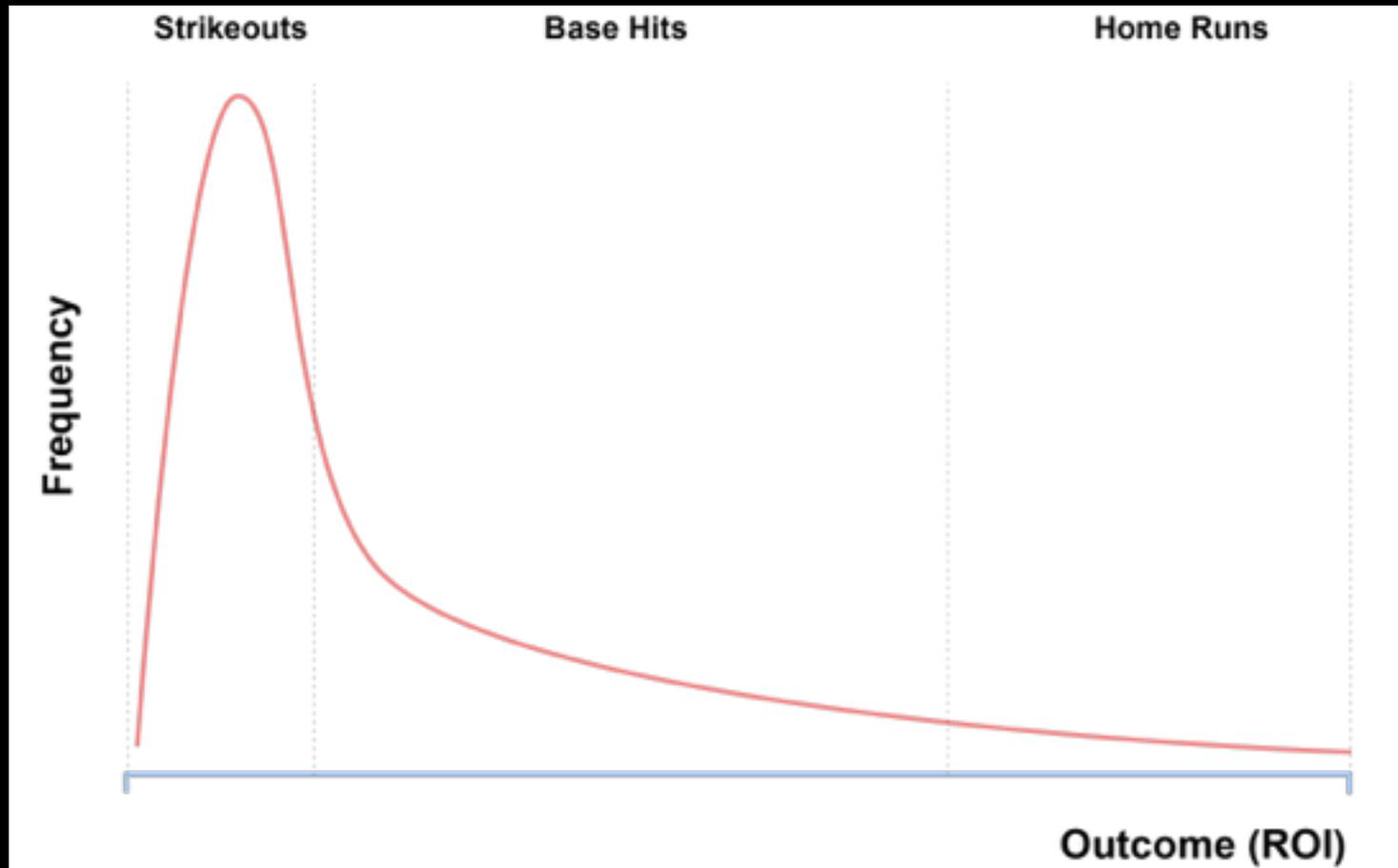
**Our *Goal***

**Improve *Odds***

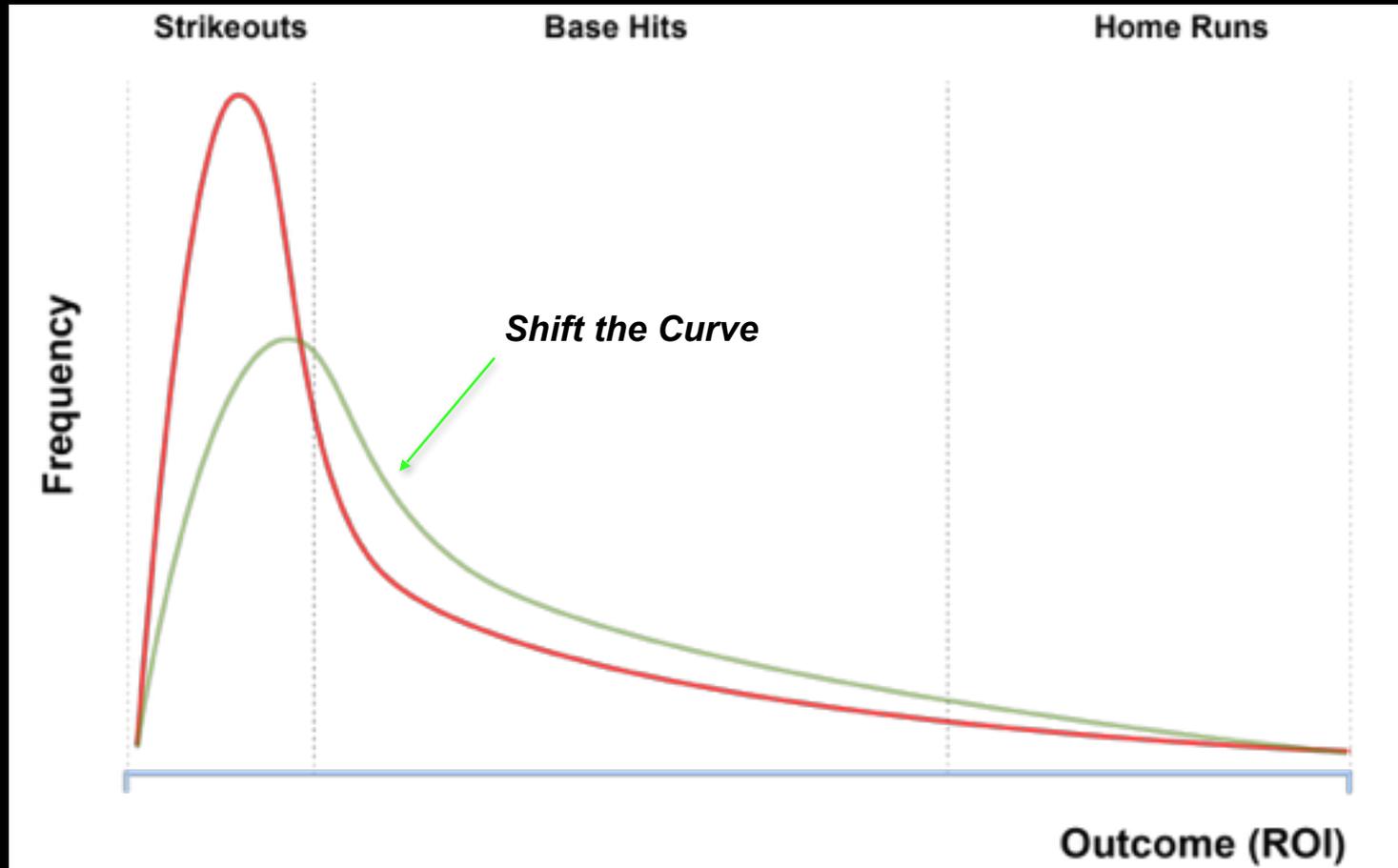
**Pick *Winners***

~~Pick *Winners*~~

**Great Idea *Statistics***



**Create *More Winners***



**We want to help you refine,  
revise, or even *throw out*  
your “great” ideas...**

**What will *you do?***

# Jump *In*



ZENITH  
SWISS WATCH MANUFACTURE  
SINCE 1845

**3** *Months*

**50+?** *Interviews*

# Jump *In*



**But *why?***



Everyone has *a plan...*

...until he gets *punched in the face.*”



# Three *Fits*

**Search for...**

***Problem-Solution Fit***

***“Can you identify and validate a  
problem or need that enough people  
care about?”***

***“Do you have a **feasible solution** (idea or innovation) for meeting this problem or need?”***

**Search for...**

***Product-Market Fit***

***“Can you build and deliver a **product/**  
**service that satisfies** the customer  
problem or need?”***

***...OR...***

***“Can you design and deliver a new process improvement that satisfies the stakeholder problem or need?”***

**Search for...**

***Business or Process  
Model Fit***

***“Can you validate and implement a  
repeatable and scalable business or  
process model?”***

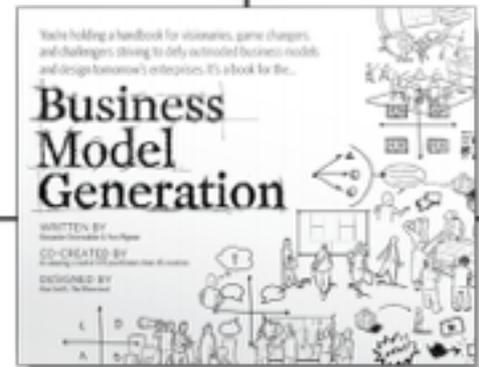
**What's a *Business Model*?**

*Process*

What's a ~~*Business Model?*~~

... how a team *creates,*  
*delivers, and captures value.*

# Business Model *Canvas*



**We will focus on *customers*  
(*stakeholders*) and value  
propositions, but...**

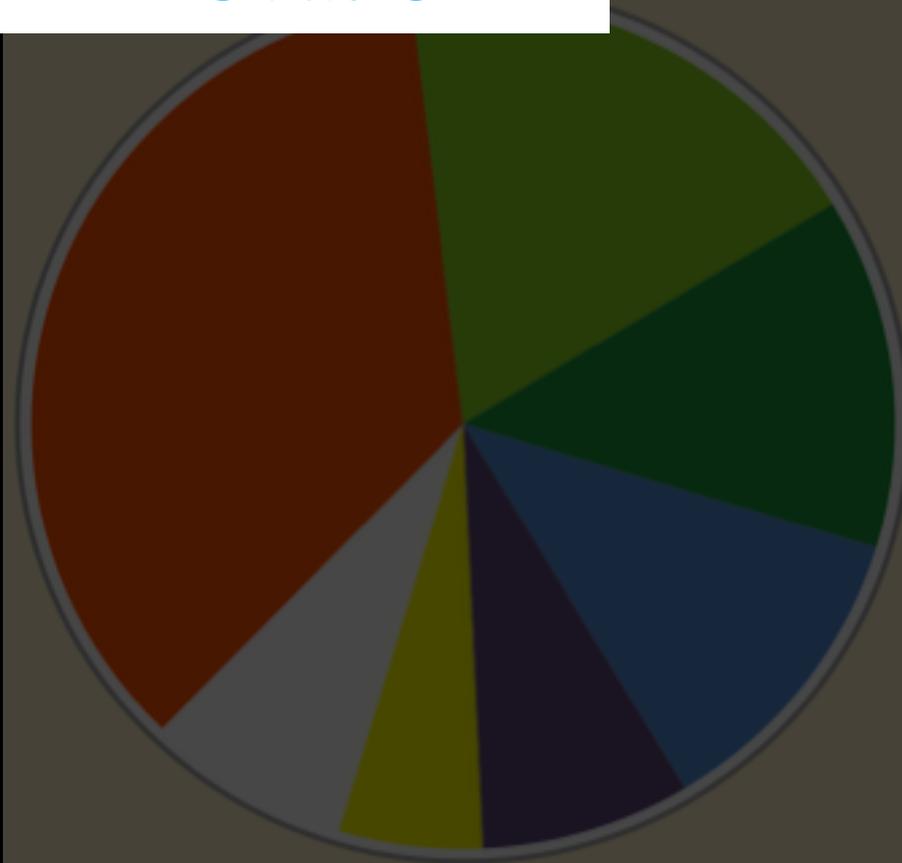
We will focus on *customers*  
(*stakeholders*) and *value*  
*propositions, but...*

**there are other *critical parts***  
***of the model to consider.***

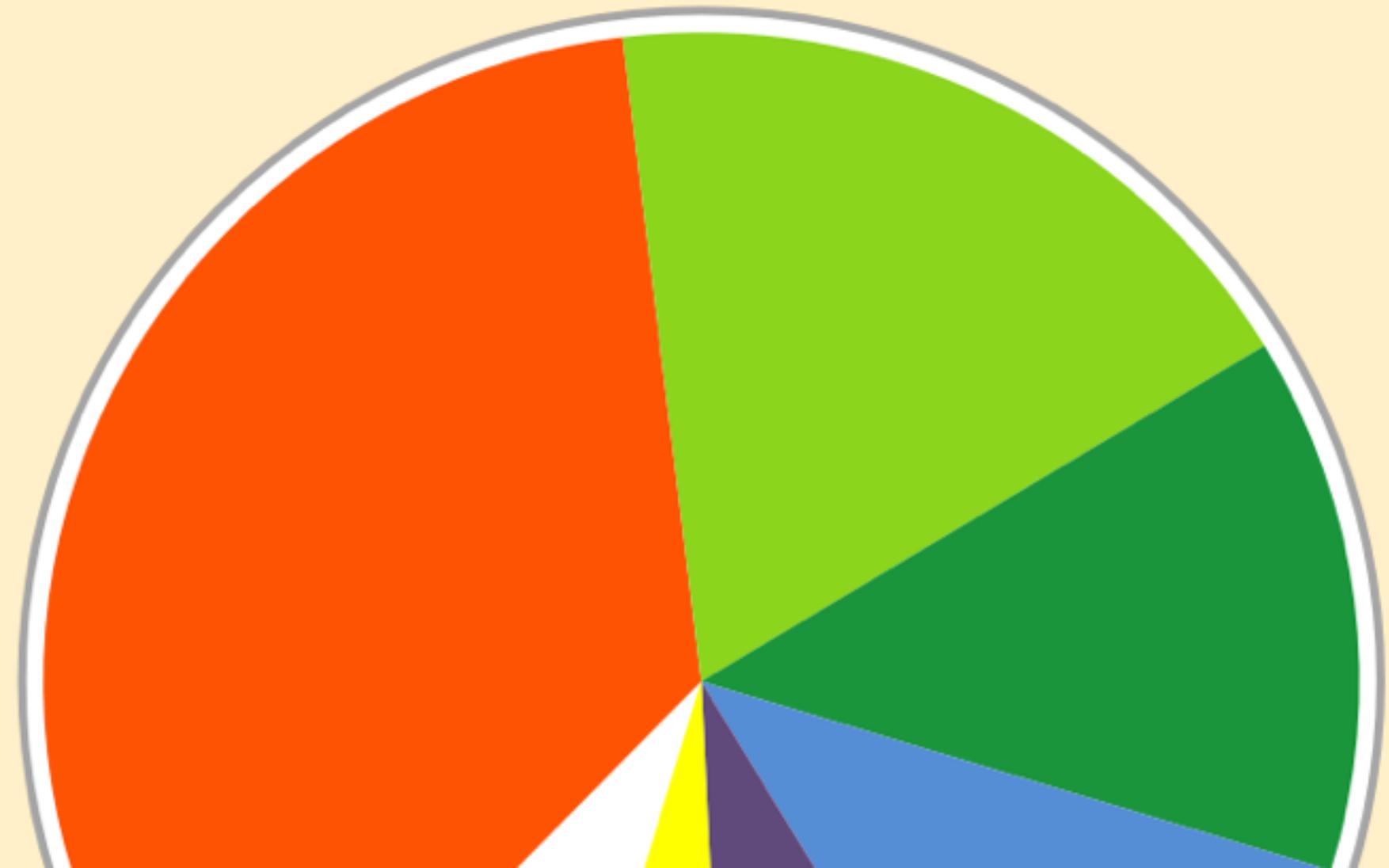
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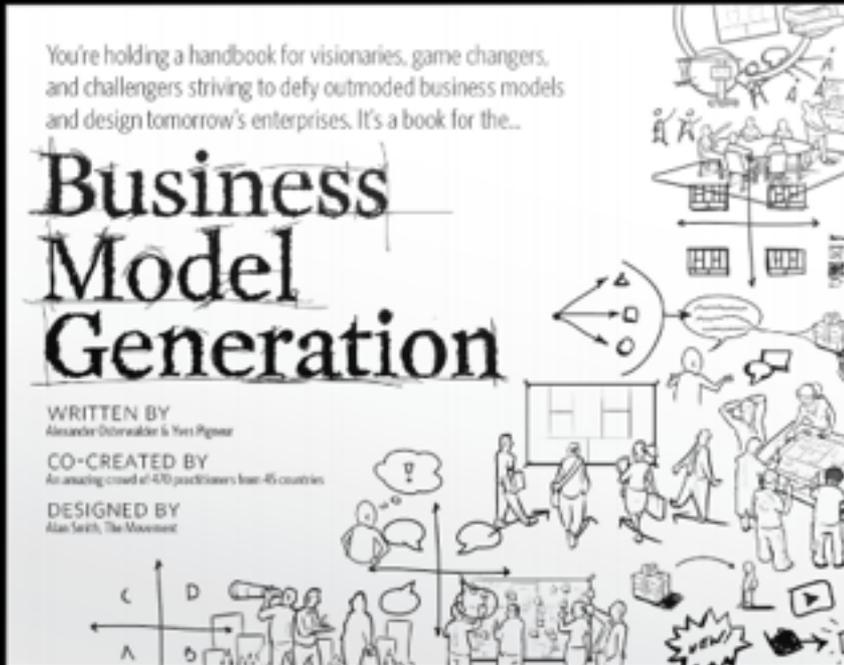
# Innovation



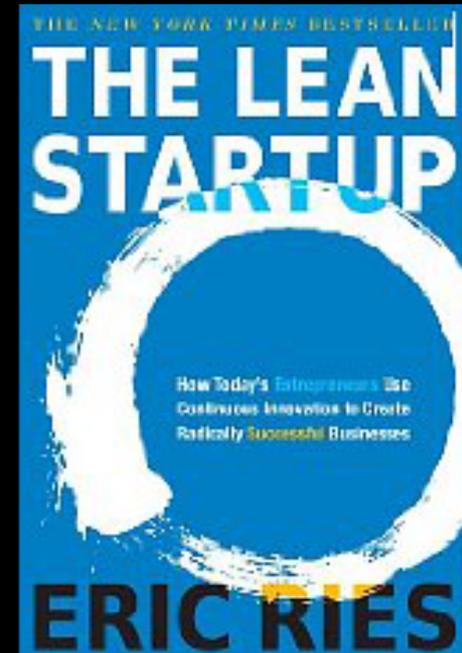
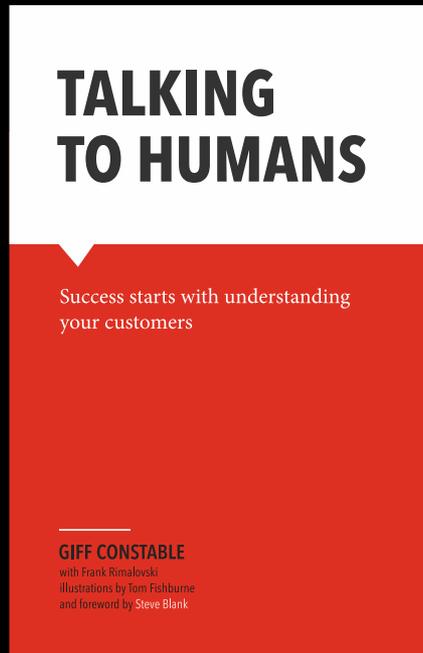
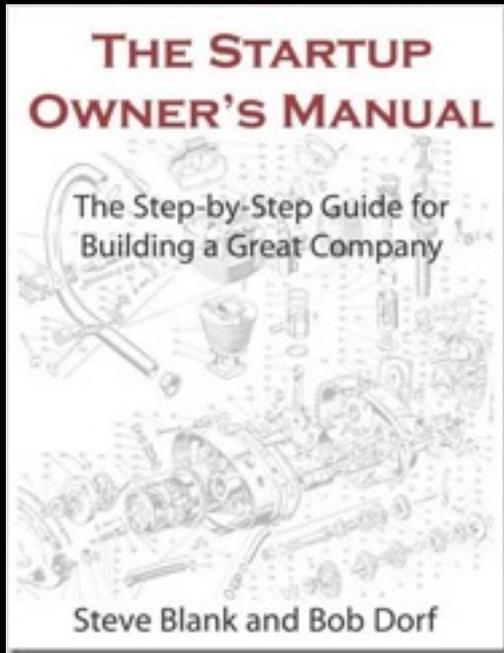
# Top *Three*



# Additional *Resources*



# Additional *Resources*



# Additional *Resources*

The screenshot shows the Udacity course page for "How to Build a Startup (EP245) The Lean LaunchPad". At the top left is the Udacity logo. To the right are links for "Classes", "Sign Up", and "Sign In". Below the logo is a navigation menu with "Overview", "Classroom", "Discussion", "Wiki", "Announcements", and "Progress". The course title "How to Build a Startup (EP245) The Lean LaunchPad" is displayed with a small icon of a person holding a star. Below the title are two buttons: "Enroll" (highlighted in blue) and "Preview the Class". To the right of these buttons are social media sharing options: "Like" (4k), "Tweet" (2,424), and a share icon (740). The main content area features a large video player showing a man with a grey beard and glasses, wearing a white shirt and a patterned blazer, smiling. A red play button is overlaid on the video.

---

# **My *Story***



**My startup set out to  
change an *entire industry***

# 1600s

## Night Caps





**1700s**

**Tri-corner Hats**



**1800s**  
**Top Hats**

# 1900s Fedora Hats



# 1990s

## Hard Hats



**More innovation *in hats***

**We had a *much better way***

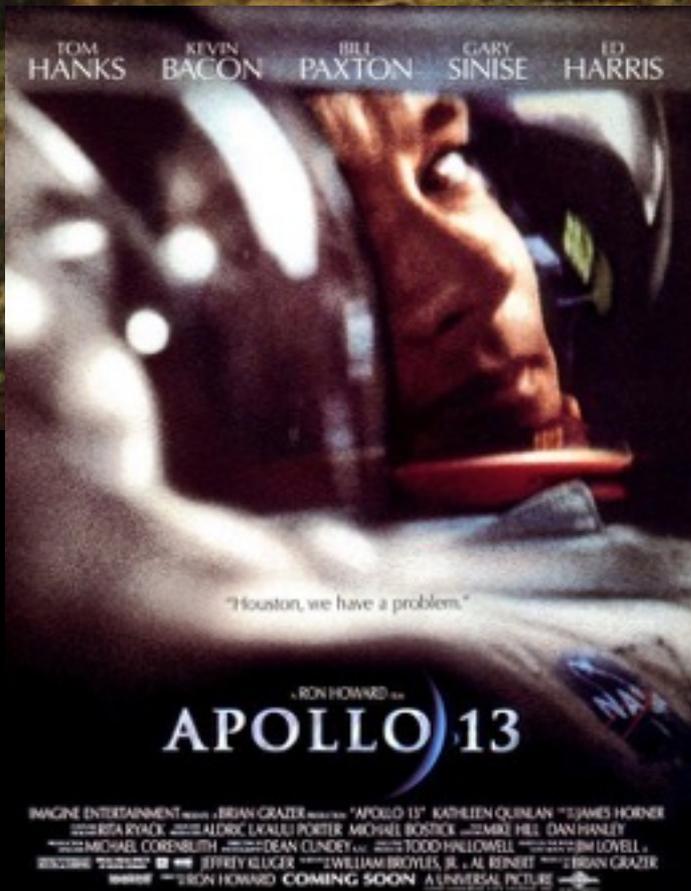
### 3.0 Company History

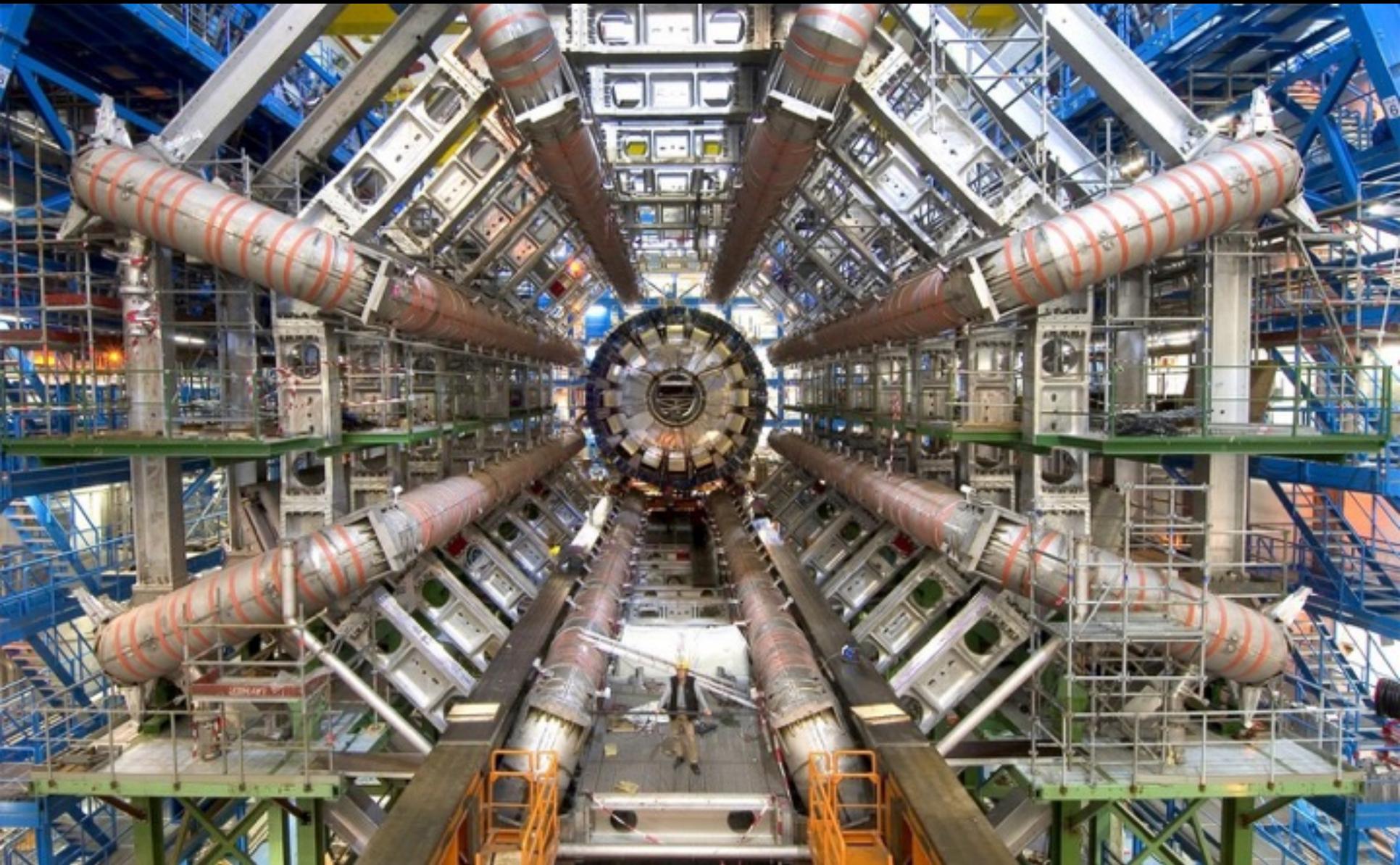
Throughout the late 1980s the National Science Foundation funded professors at Virginia Tech to research real-time, radio-based position measurement technology for use in construction environments. That research led to a greater understanding of the potential for real-time systems and their limitations. The research showed that radio-frequency technology would have practical limitations in day-to-day operations. After the research concluded, graduate students working independently conceived the concept of a laser-based system. Two of the professors and a former

**And these guys *said so***



# HOLLYWOOD







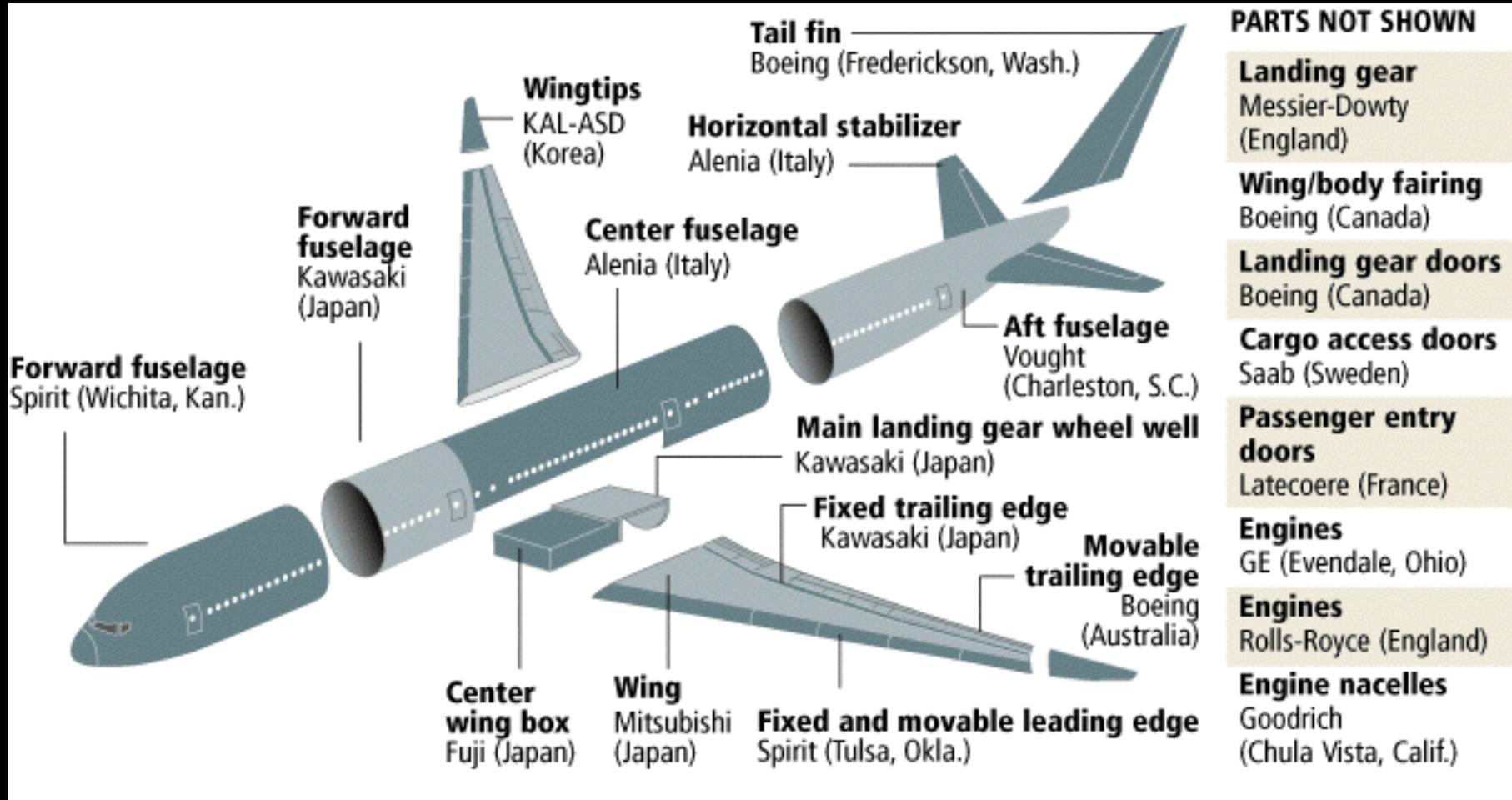


**What *Happened?***

**10 years *\$20M later***



# Indoor *GPS*





---

# Customer *Segments*

**“Customers” include**  
*more than Payers*

# Customer *Segments*





***Who*** are your most important customers?



*Who* are your most important customers?

What are their *archetypes*?



*Who* are your most important customers?

What are their *archetypes*?

What **job** do they want you to get done for them?

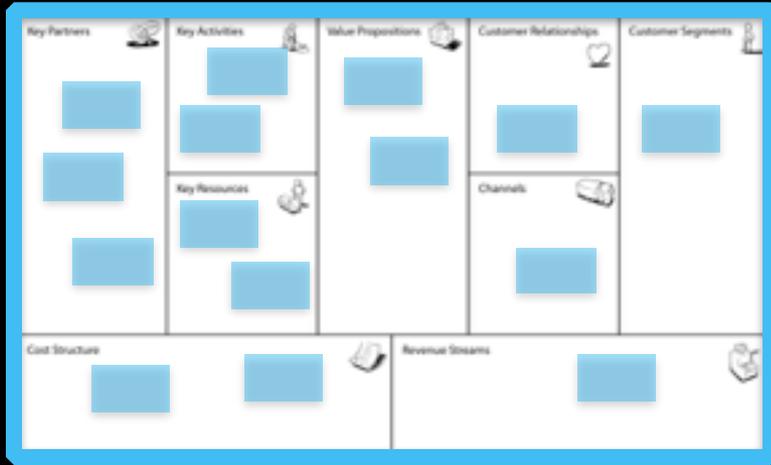
**Why do we group into**  
***Customer Segments?***

**Different *Customer Segments***  
**often have...**

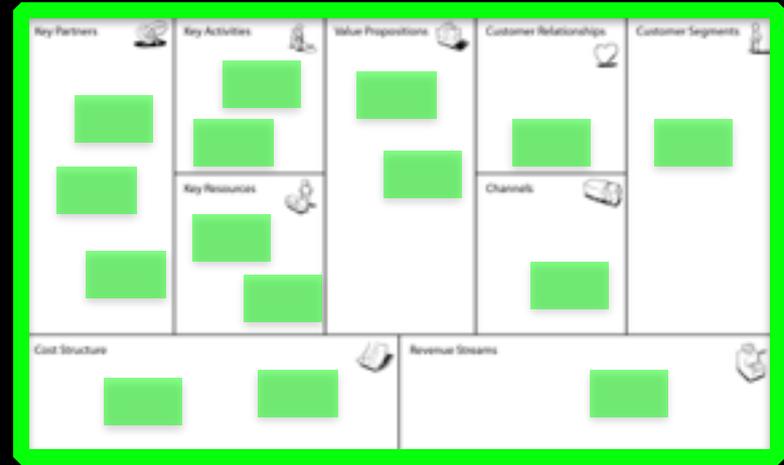
**Different *Customer Segments***  
**often have...**

**different problems, needs, and**  
***Business / Process Models***

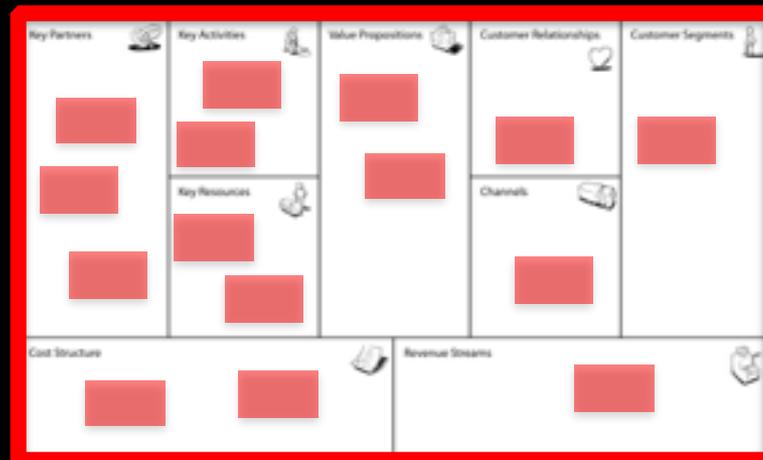
# Customer Segment #1



# Customer Segment #2



# Customer Segment #3



Customer Segments



Customer Segments



Customer Segments



Value Propositions



Value Propositions



Value Propositions



Channels



Channels



Channels



Customer Relationships



Customer Relationships



Customer Relationships



Revenue Streams

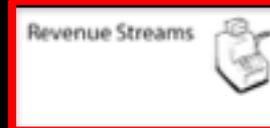
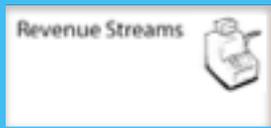
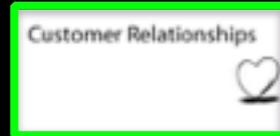
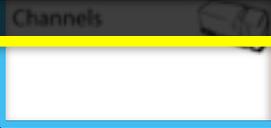
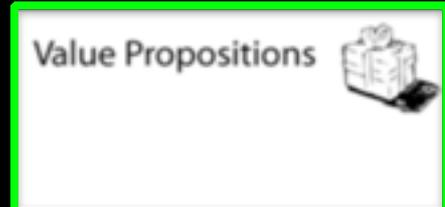
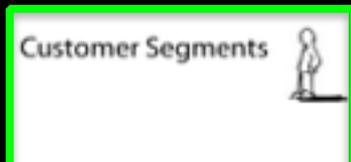
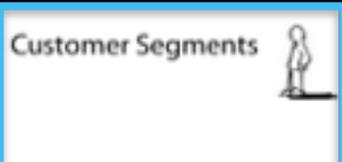


Revenue Streams

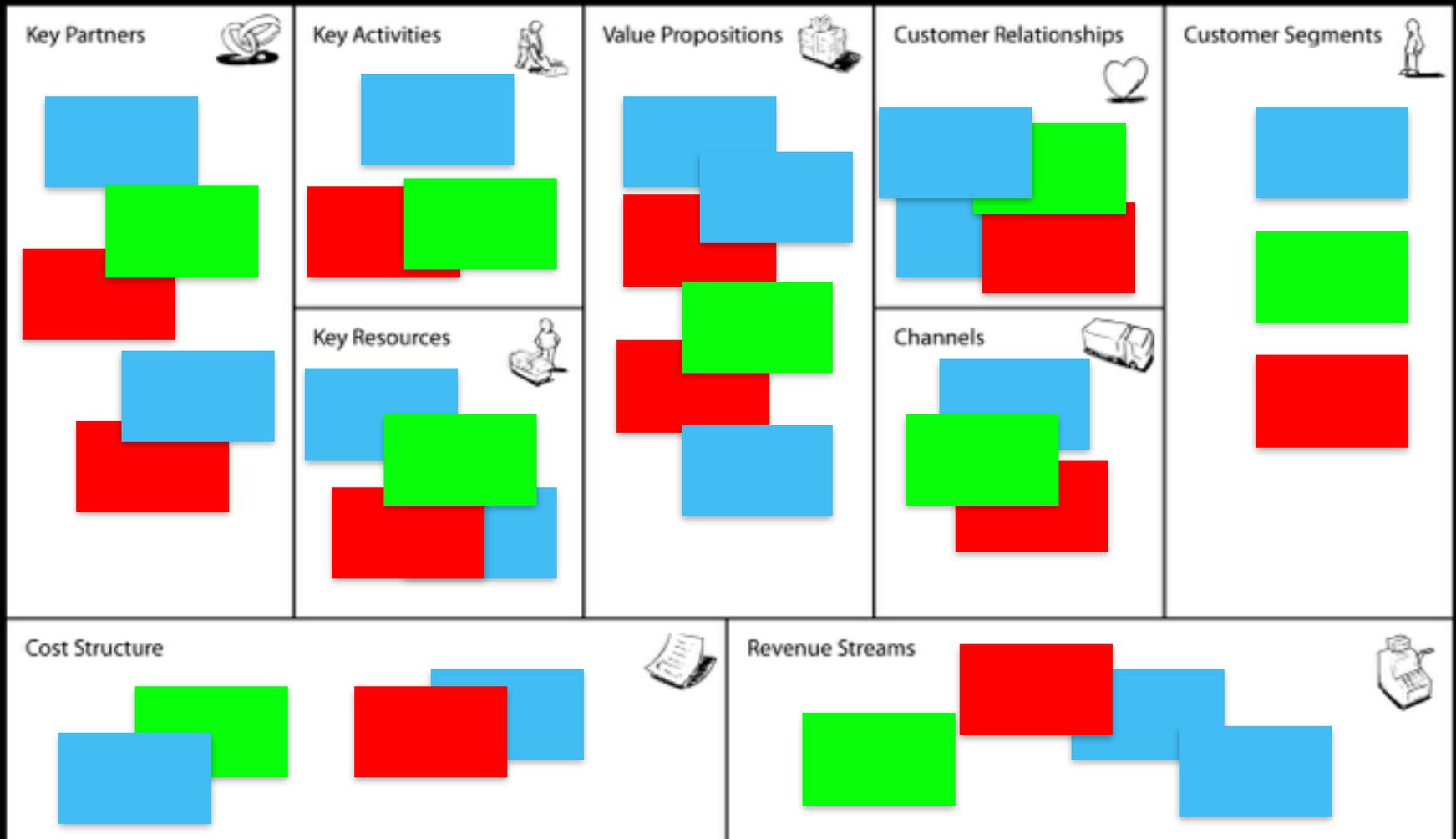


Revenue Streams





# Customer Segments #1, #2, #3



**Customer Segments  
often have**

***Sub-Segments***



**Hospitals**

**Customer *Segment***

Group  
University Teaching  
Hospitals

---

Definition

Those large hospitals with over 400 licensed beds, a scope of service index over 100, heavy teaching emphasis (over 700 intern hours per bed) and either are the primary-training site for a university which has a school of medicine or has over 1,000 intern hours per bed.

Major (Non-University)  
Teaching Hospitals

---

Those hospitals with over 500 intern hours per bed that do not qualify as a university teaching hospital.

Large Teaching Emphasis  
Hospitals

Those hospitals over 300 licensed beds and between 200 and 550 intern hours per bed.

Medium/Small  
Teaching Emphasis Hospitals

Those hospitals under 300 beds with between 200 and 550 intern hours per bed.

Extremely Large Sized Hospitals

Those urban hospitals with 500 or more licensed beds that do not qualify for any other group.

Large Sized Hospitals

Those urban hospitals with at least 380 but under 500 licensed beds that do not qualify for any other





~~Hospitals~~

**Customer**  
***Sub-Segments***

**University Teaching  
Hospitals**

**Major (Non-University)  
Teaching Hospitals**

**Not *Done***

# Customer *Types*

***Stakeholders***

**Customer** ~~*Types*~~



Find the *people!*

## University Teaching Hospitals

- *End User*



Find the *people!*

## University Teaching Hospitals

- *End User*
- *Decision Maker*



Find the *people!*

## University Teaching Hospitals

- *End User*
- *Decision Maker*
- *Payer*



Find the *people!*

## University Teaching Hospitals

- *End User*
- *Decision Maker*
- *Payer*
- *Influencer*



Find the *people!*

## University Teaching Hospitals

- *End User*
- *Decision Maker*
- *Payer*
- *Influencer*
- *Recommender*



Find the people!

## University Teaching Hospitals

- *End User*
- *Decision Maker*
- *Payer*
- *Influencer*
- *Recommender*
- *Skeptic*



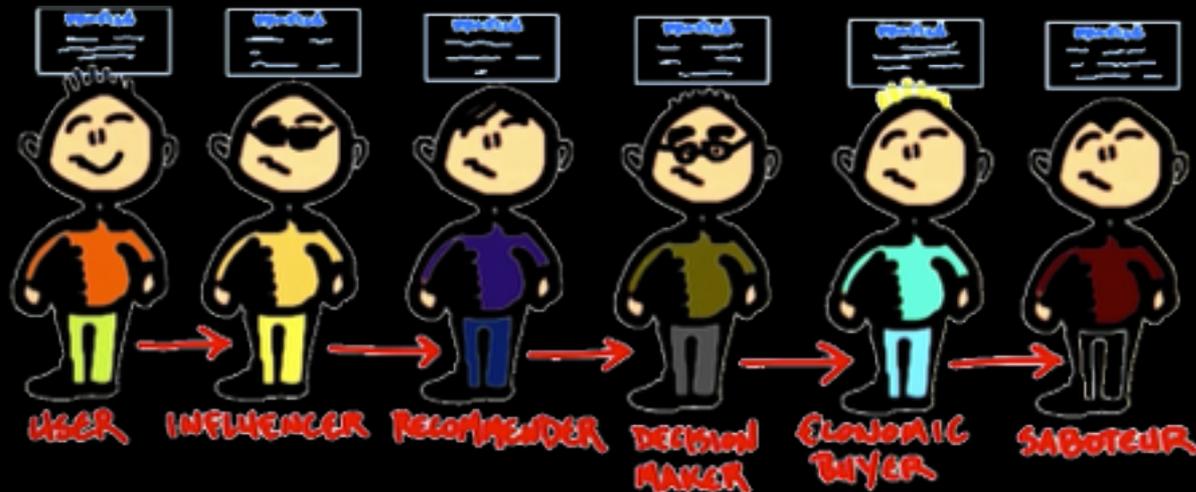
# Customer *Stakeholders*

## University Teaching Hospitals

- *End User*
- *Decision Maker*
- *Payer*
- *Influencer*
- *Recommender*
- *Skeptic*

**And *Finally***

# Identify *Archetypes*

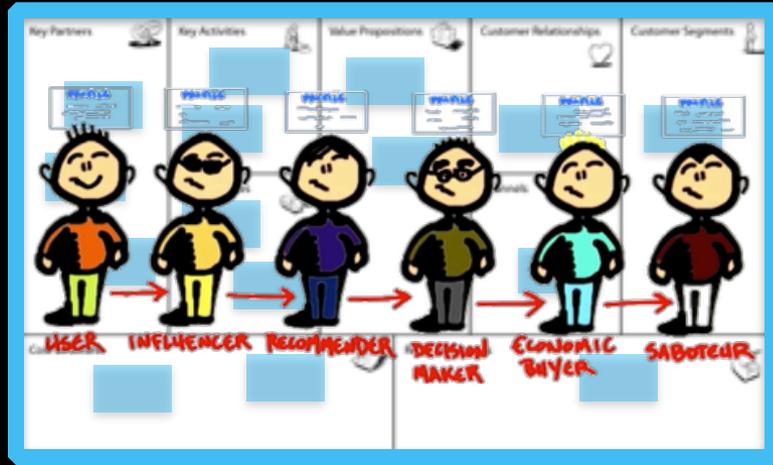


*to understand implementation decision*

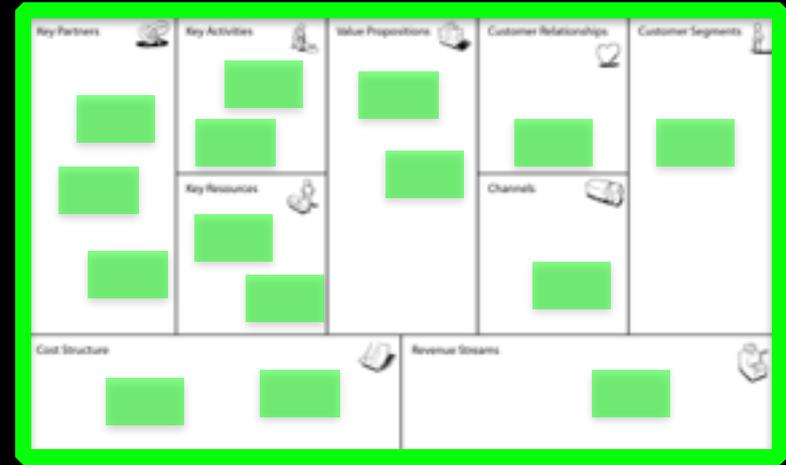
# End User *Archetype*



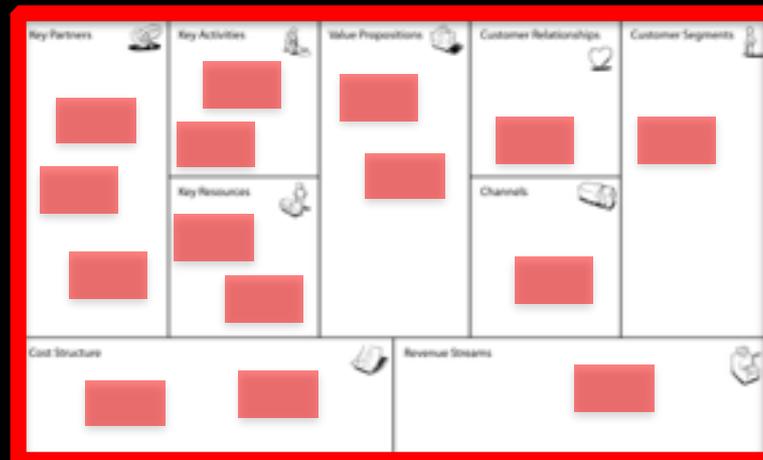
# Customer Segment #1



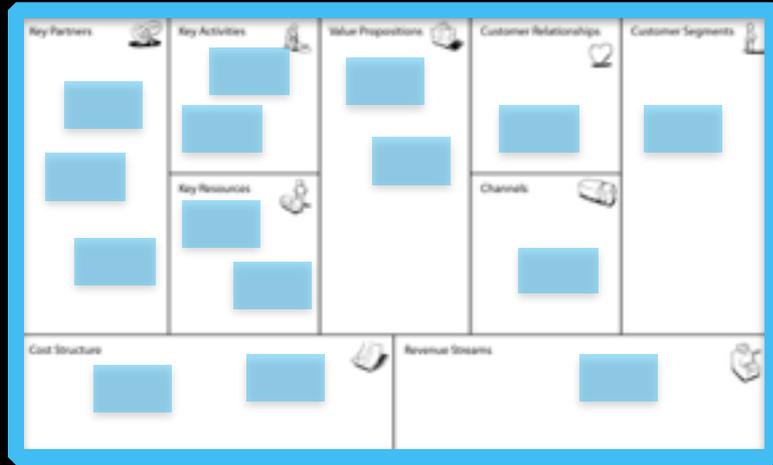
# Customer Segment #2



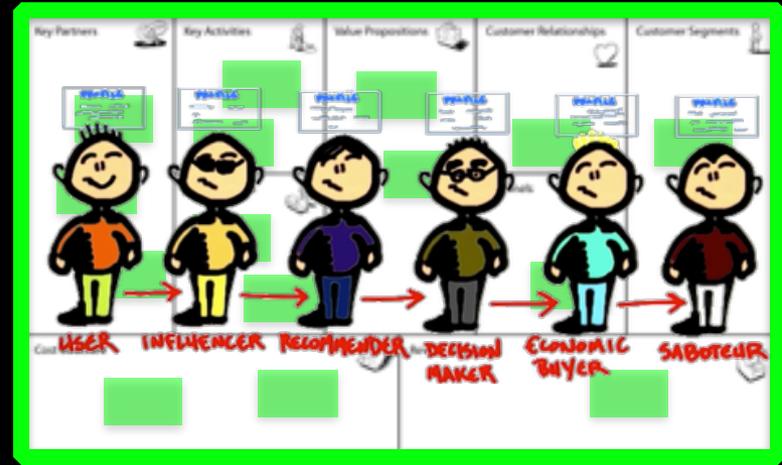
# Customer Segment #3



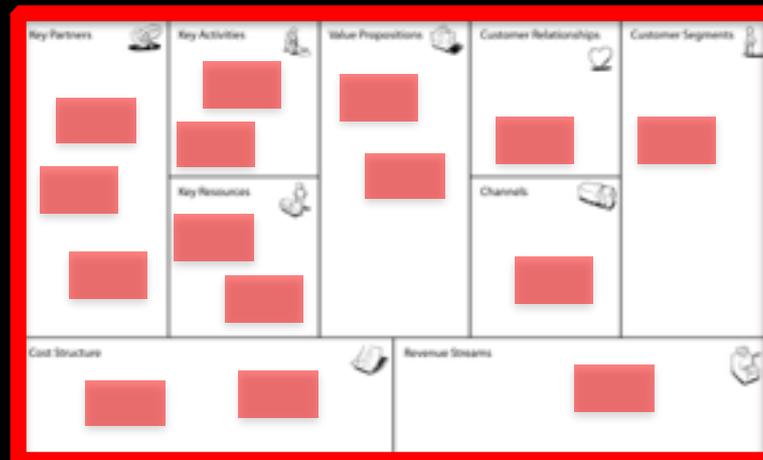
# Customer Segment #1



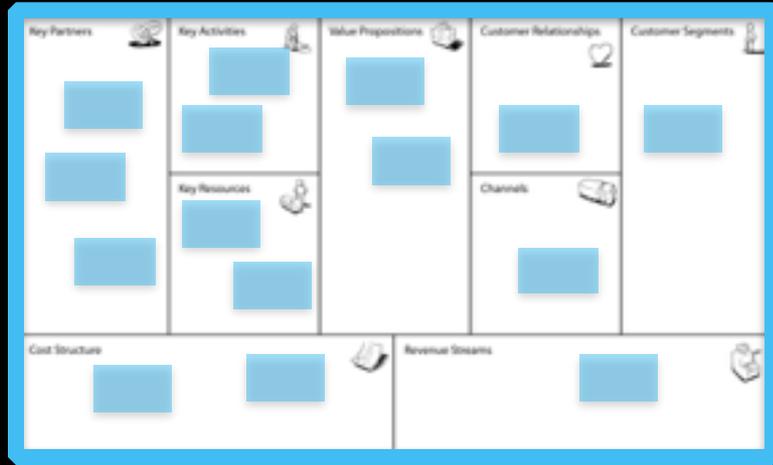
# Customer Segment #2



# Customer Segment #3



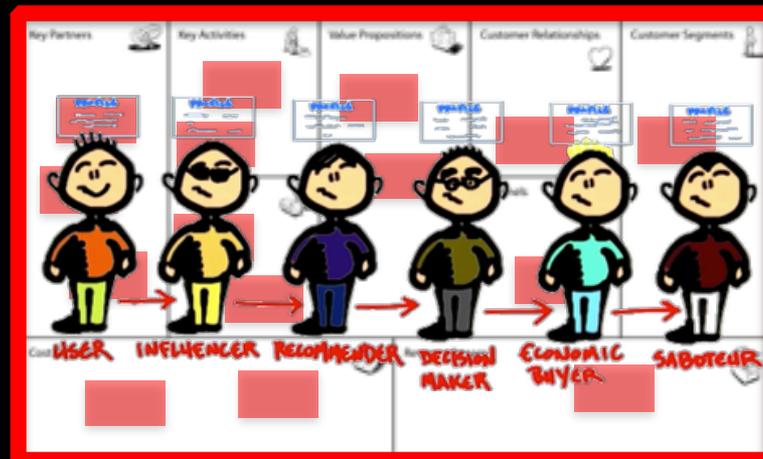
# Customer Segment #1



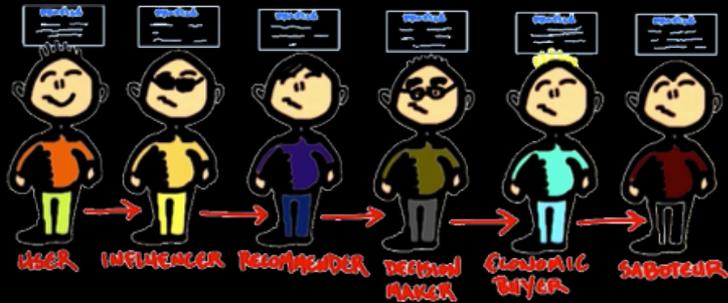
# Customer Segment #2



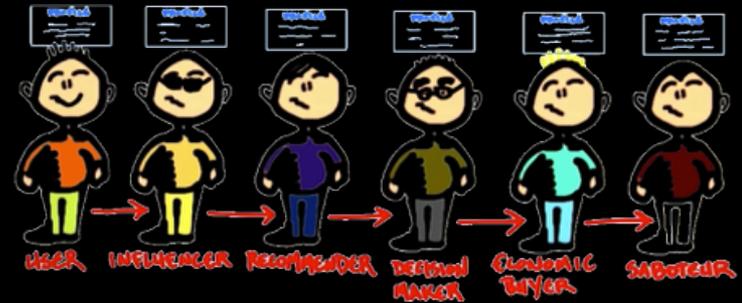
# Customer Segment #3



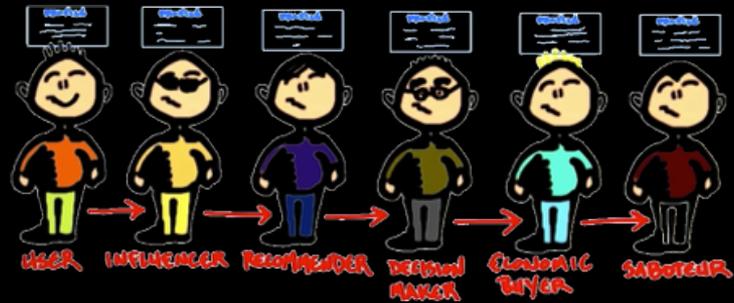
# Customer Segment #1



# Customer Segment #2



# Customer Segment #3



**Why do we group into**  
***Customer Segments?***

**Different *Customer Segments***  
**often have...**

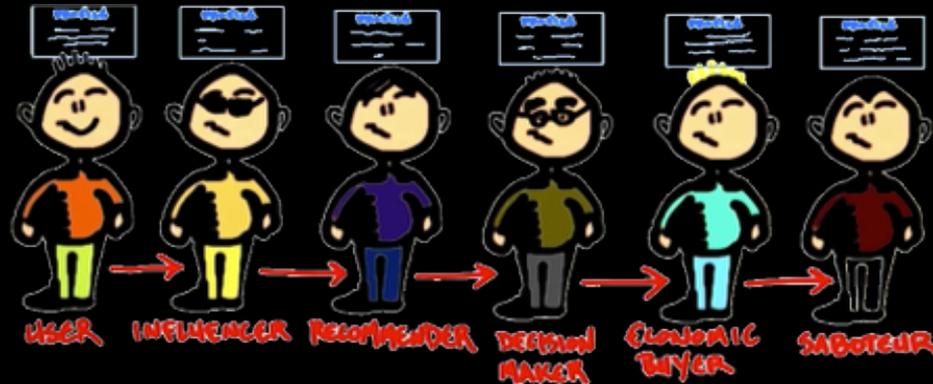
**Different *Customer Segments***  
often have...

**different Business *or Process***  
***Models***

**But** *Remember*

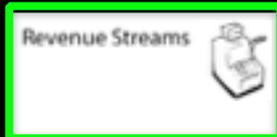
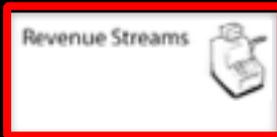
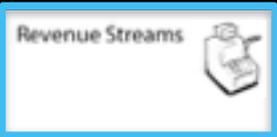
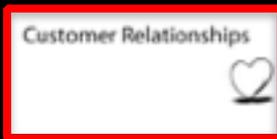
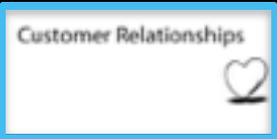
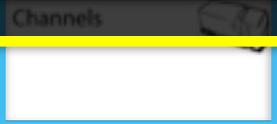
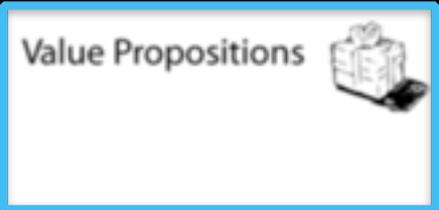
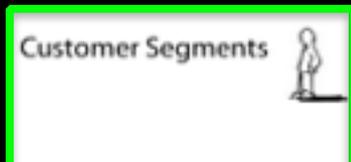
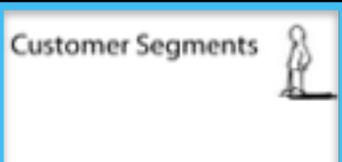
# Different *Stakeholders* also often have...

---



**Different *Stakeholders* also  
often have...**

**Different *Value Propositions***



**Different *Stakeholders* also  
often have...**

**Different *Motivations***

# Personal *Example*





**End User = *Steel Laborer***



**Decision Maker = *Project Manager***



**Payer = *Purchasing Director***



**Skeptic = *Construction Surveyor***

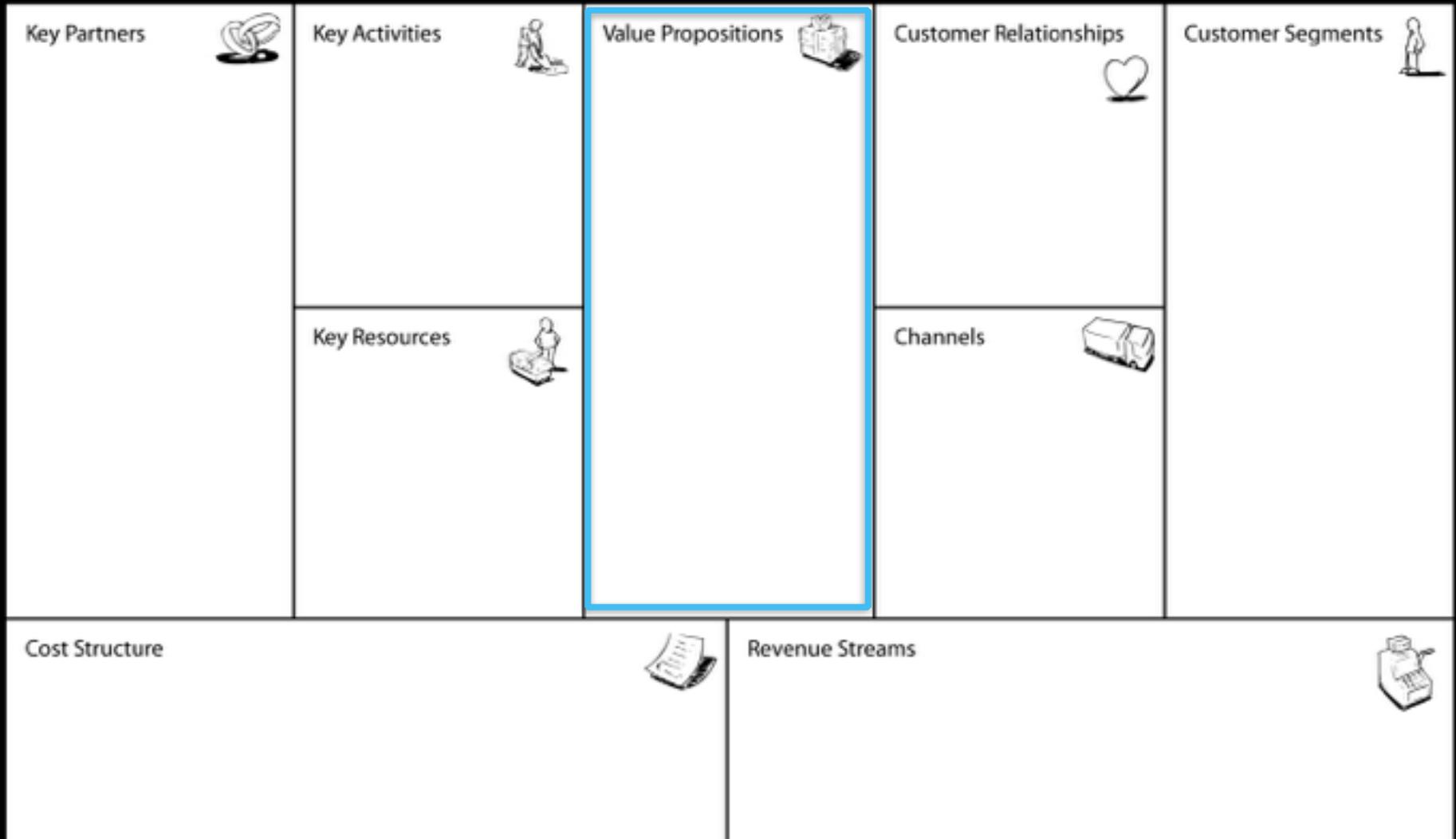
# Class *Examples*

# Value *Propositions*

*...describe the **benefits** your customers derive from your product, service, or process improvement.*

*...describe the **benefits** your customers derive from your product, service, or process improvement.*

# Value *Propositions*





**What customer *problems* are you helping to solve ?**

**What customer *needs* are you satisfying?**

**What about my**  
*idea / technology / product?*

**Customers don't care about**  
*your idea, technology, or*  
*product...*

Customers don't care about  
*your idea, technology, or  
product...*

they are trying to *solve a  
problem or satisfy a need.*

**What, How, Why?**

***Product, Features, Value***

**What?**

**What?**

***Product***

**How?**

**How?**

***Features***

**Why?**

**Why?**

***Value***

**Product Features**

**≠**

***Value Propositions***

**Product Features**

**≠**

***Value Propositions***

**...but they do *deliver it.***

**Product Benefits**

**=**

***Value Propositions***

**Easy to use**

**Easy to use**

***Feature or VP?***

**Faster**

**Faster**

***Feature or VP?***

**Cheaper**

**Cheaper**

***Feature or VP?***

# General *Guidelines*

**Specifics *Matter***

**Quantify *Benefit***

# Rank *Order*

Value Propositions



**What are some categories of Value Propositions...**

Value Propositions



**Newness**

Value Propositions



Newness

**Performance**

Value Propositions



Newness

**Customization**

Performance

Value Propositions



Newness

Customization

Performance

**Design**

# Value Propositions



Newness

Customization

Performance

Design

**Get Job Done**

# Value Propositions



Newness

Customization

Performance

Design

**Brand/Status**

Get Job Done

Value Propositions



**Price**

Value Propositions



Price

**Cost Reduction**

Value Propositions



Price

**Risk Reduction**

Cost Reduction

# Value Propositions



Price

Risk Reduction

Cost Reduction

**Accessibility**

# Value Propositions



Price

Risk Reduction

Cost Reduction

Accessibility

**Convenience/Usability**

# Simple *Example*



**Feature = *Bright Colors***

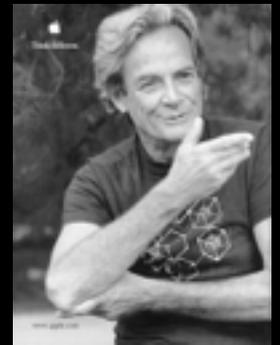


**Value = *User Feels Cool!***

# Class *Examples*

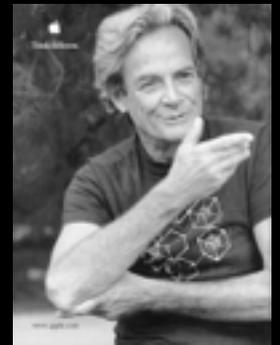
***“The first principle is that you must not fool yourself***

*Richard Feynman*



*“The first principle is that you must not fool yourself, and you are the easiest person to fool.”*

*Richard Feynman*

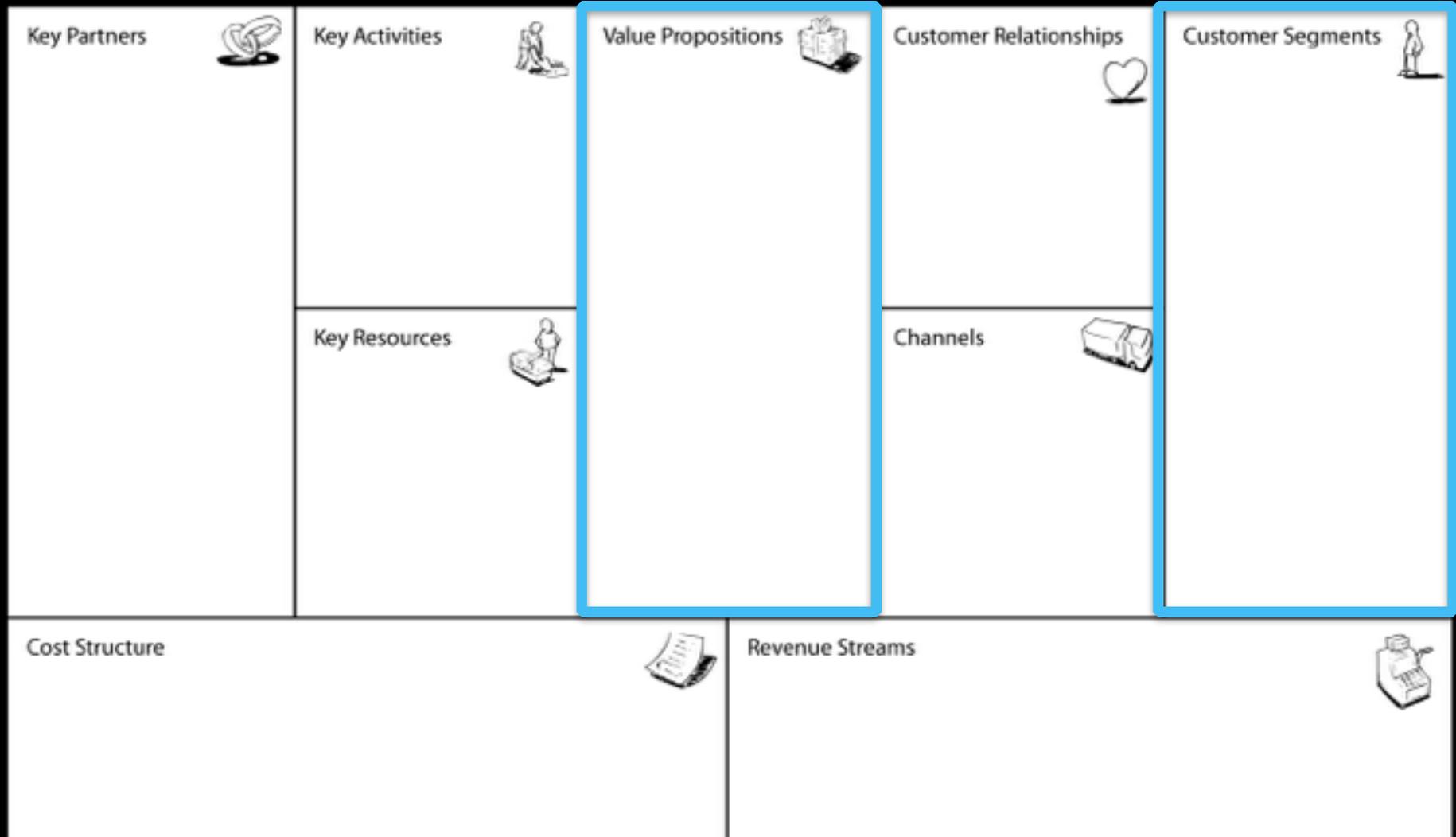


# **Q&A** *Discussion*

---

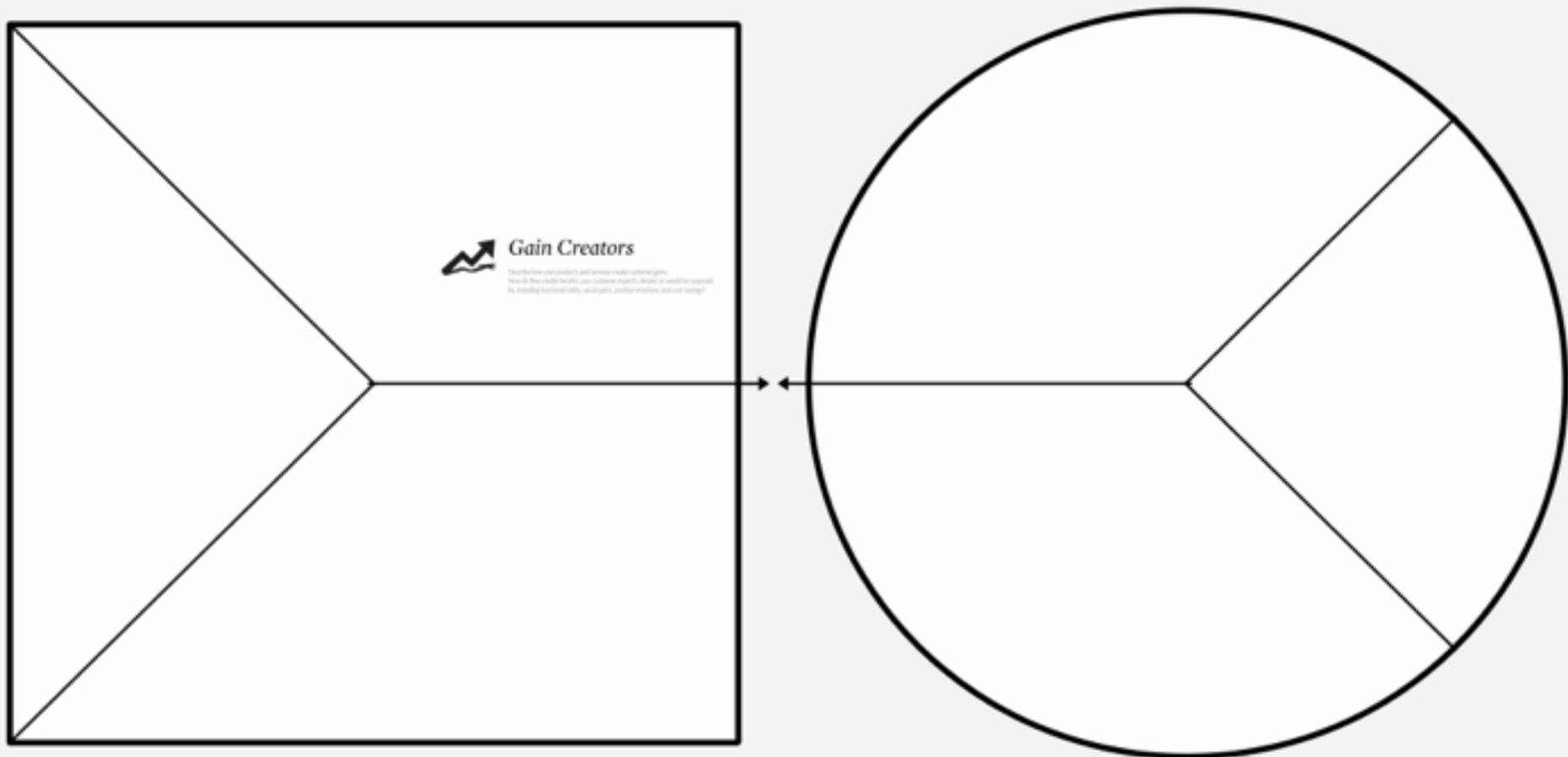
***Customer Discovery***  
***using Scientific Method***

# Start *Here*



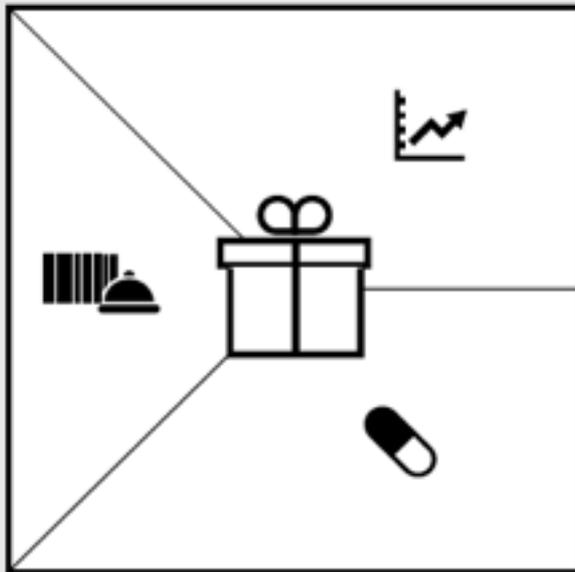
# Start *Here*

## *The Value Proposition Canvas*

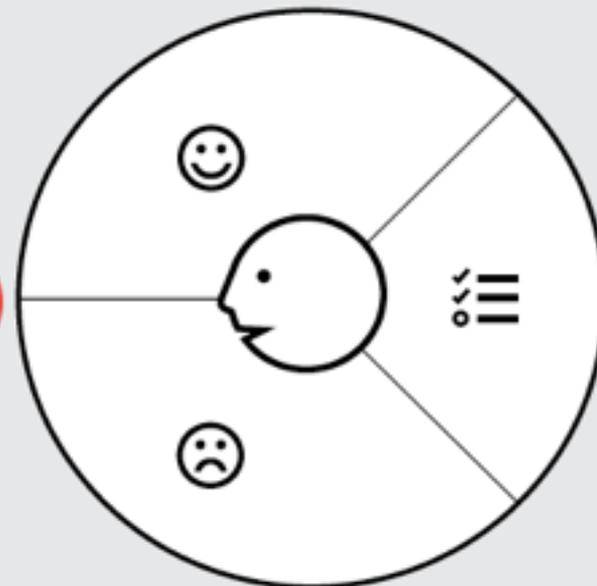


# Start *Here*

value map



customer profile

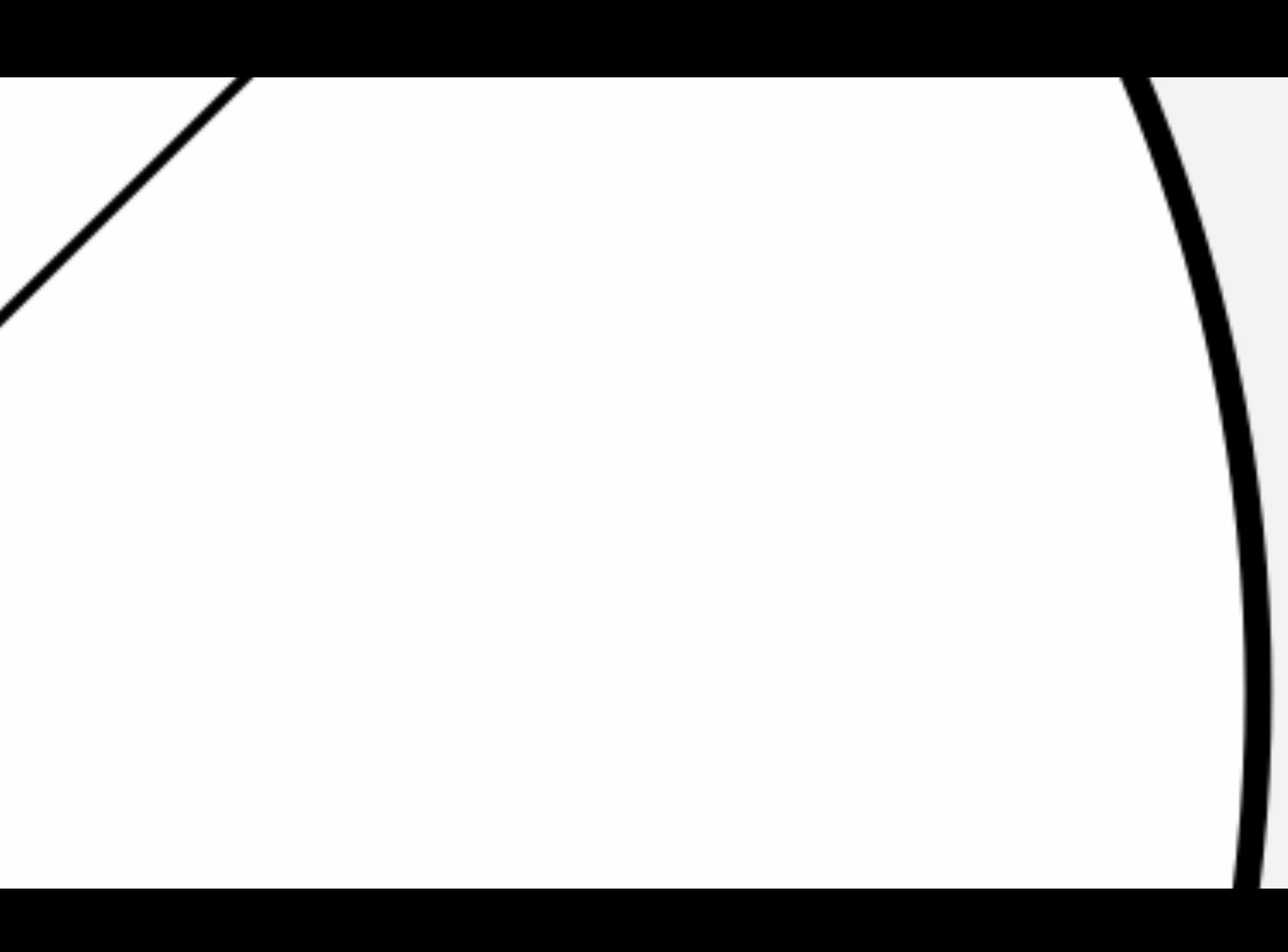


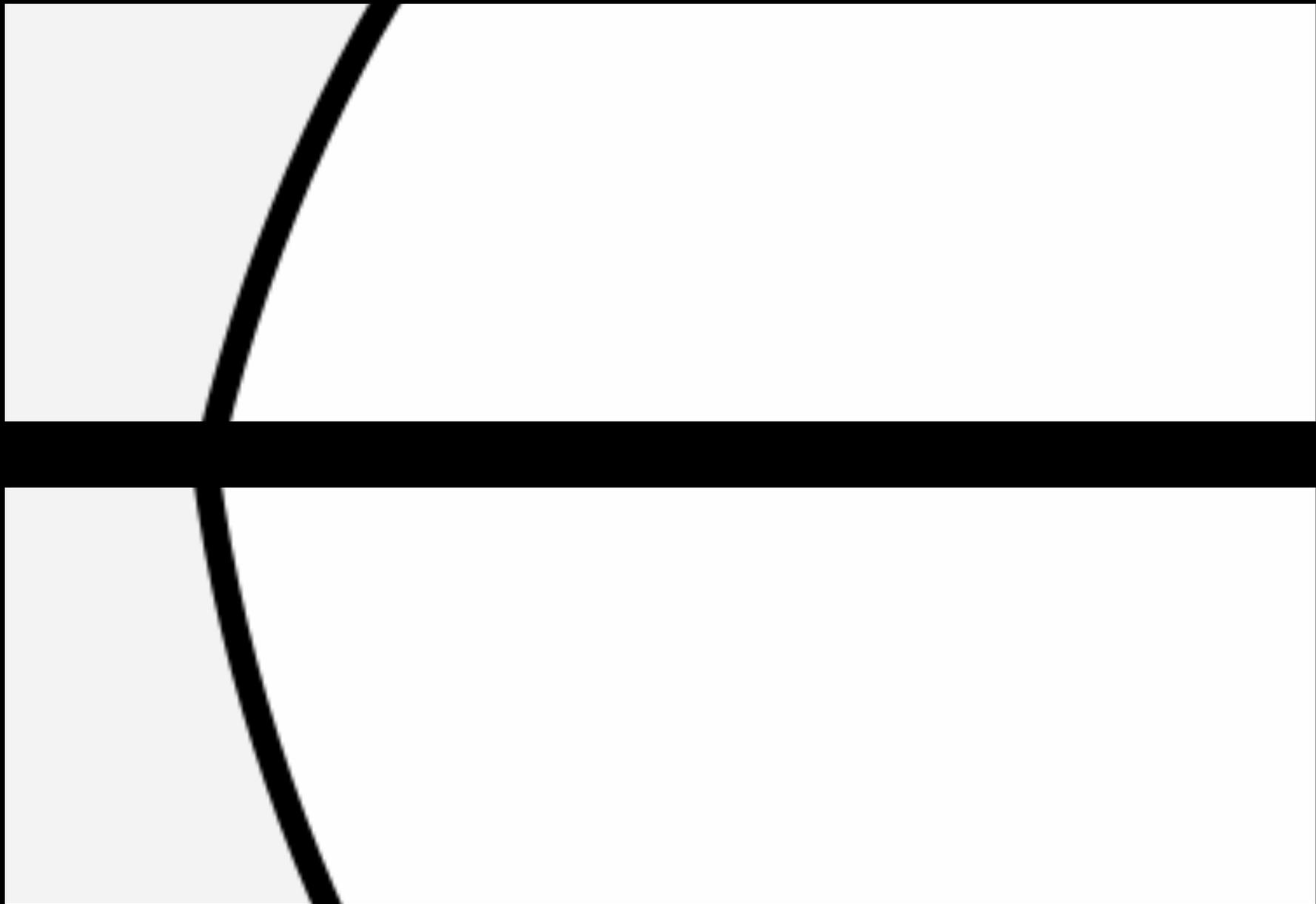
Fit

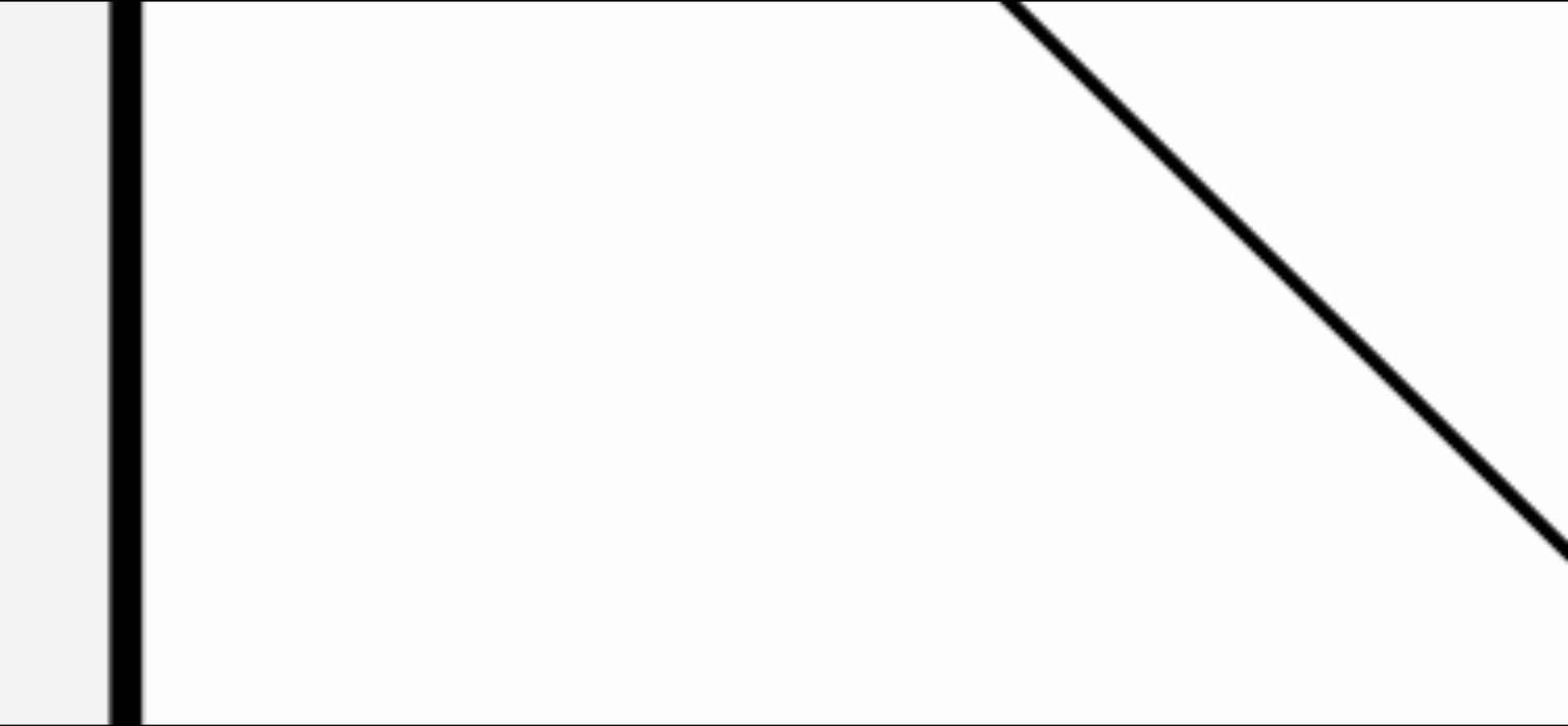
# Apply Scientific Method to *Customer Discovery*

Observe  
“customer”  
phenomena

Step 1





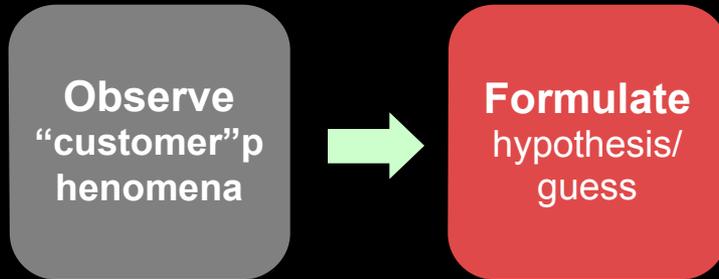




## *Gain Creators*

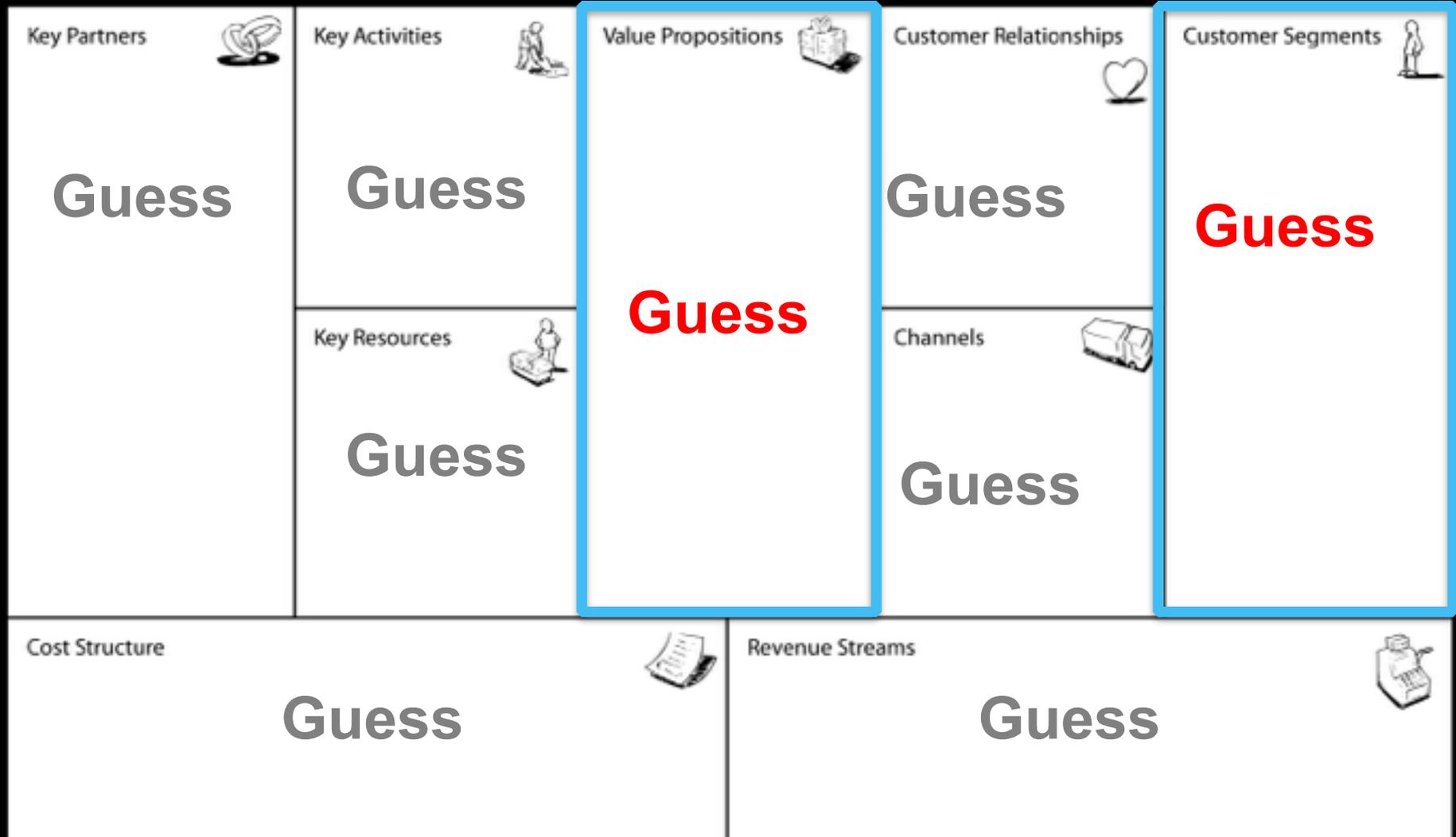
Describe how your products and services create customer gains. How do they create benefits your customer expects, desires or would be surprised by, including functional utility, social gains, positive emotions, and cost savings?

# Apply Scientific Method to *Customer Discovery*

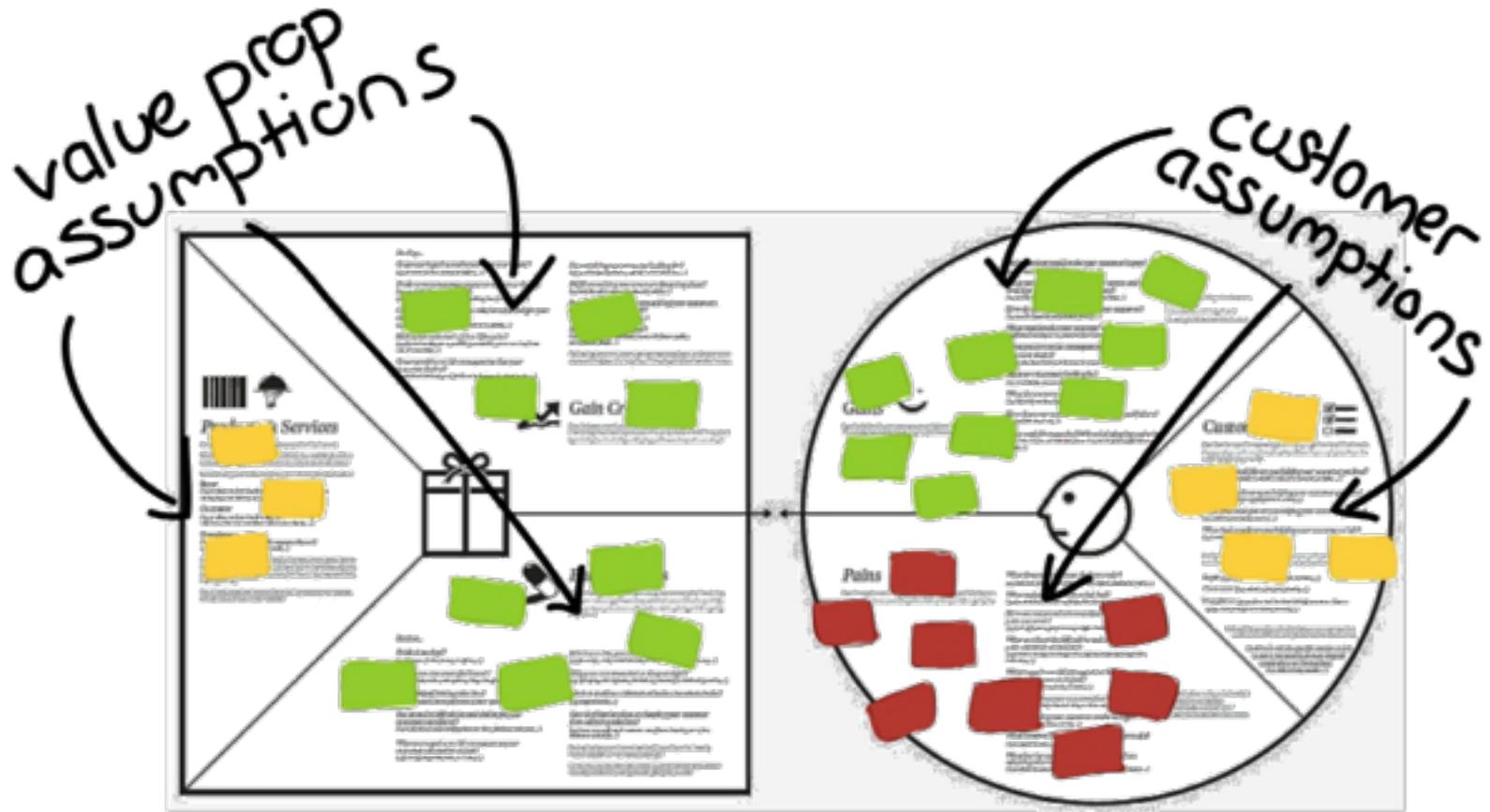


**Step 2**

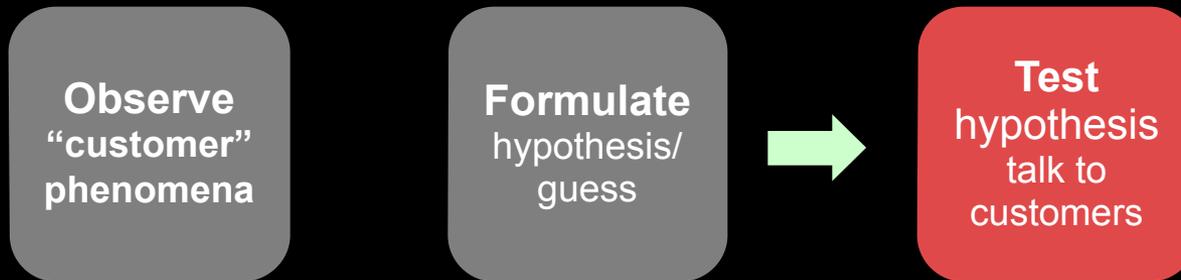
# Step 2: *State Your Guesses*



# Step 2: *State Your Guesses*



# Apply Scientific Method to *Customer Discovery*



**Step 3**

Get *out* of  
the building!

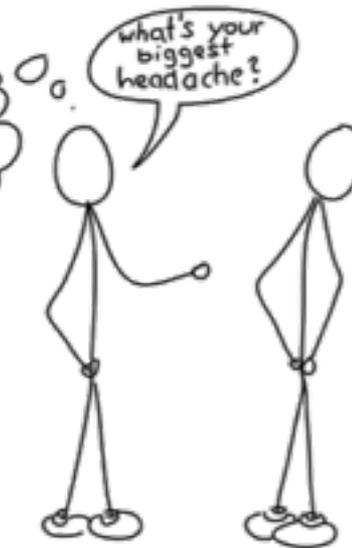
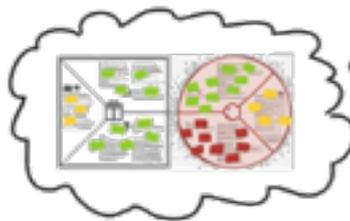
# Step 3: *Test the Problem*

*(test your CS & VP guesses)*

Value Propositions



Customer Segments



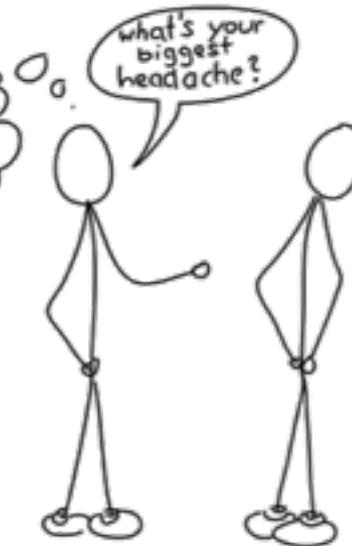
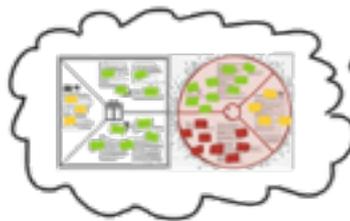
# Step 3: *Test the Problem*

*(test your CS & VP guesses)*

Value Propositions



Customer Segments



Identify customer ***problems*** and ***needs...***

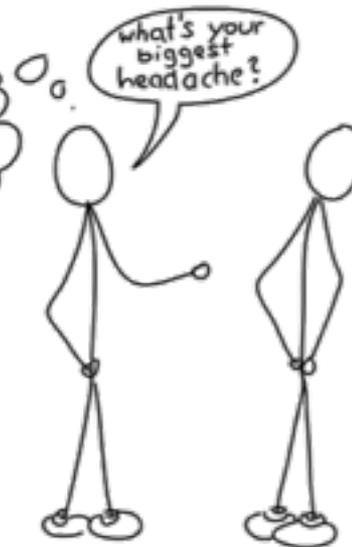
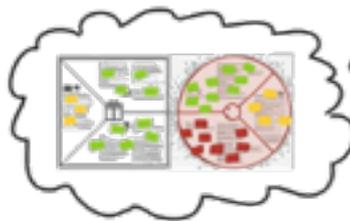
# Step 3: *Test the Problem*

*(test your CS & VP guesses)*

Value Propositions



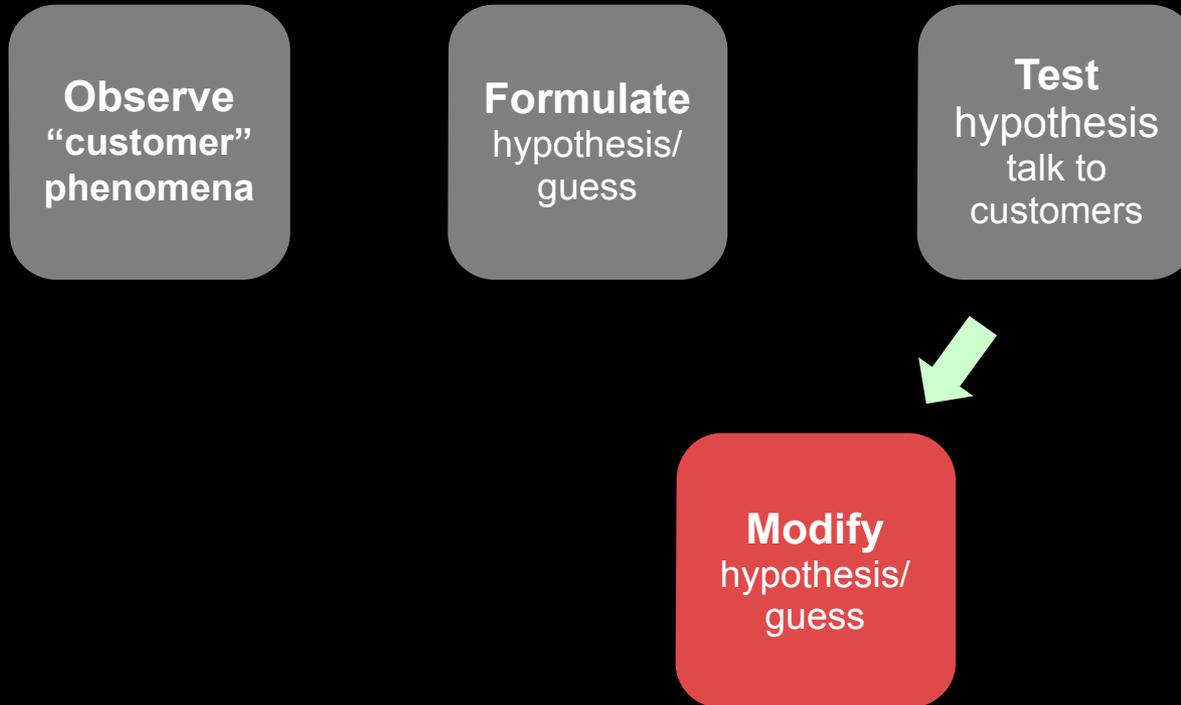
Customer Segments



Identify customer  
*problems and needs...*

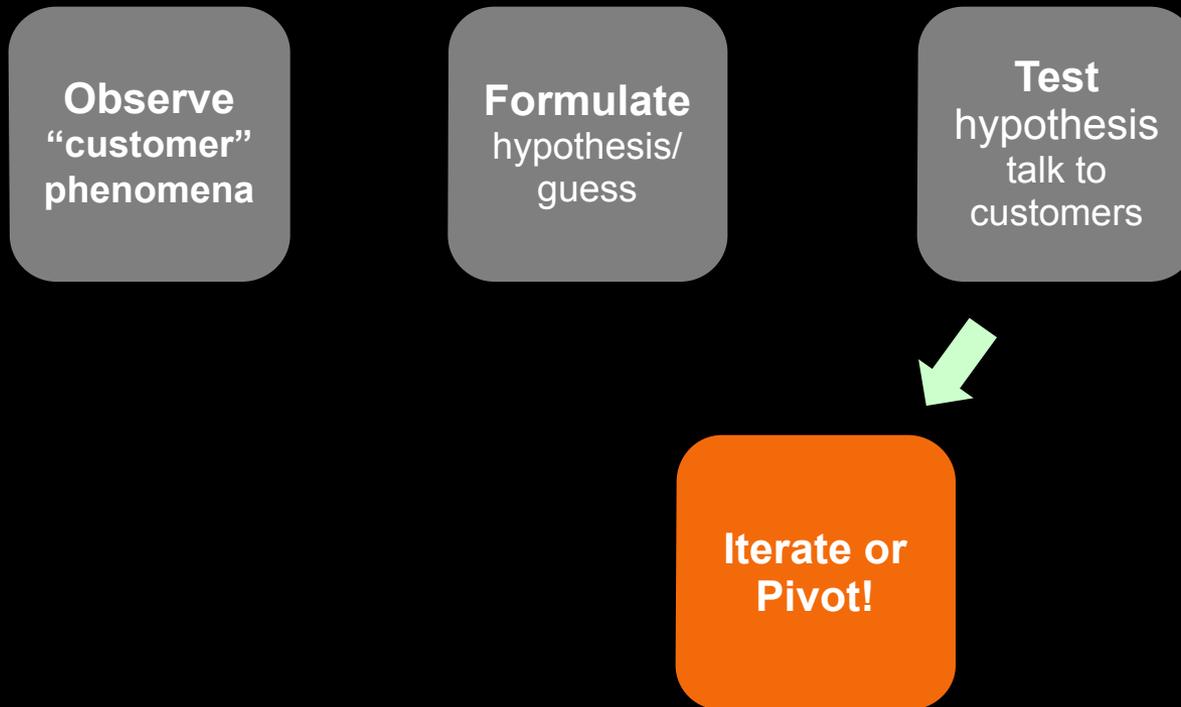
**focus on customer pains, desired gains, and jobs.**

# Apply Scientific Method to *Customer Discovery*



**Step 4**

# Apply Scientific Method to *Customer Discovery*



**Step 4**

# Step 4: *Iterate and Pivot*

(adjust your CS guesses about the Problem)

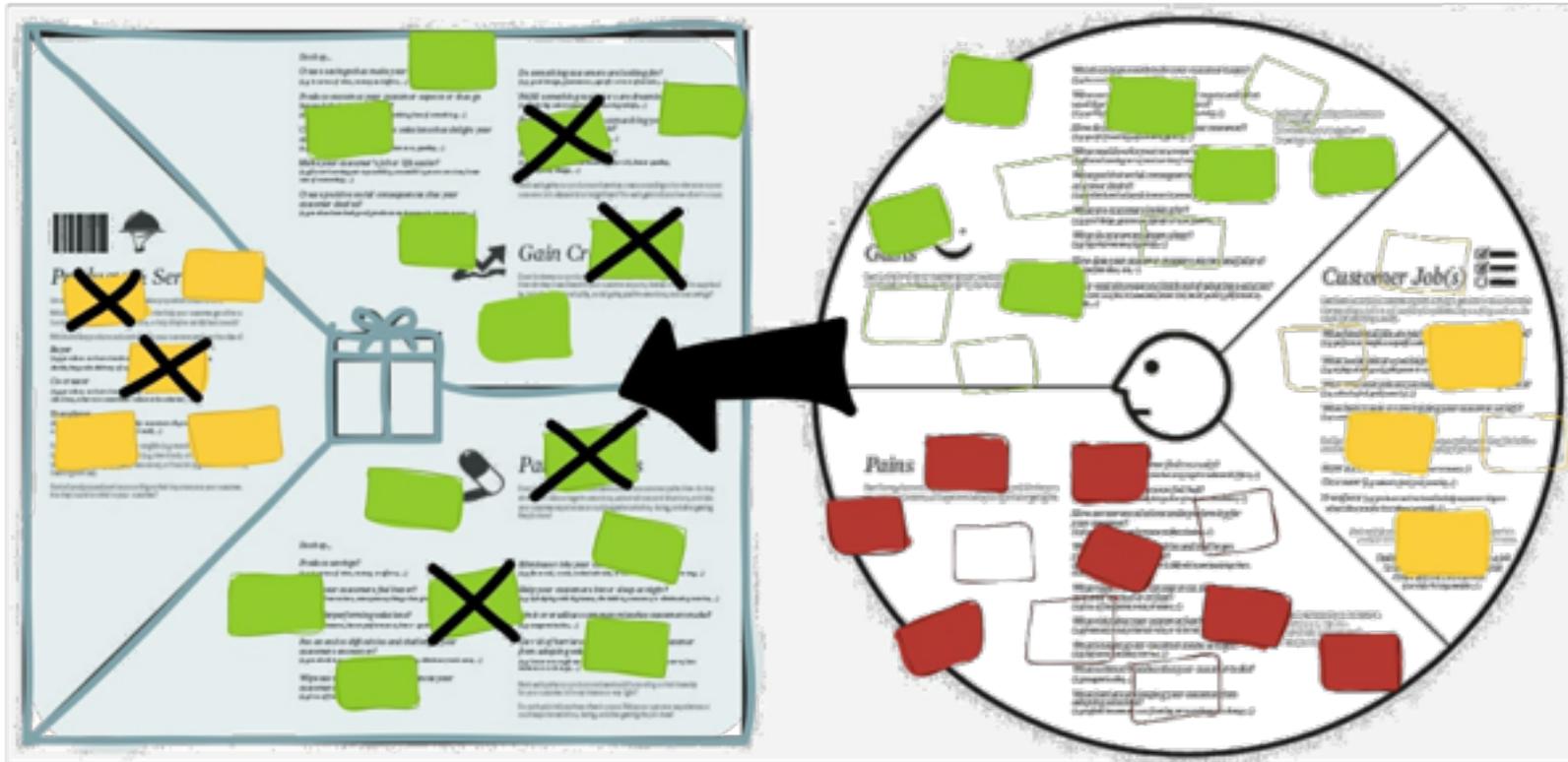


Wrong assumptions

*...iterate and pivot*

# Step 4: *Iterate and Pivot*

(redesign Value Proposition about the Problem)



*...iterate and pivot*

# Apply Scientific Method to *Customer Discovery*

Observe  
customer  
phenomena

Formulate  
hypothesis/  
guess

Test  
hypothesis  
talk to  
customers

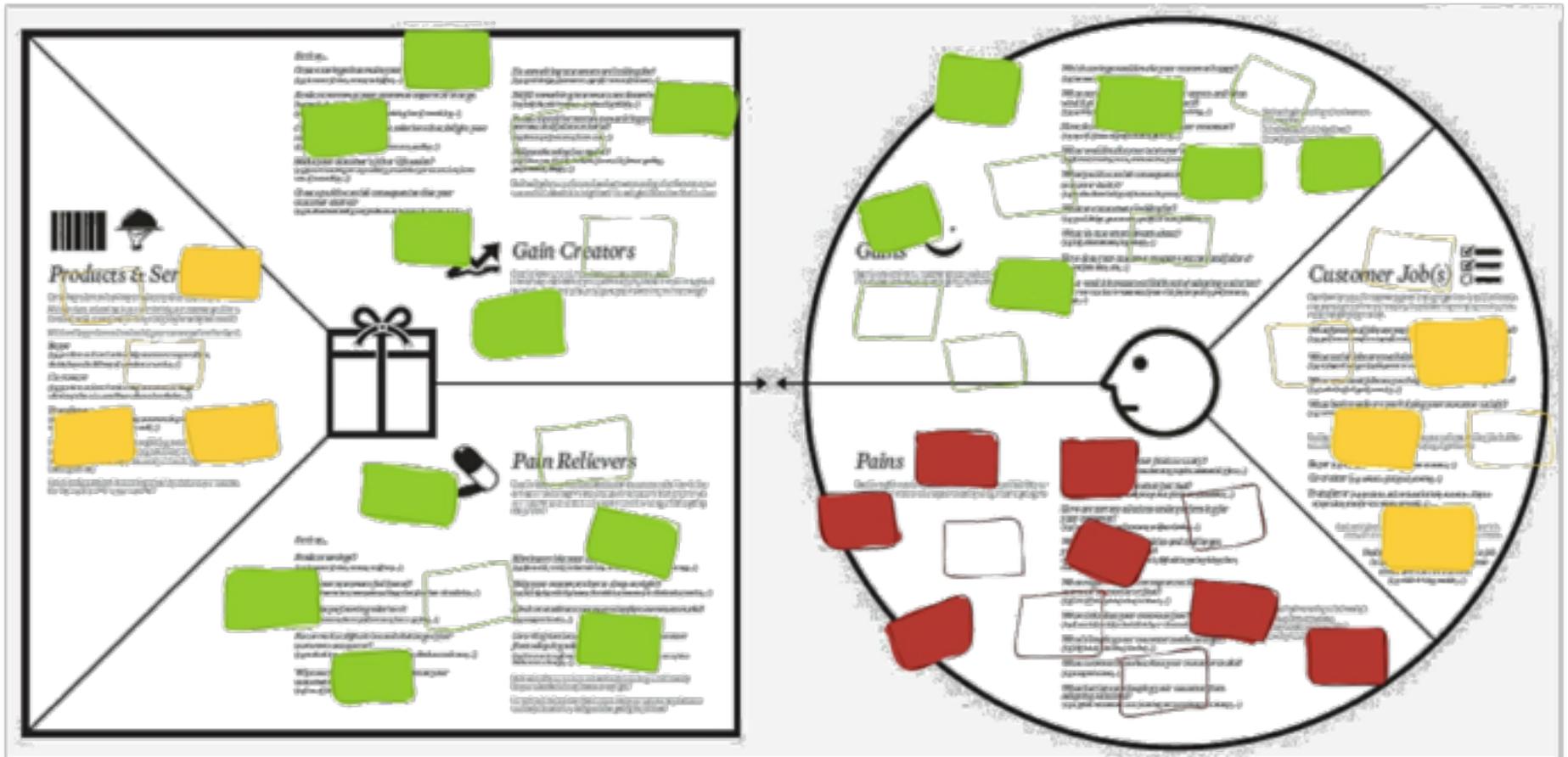
Step 5



Modify  
Hypothesis/  
guess

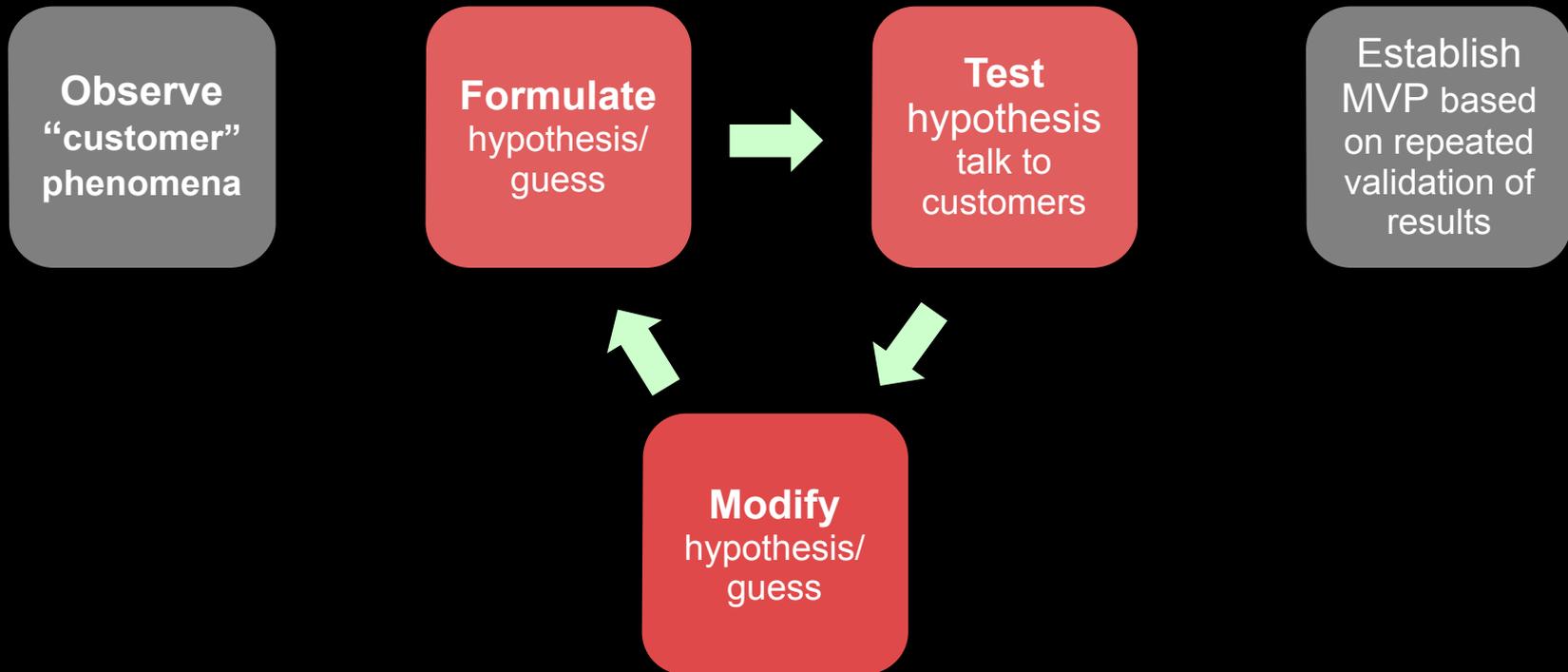
# Step 5: *Restate Your Guesses*

*(adjust VP canvas)*

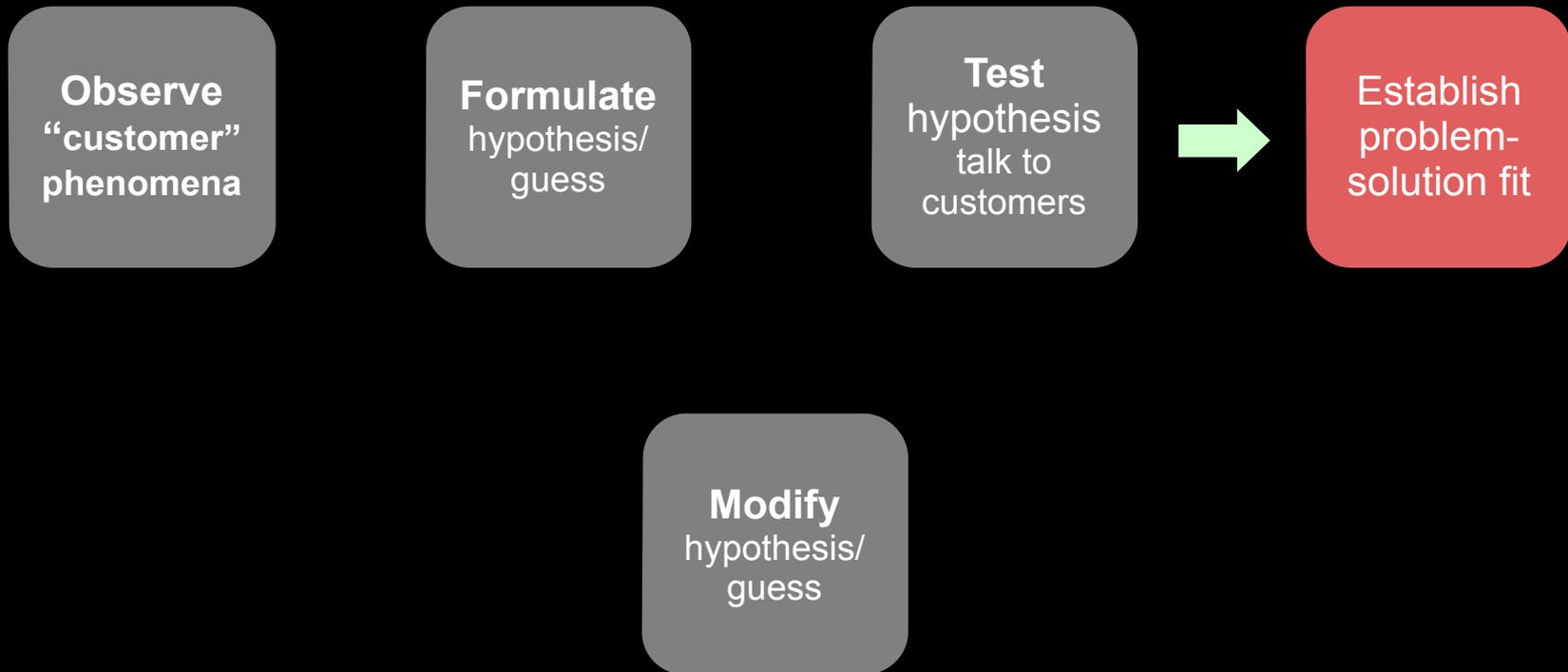


**Repeat**  
***as needed***

# Apply Scientific Method to *Customer Discovery*



# Apply Scientific Method to *Customer Discovery*



**Your goal is to validate a**

***Problem-Solution Fit***

**Now you can start**  
***testing a product...***

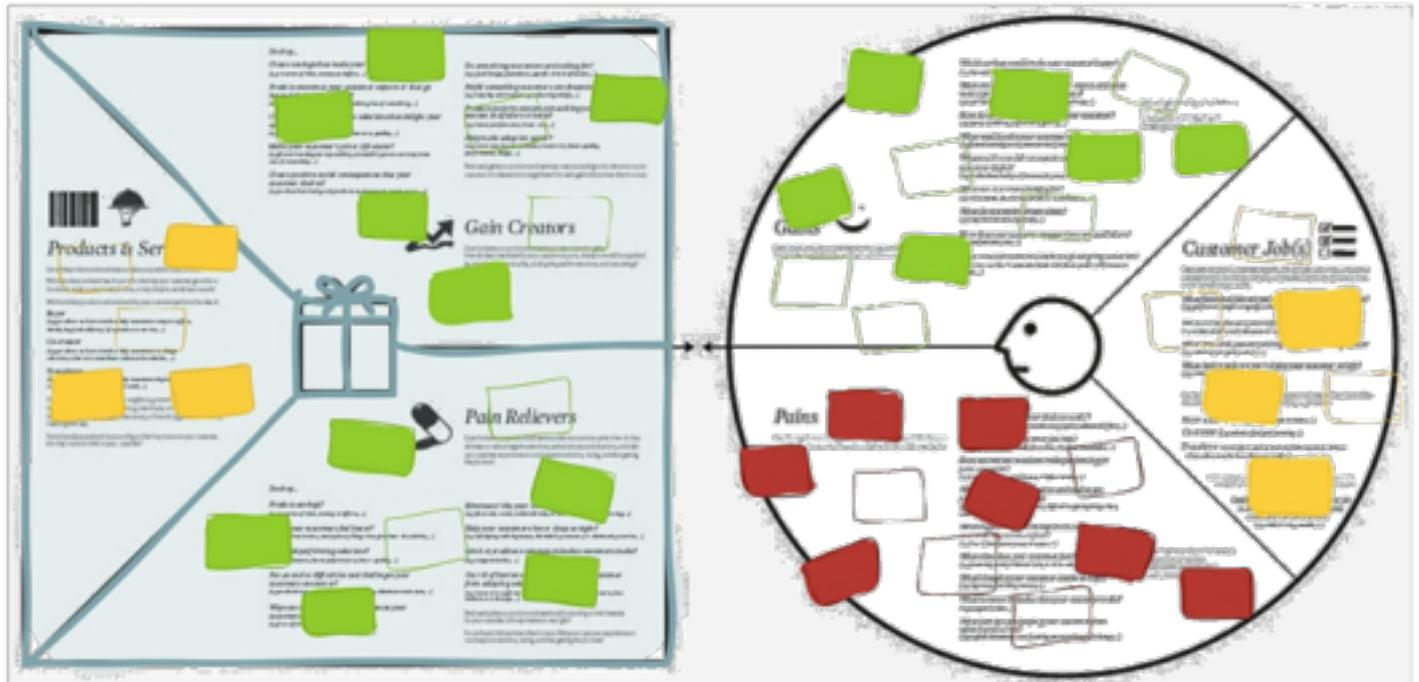
**Minimum Viable Product**

***(MVP) approach***

# Test the *Solution*

Test with MVP  
↳

Test Value Proposition with MVP



# Test the *Solution*

Value Propositions



Customer Segments



**MVP**

**Test minimum viable product features**

# Test the *Solution*

Value Propositions



Customer Segments

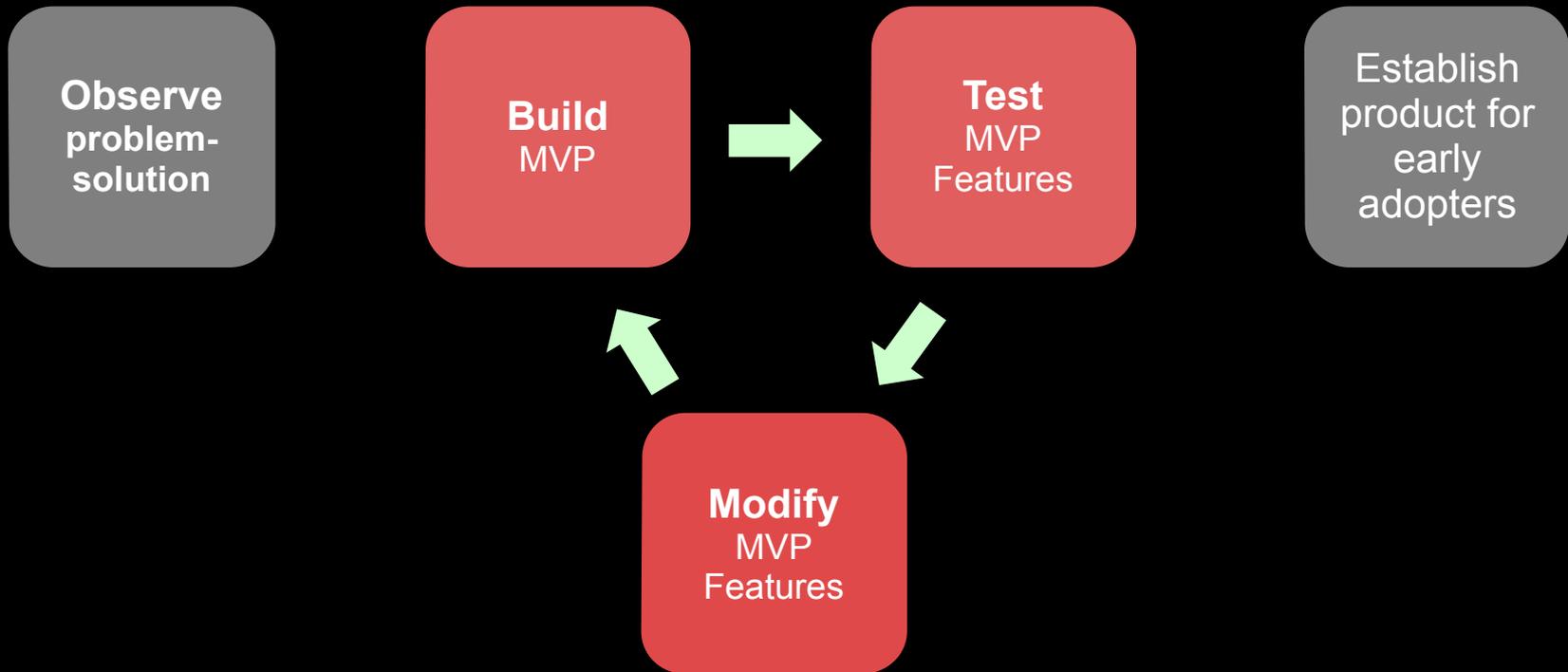


# MVP

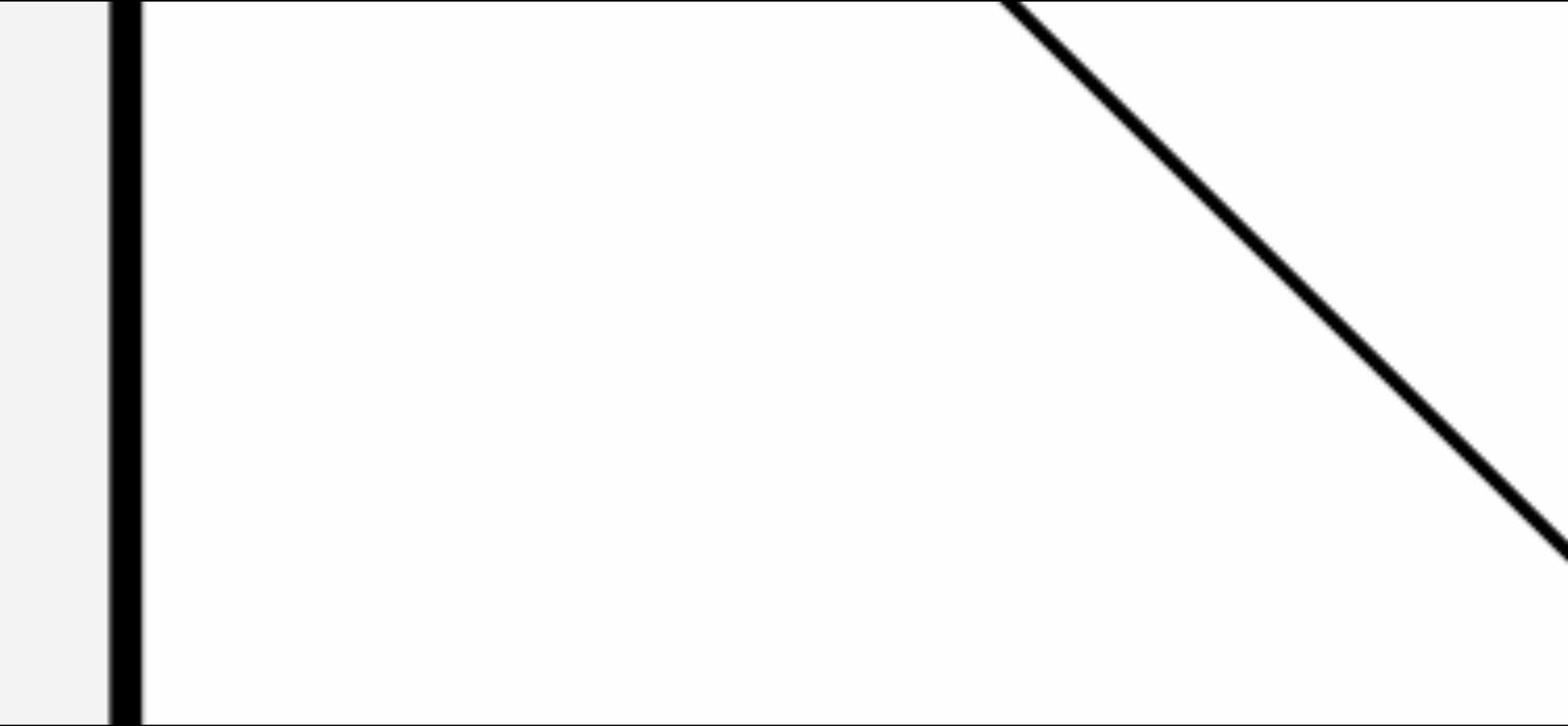
Test minimum viable product features

Do they satisfy *problems or needs?*

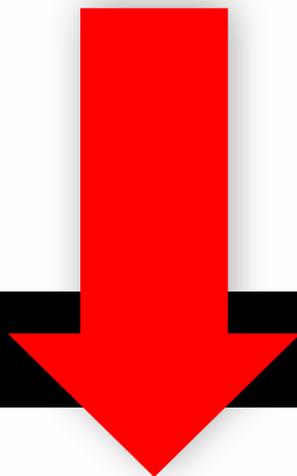
# Scientific Method *for MVP*



**Repeat**  
***as needed***



# MVP features



# MVP features

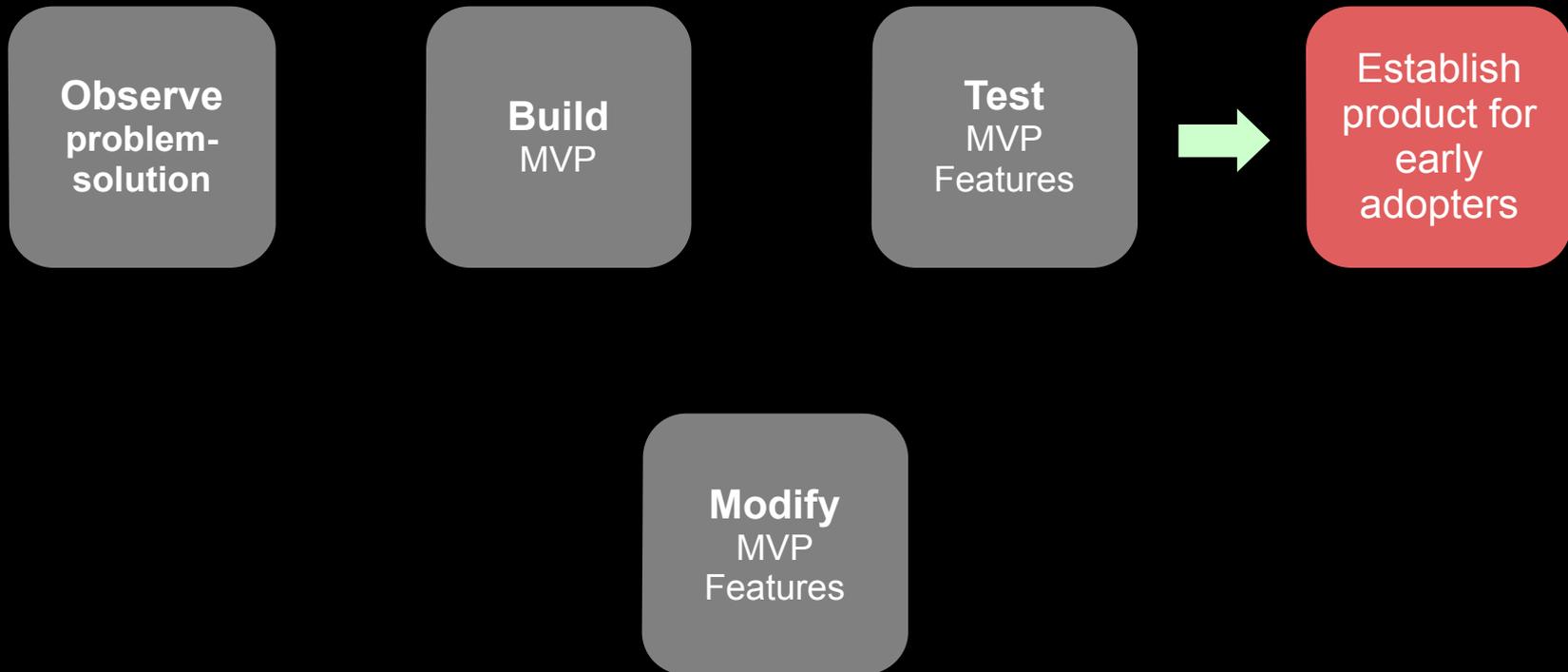


## *Gain Creators*

Describe how your products and services create customer gains. How do they benefit your customer expects, desires or would be surprised by, including reliability, social gains, positive emotions, and cost savings?



# Scientific Method *for MVP*



**Your goal is to validate a**

***Product-Market Fit***



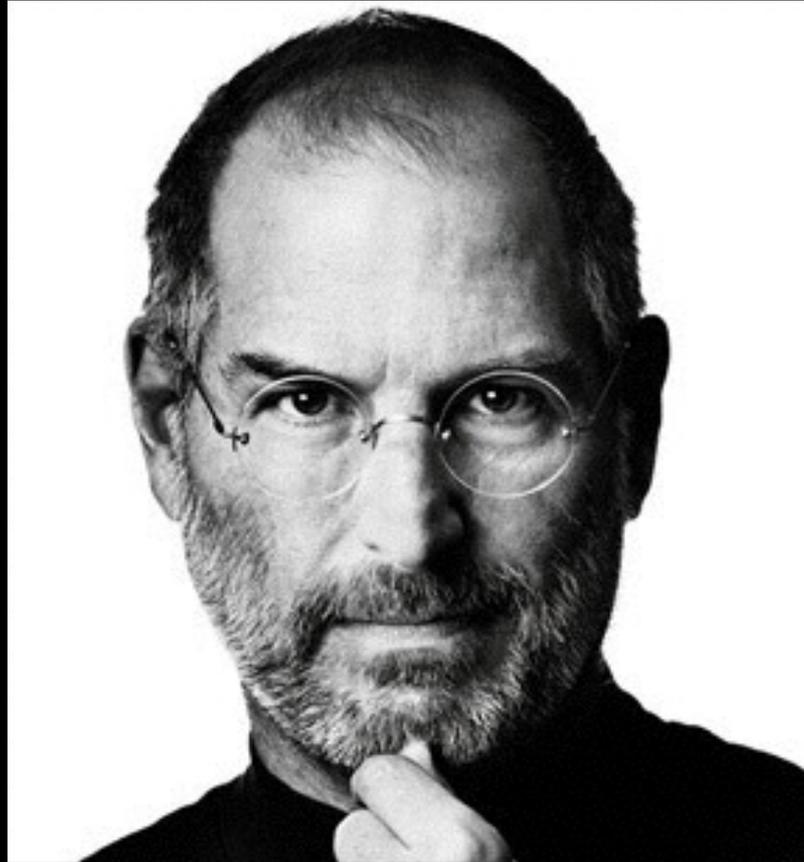
***Product-Market Fit***



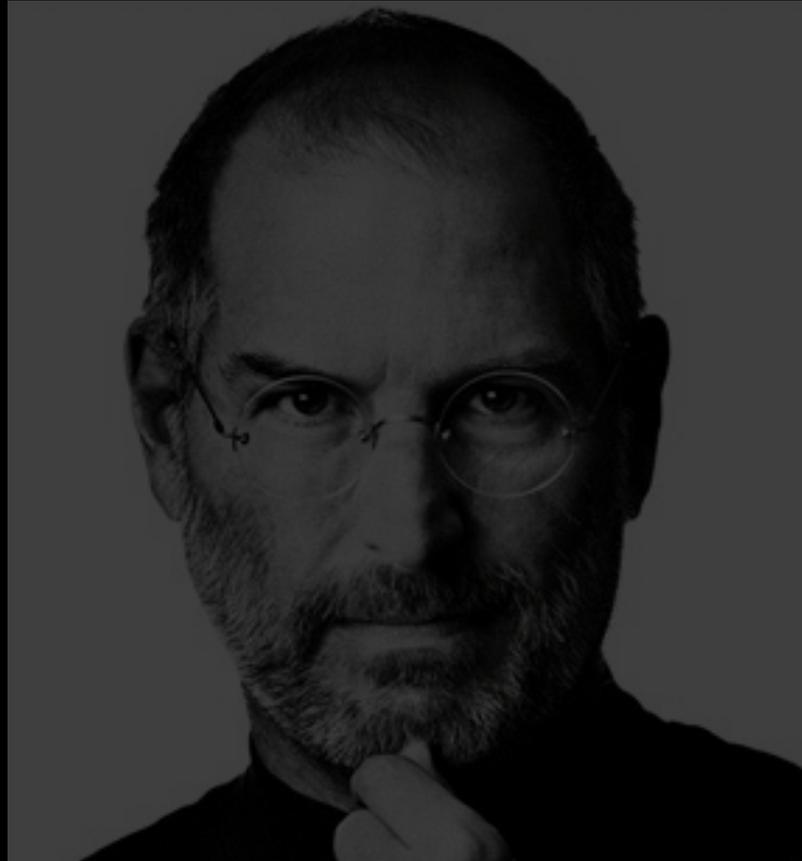
***Holy Grail!***

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# What about *Steve*?



# What about *Steve*?



He didn't *talk to customers!*

# REMEMBER

You are talking to customers to  
*identify problems and needs...*

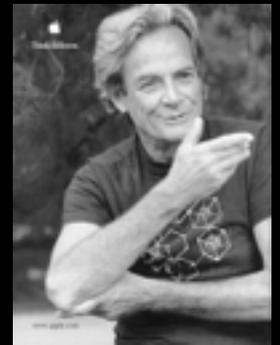
# REMEMBER

You are talking to customers to *identify problems and needs...*

...you are not asking them to *define your product!*

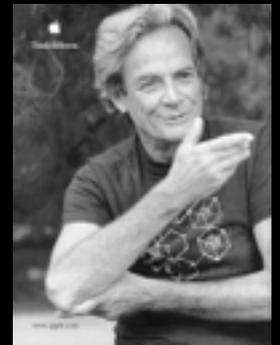
***“The first principle is that **you must not fool yourself**”***

*Richard Feynman*



*“The first principle is that you must not fool yourself, and you are the easiest person to fool.”*

*Richard Feynman*



# Remember *Tyson's Law*



Get *out* of  
the building!

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