

THE **ART** OF THE SCIENTIST

Hashtag: #runninglean

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Breakthrough ideas evolve from
seemingly **small** and often **unintended**
discoveries.

Google™

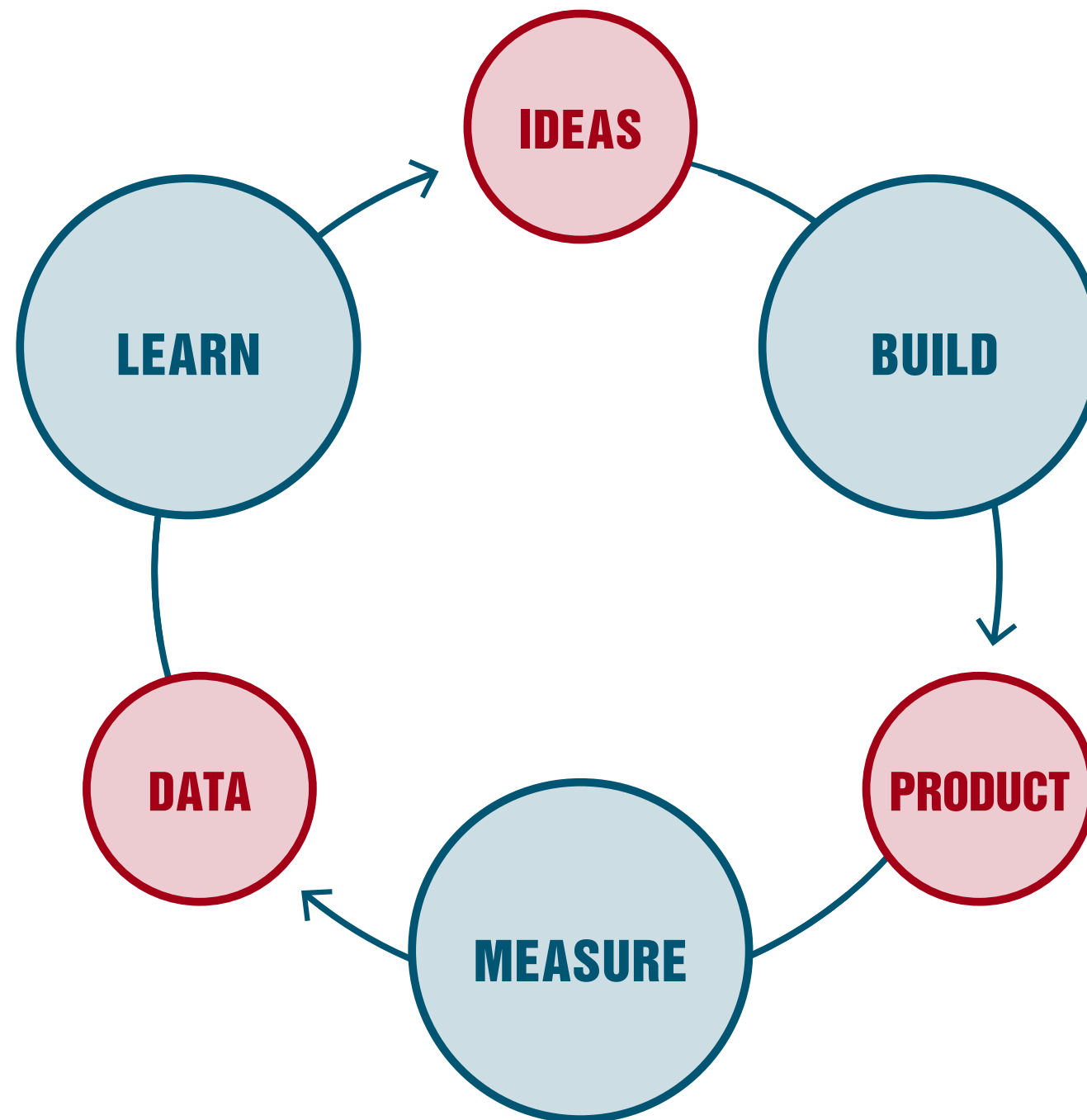


Pagerank

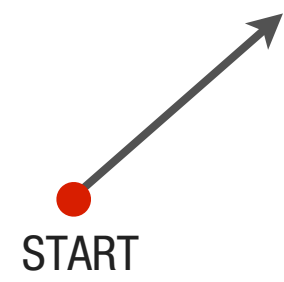
Iterative innovation through experimentation
isn't just **limited** to the **starting-up stage**.

Amazon, Google, Apple, Intuit, Facebook, ...

The Lean Startup



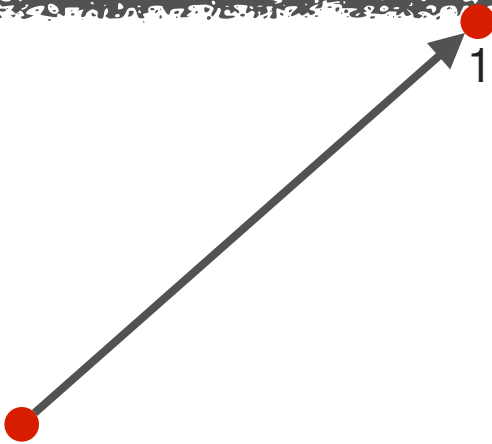
But crafting **effective experiments** is hard.



CEILING OF ACHIEVEMENT



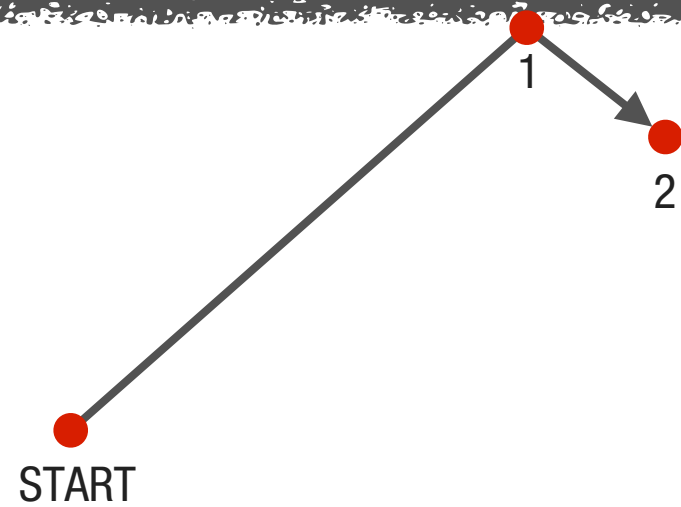
START



1

1. Disappointment

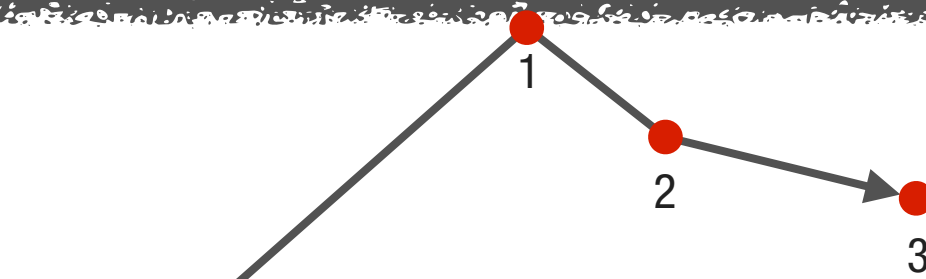
CEILING OF ACHIEVEMENT



1. Disappointment

2. Resignation

CEILING OF ACHIEVEMENT

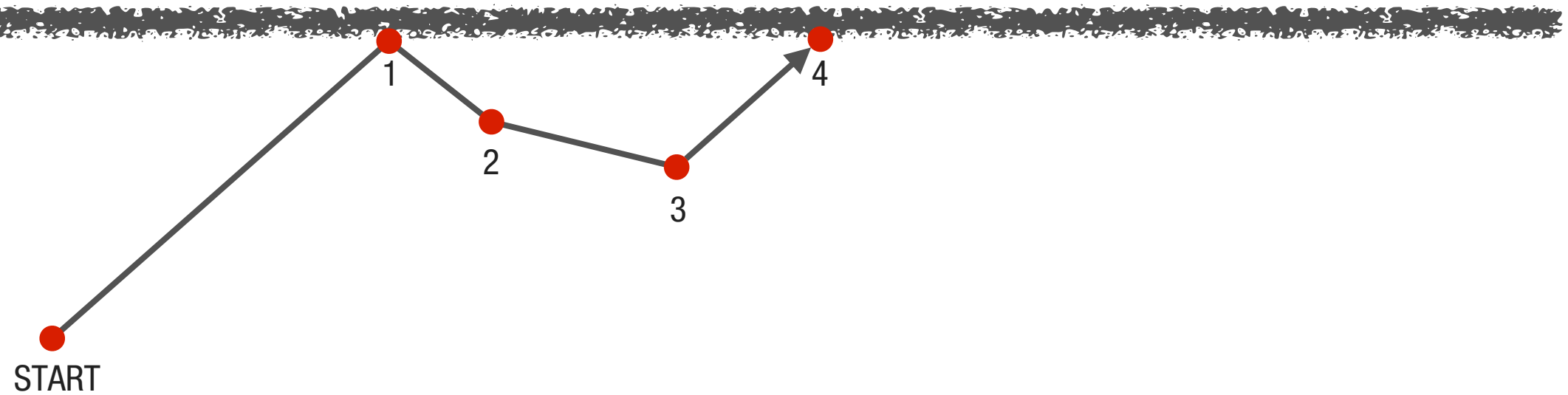


1. Disappointment

3. Pivot

2. Resignation

CEILING OF ACHIEVEMENT



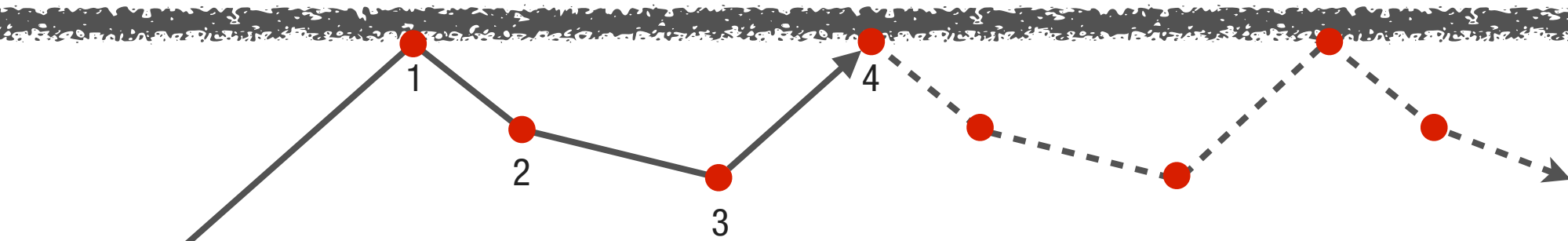
1. Disappointment

3. Pivot

2. Resignation

4. The cycle repeats

CEILING OF ACHIEVEMENT



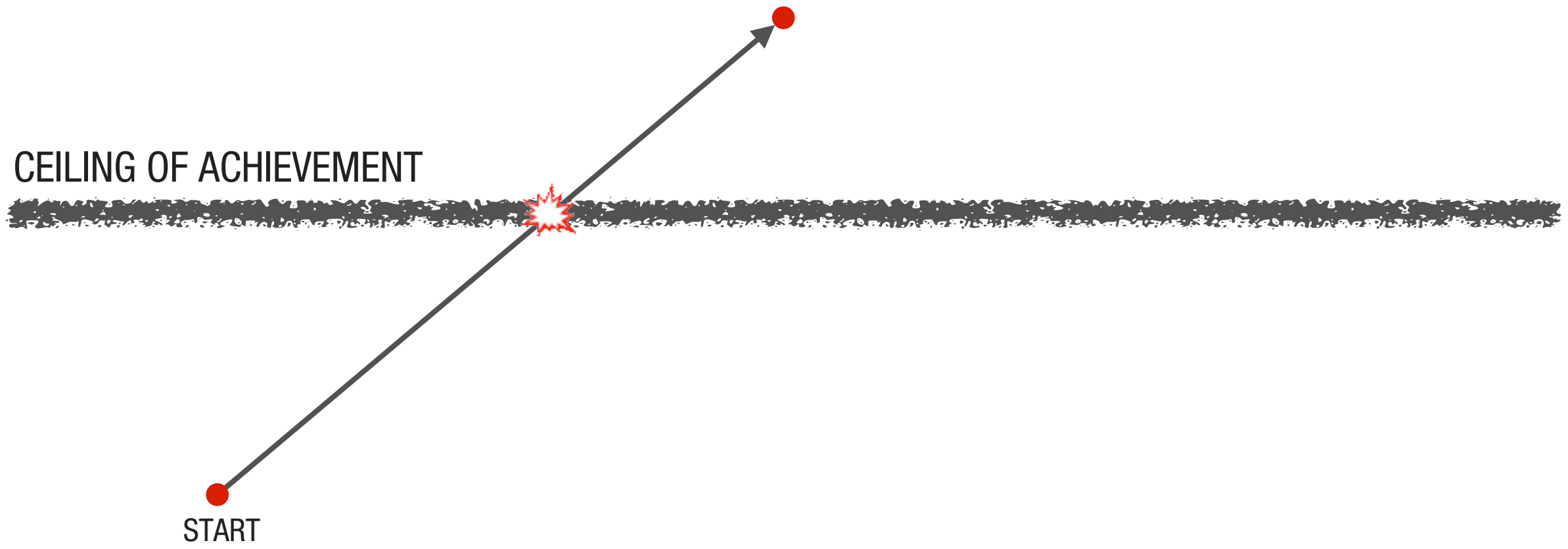
1. Disappointment

3. Pivot

2. Resignation

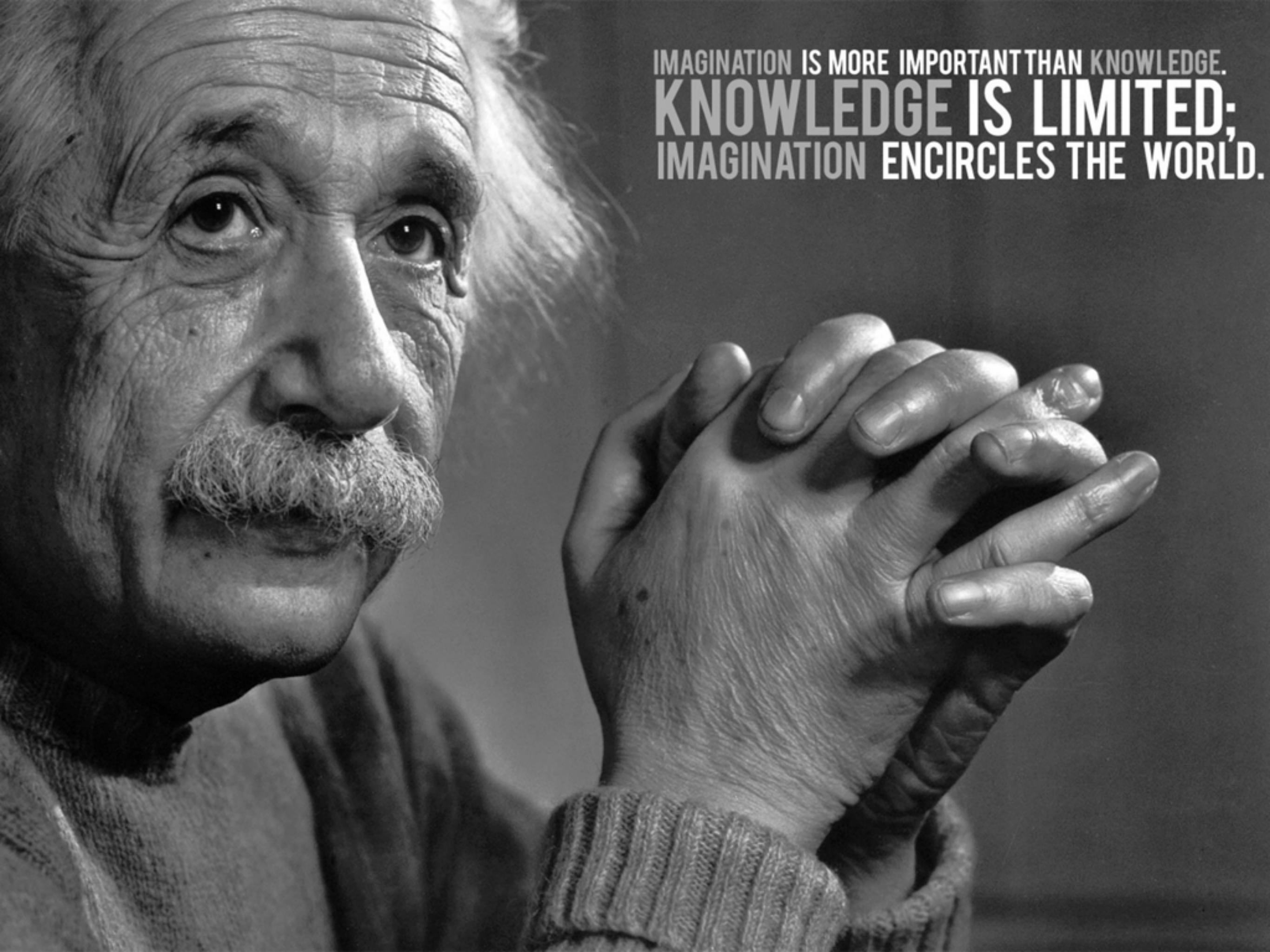
4. The cycle repeats

Demystify the **art** from the science.



The **most important** thing
scientists do.

(Hint: It's not running experiments)

A black and white portrait of Albert Einstein. He is shown from the chest up, looking slightly to the right with a thoughtful expression. His hands are clasped together in front of him, with fingers interlaced. He has his characteristic wild, white hair and a mustache. He is wearing a dark, textured sweater. The background is a soft, out-of-focus grey.

IMAGINATION IS MORE IMPORTANT THAN KNOWLEDGE.
KNOWLEDGE IS LIMITED;
IMAGINATION ENCIRCLES THE WORLD.

First and foremost, scientists **build models.**

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They then run experiments to **validate** those models.

Entrepreneurs need **models** too.

Entrepreneurs need **models** too.

(This idea isn't without resistance)

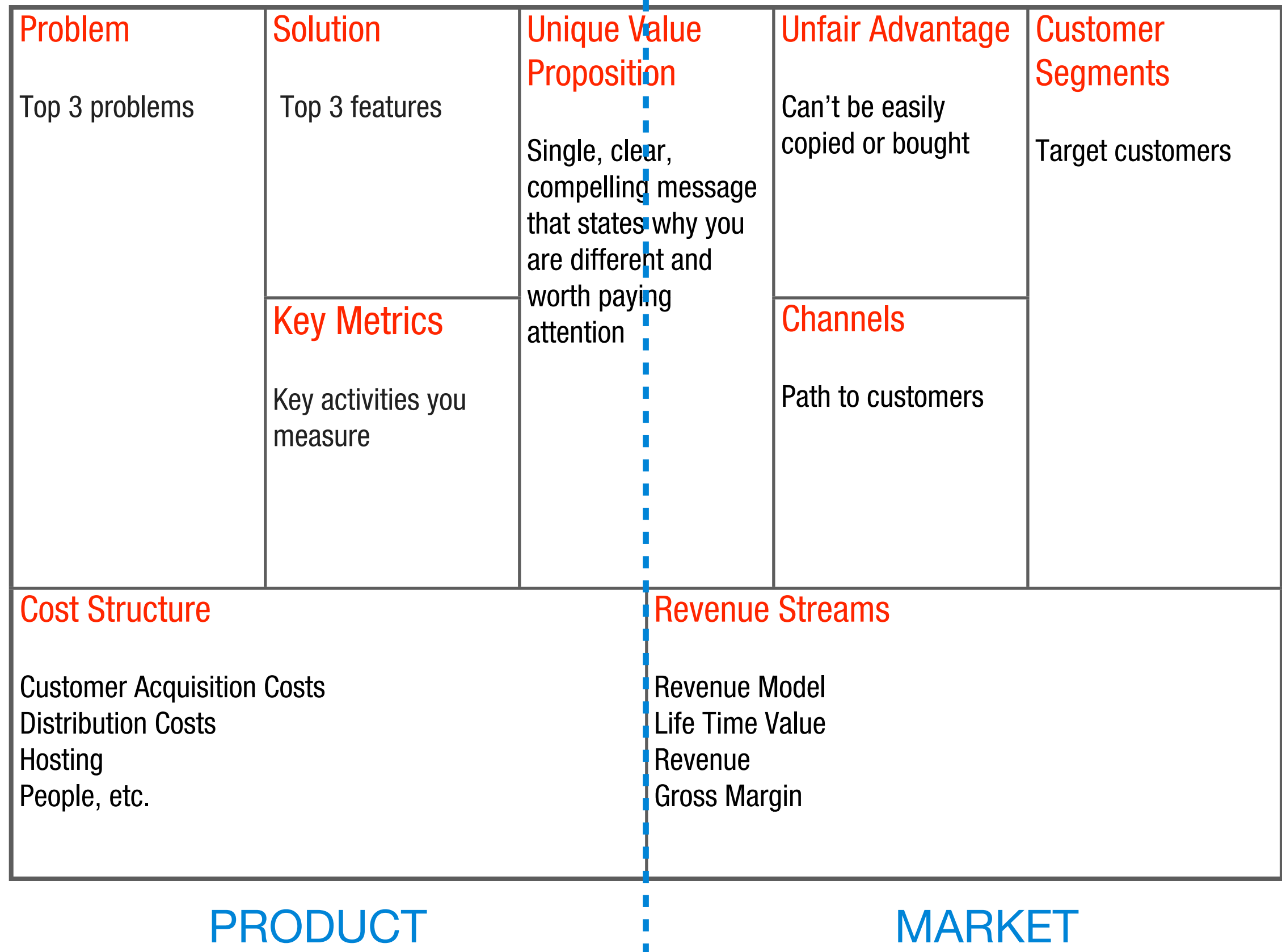
Objection 1:

Business planning is a waste of time.

Business Model versus **Business Plan**



A document investors make you
write that they don't read



Objection 2:

Customer behavior is too **complex** to model.

“...these irrational behaviors are neither random nor senseless - they are **systematic and predictable.**”

- Dan Ariely, *Predictably Irrational*

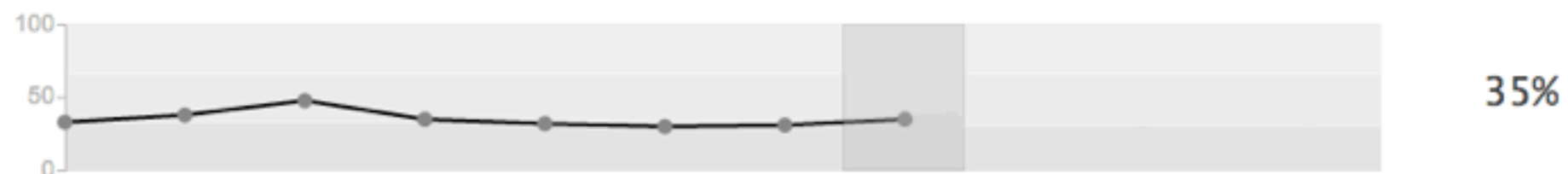
Metrics Dashboard

Monthly ▾

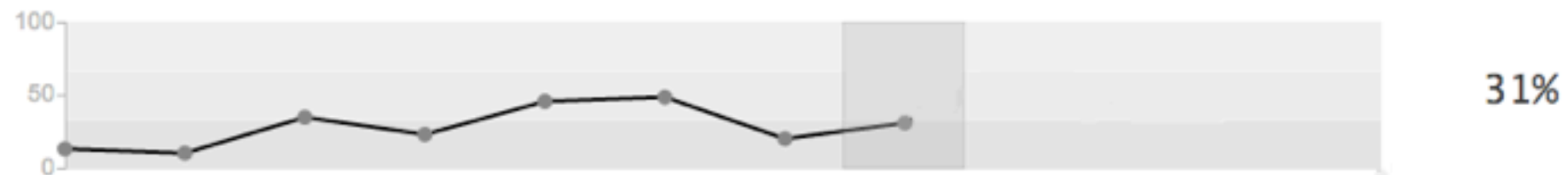
Acquisition



Activation



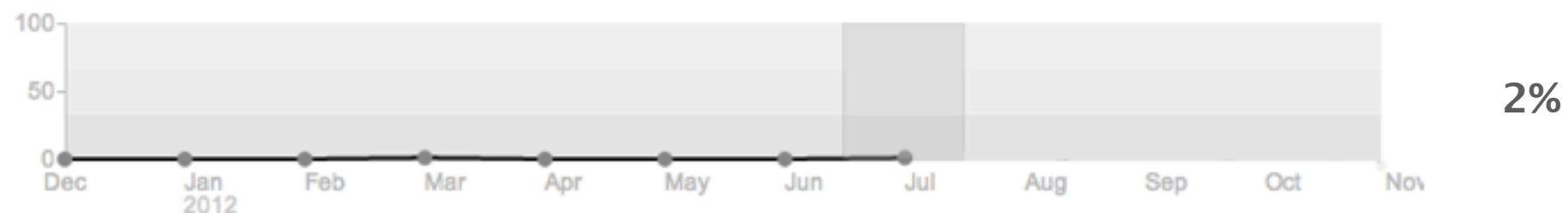
7 day retention % ▾



Referred



Revenue



Metrics Dashboard

Monthly ▾

Acquisition

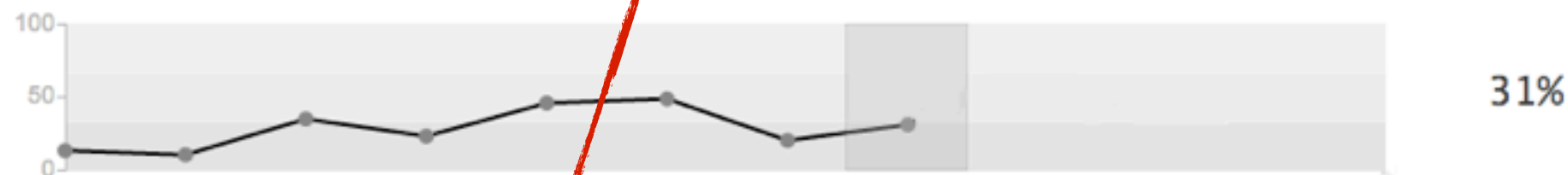
1852
people

Activation



35%

7 day retention % ▾



31%

Referred



23%

Revenue



2%

Groundhog Day Effect

Objection 3:

Every business is different.

“Happy families are all **alike**; every unhappy family is unhappy in its own way.”

- Tolstoy, *Anna Karenina*

The Goal:

Sustainably deliver and capture customer value.

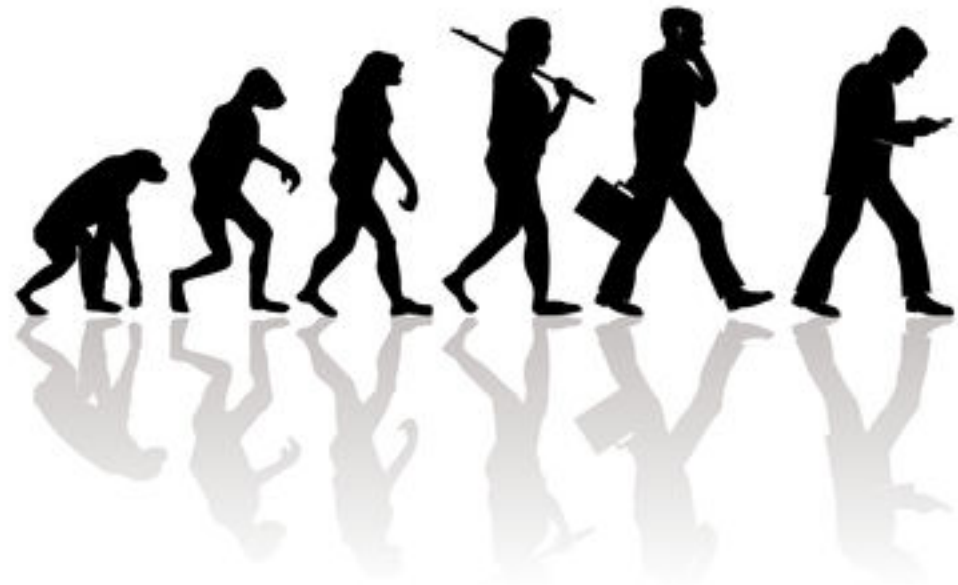
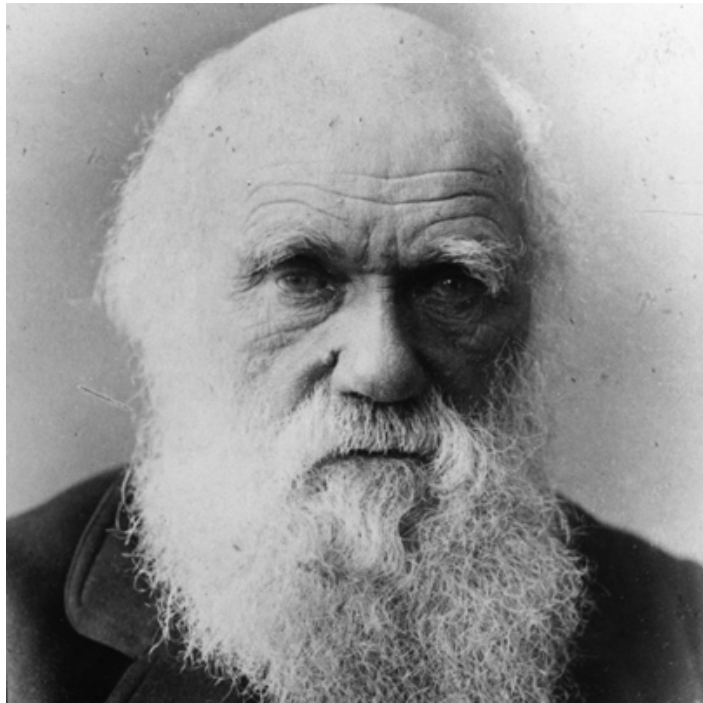
Where do models come from?

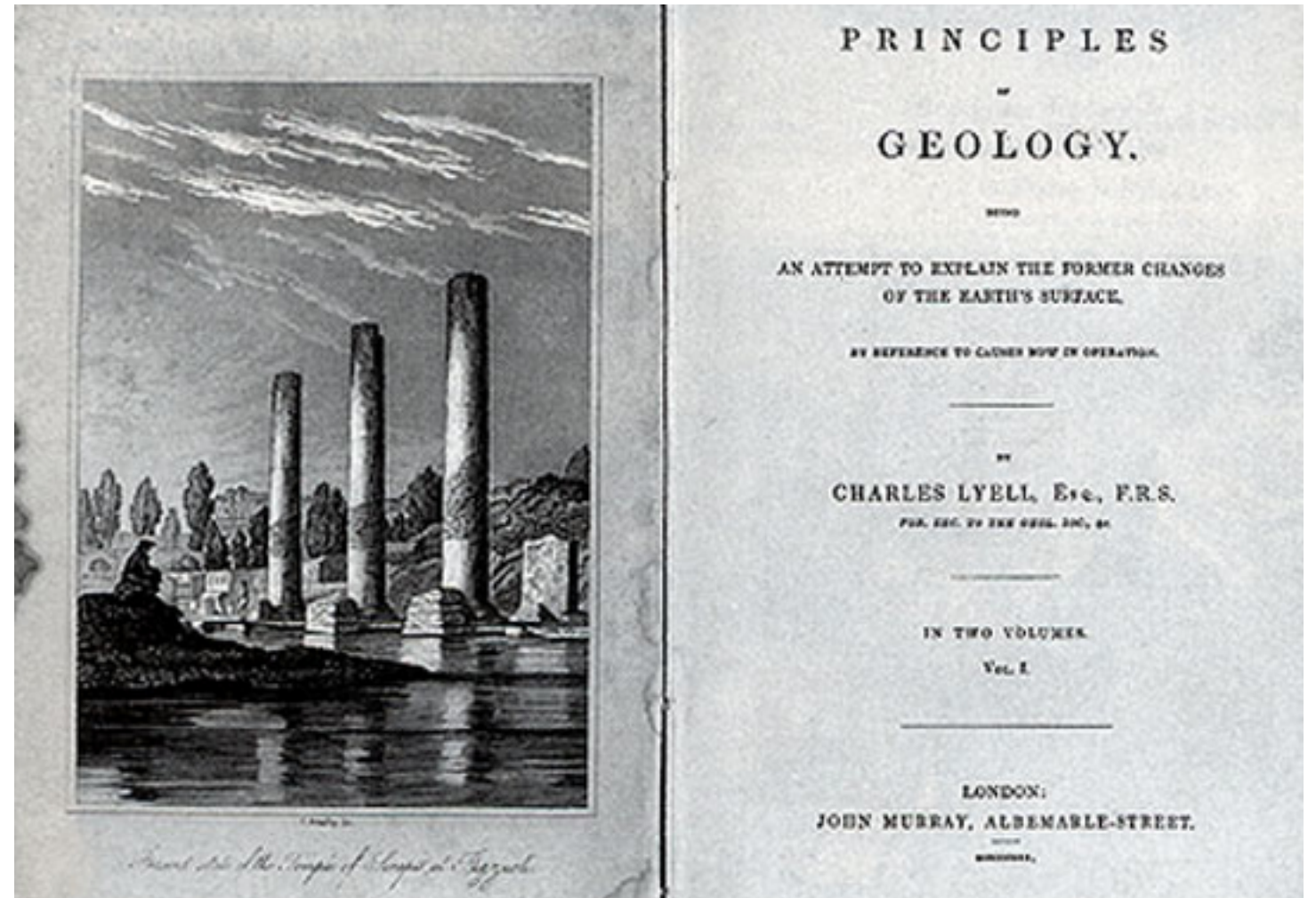
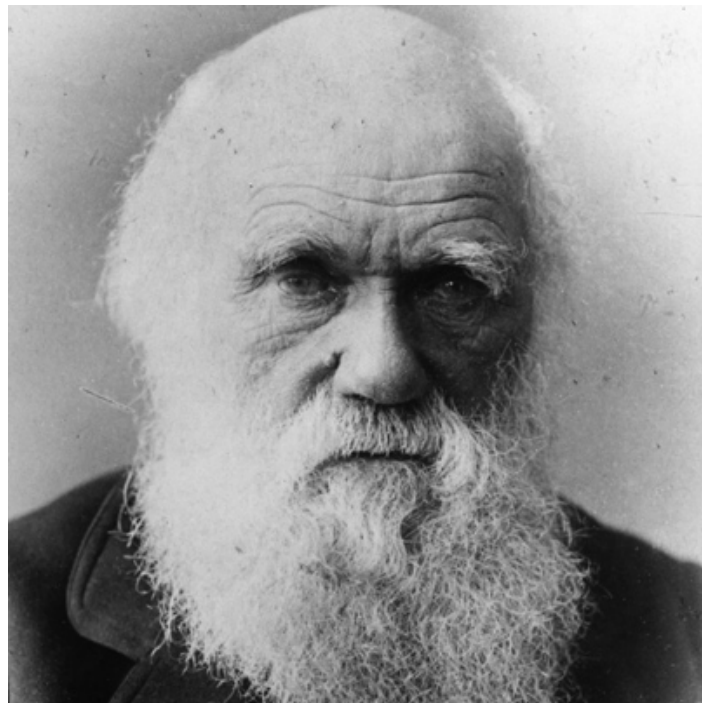
01 Simple approximations of **truth**.

“Everything should be made as **simple** as possible, but **not simpler**.”

- Albert Einstein

02 Harness the power of **analog**s.





About Me

“If you can’t describe what you are doing as a process, you **don’t know** what you are doing.”

- Edward Deming

Epiphany 1:

Your business model is the product.

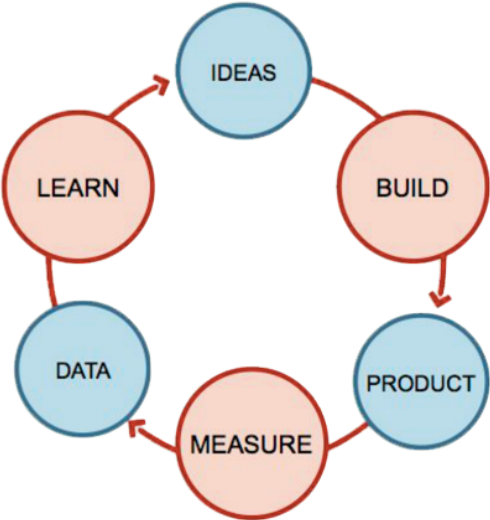
Problem	Solution	Unique Value Proposition	Unfair Advantage	Customer Segments
	Key Metrics		Channels	
Cost Structure		Revenue Streams		

Document your Plan A



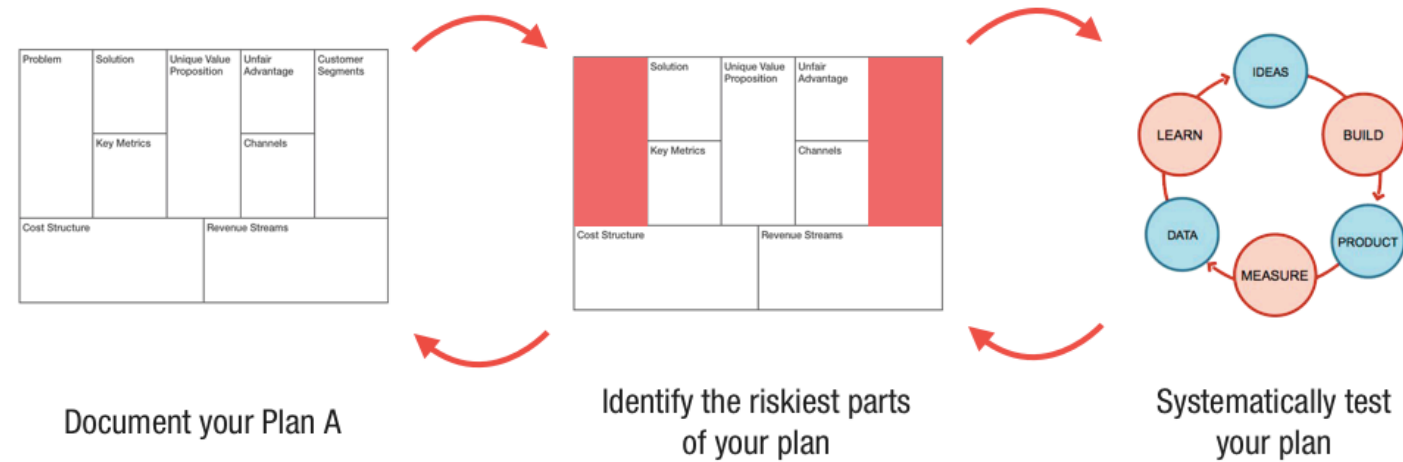
	Solution	Unique Value Proposition	Unfair Advantage	
	Key Metrics		Channels	
Cost Structure		Revenue Streams		

Identify the riskiest parts of your plan



Systematically test your plan

Easy to understand, hard to put to practice.



3 recurring problems

1. **Sub-optimal** experiments
2. **Overbuilt** experiments
3. **Stalled** progress

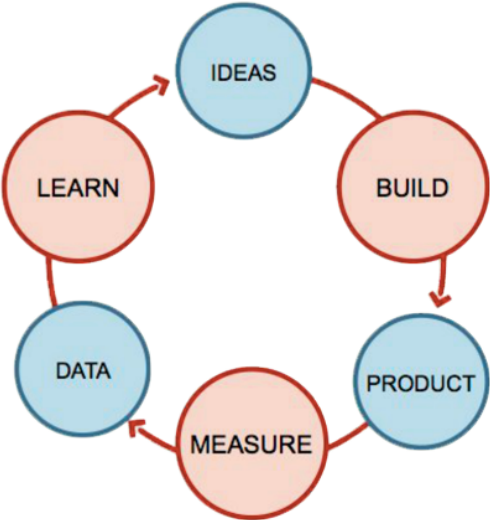
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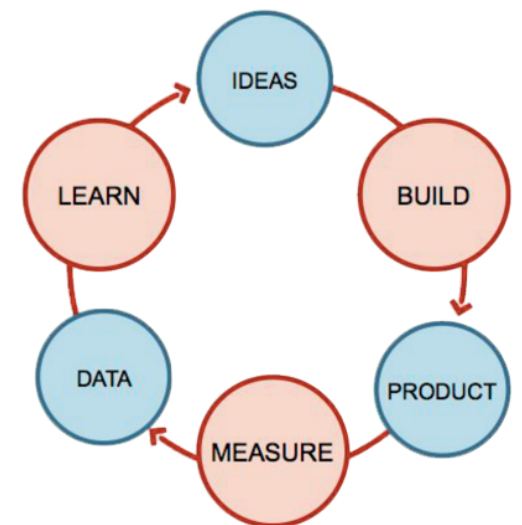
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	Solution	Unique Value Proposition	Unfair Advantage	
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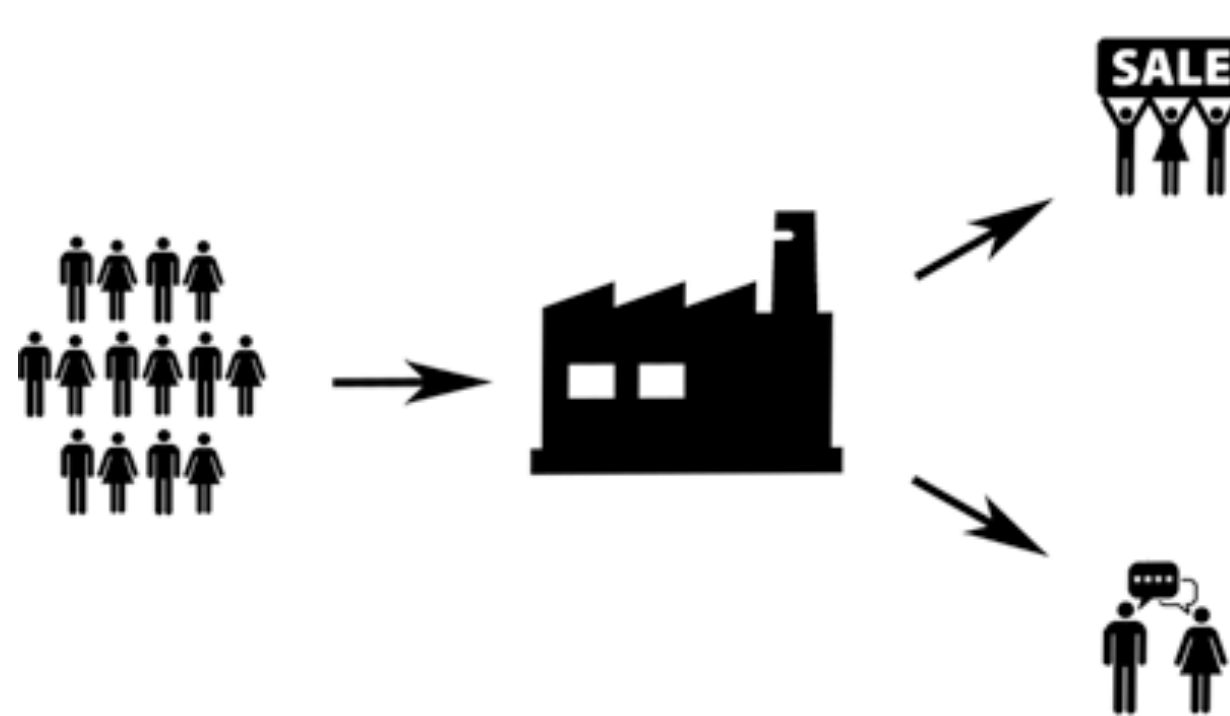
Identify the riskiest parts of your plan



Systematically test your plan

Epiphany 2:

**Everyone is in the manufacturing
business.**



The Customer Factory

Happy customers get you paid and doing this repeatedly and efficiently is the goal of every business.



The Customer Factory

Lean Thinking:

Continuous improvement through
elimination of **waste** in the customer
value stream.

“Organizations live or die as **systems**
not as processes.”

- Goldratt, *The Goal*

Theory of Constraints:

Every business is a system of interconnected processes with a **single constraint.**



Lean tells you **what and how** to improve.
TOC tells you **where** to improve.

Right Action, Right Time:

At any given point, there are only a few
key actions that matter.

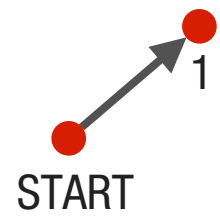
Focus on those and **ignore the rest.**

CEILING OF ACHIEVEMENT



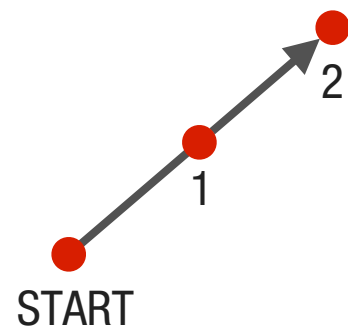
START

CEILING OF ACHIEVEMENT



1. Models

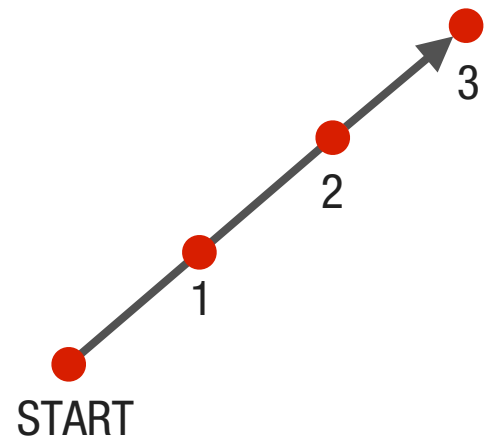
CEILING OF ACHIEVEMENT



1. Models

2. Systems

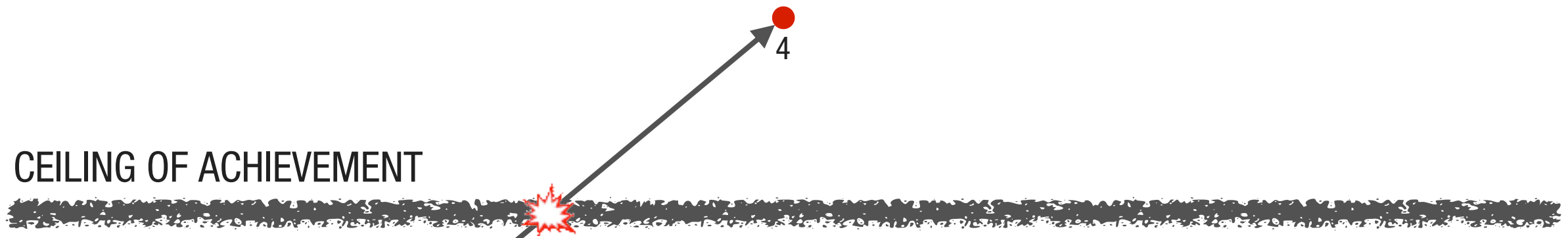
CEILING OF ACHIEVEMENT



1. Models

3. Focus

2. Systems



START

1

2

3

4

1. Models

2. Systems

3. Focus

4. Breakthrough

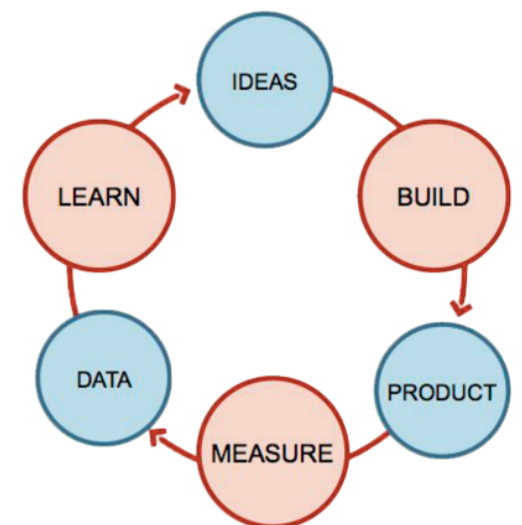
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	Key Metrics		Channels	
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Document your Plan A



	Solution	Unique Value Proposition	Unfair Advantage	
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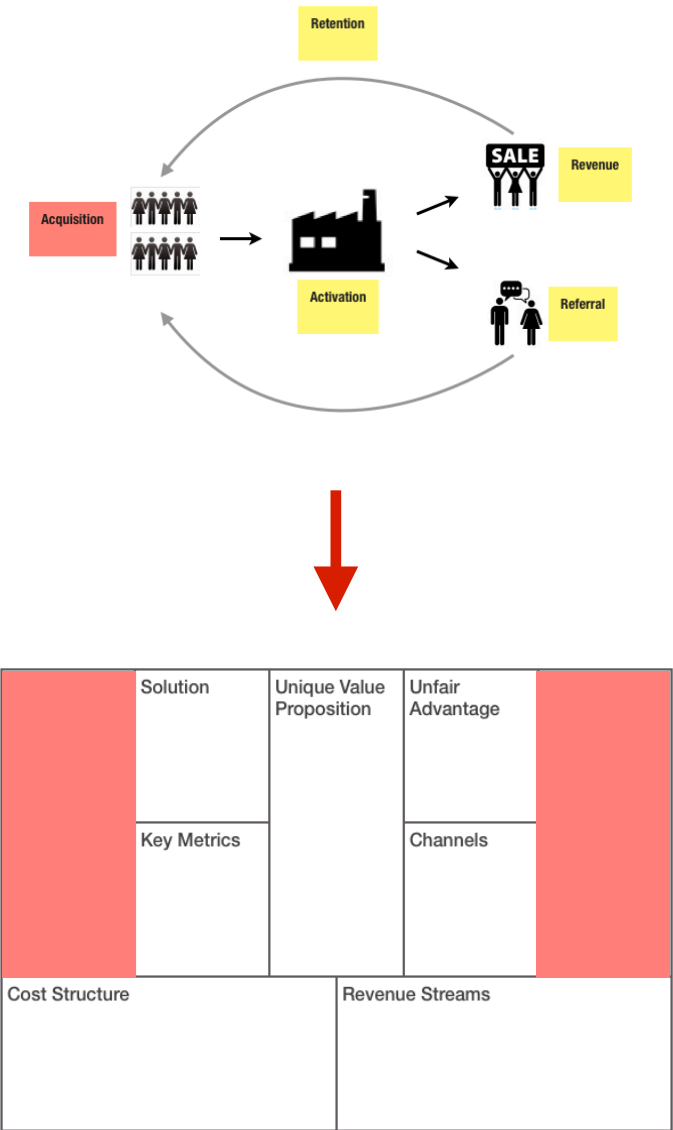
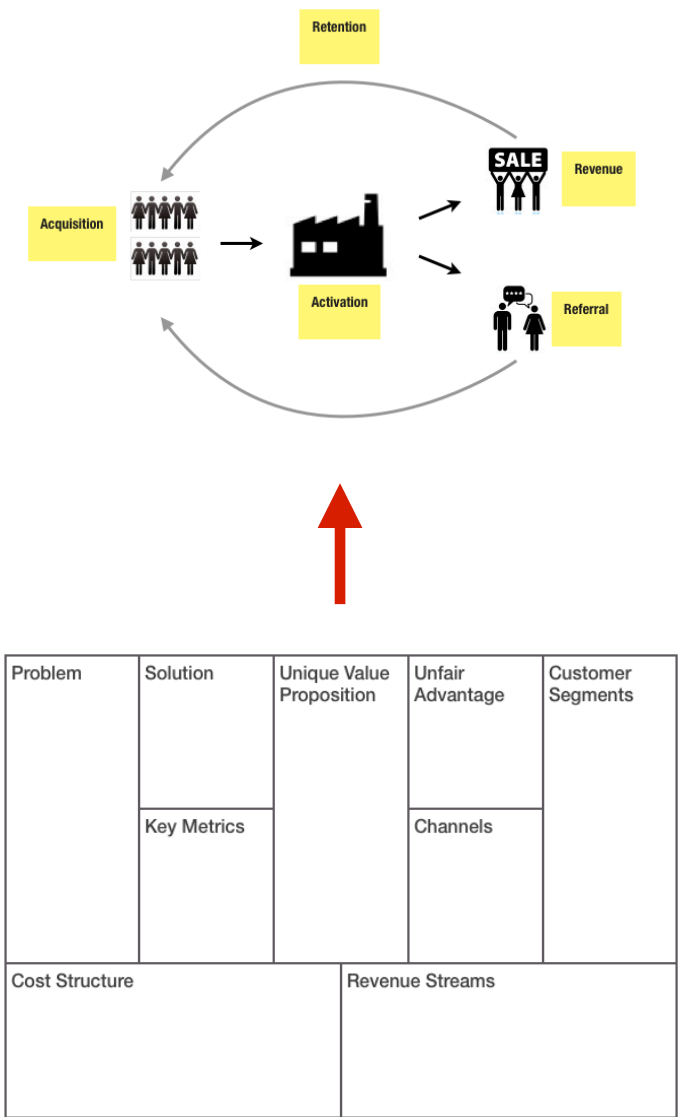
Identify the riskiest parts
of your plan



Systematically test
your plan

Model your business as a **system**

Identify your **constraint**

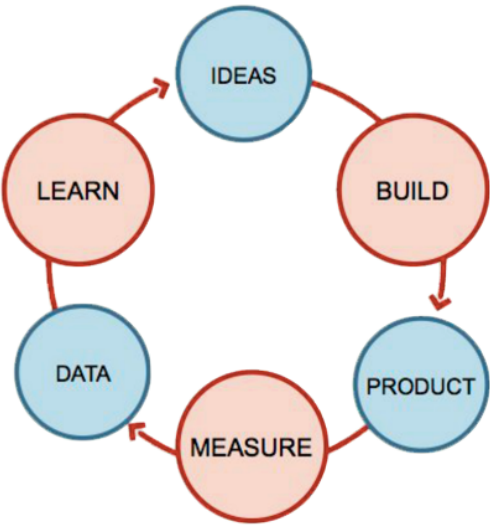


Problem	Solution	Unique Value Proposition	Unfair Advantage	Customer Segments
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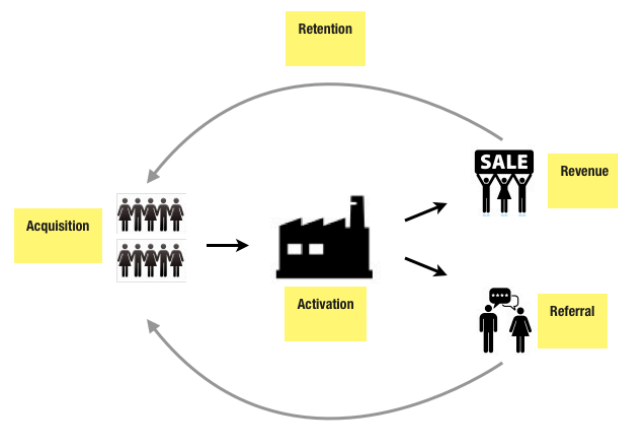
Document your Plan A

Identify the riskiest parts of your plan

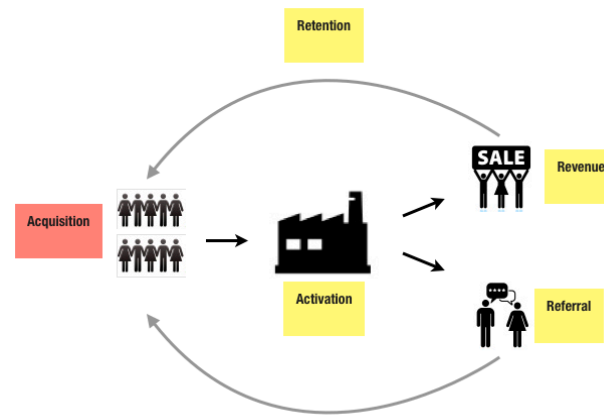


Systematically test your plan

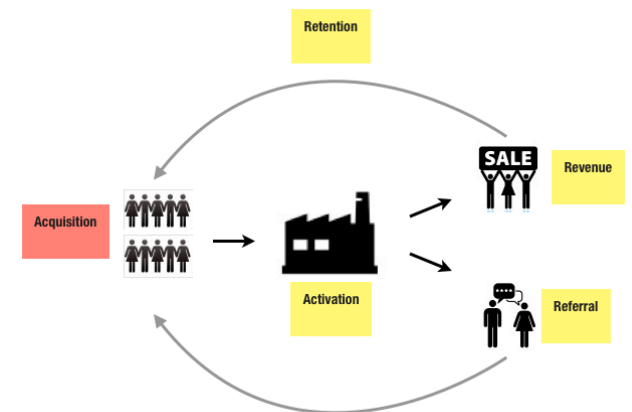
Model your business
as a **system**



Identify your
constraint



Break the
constraint



Problem	Solution	Unique Value Proposition	Unfair Advantage	Customer Segments
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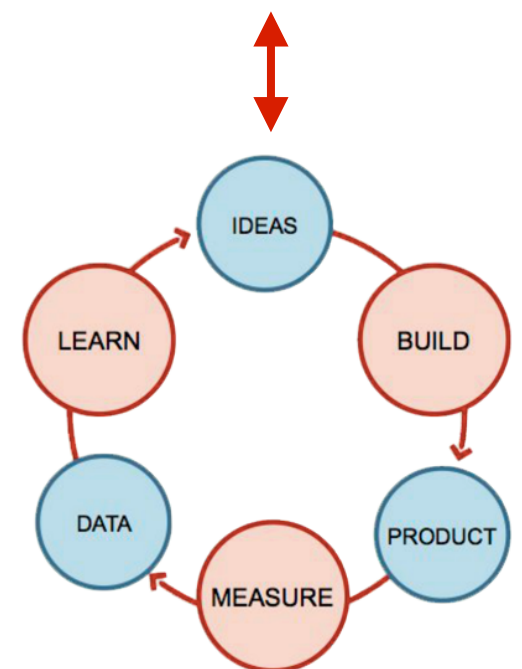


Document your Plan A

	Solution	Unique Value Proposition	Unfair Advantage	
	Key Metrics		Channels	
Cost Structure		Revenue Streams		



Identify the riskiest parts
of your plan



Systematically test
your plan



Agenda

9:00 - 10:00am: **Art of the Scientist Overview**

10:00 - 11:00am: **Step 1: Model Your Business as a System**

11:00 - 11:30am: Short break

11:30 - 12:00pm: **Hands-on exercise**

12:00 - 1:00pm: Lunch

1:00 - 1:30pm: **Step 2: Identify Your Constraint**

1:30 - 2:00pm: **Hands-on exercise**

2:00 - 2:30pm: **Step 3: Break Your Constraint**

2:30 - 3:00pm: Short break

3:00 - 3:30pm: **Hands-on exercise**

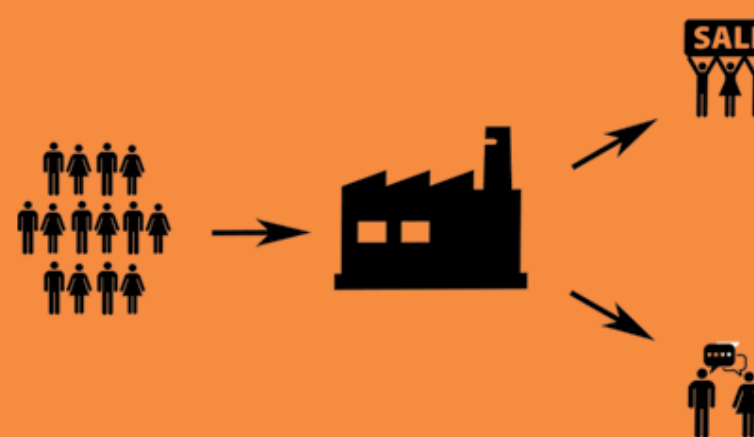
3:30 - 4:15pm: **Experiment Design**

4:15 - 5:00pm: **Hands-on exercise**

BONUS

THE CUSTOMER FACTORY

**A Blueprint for Creating
Remarkably Successful Businesses**



ASH MAURYA

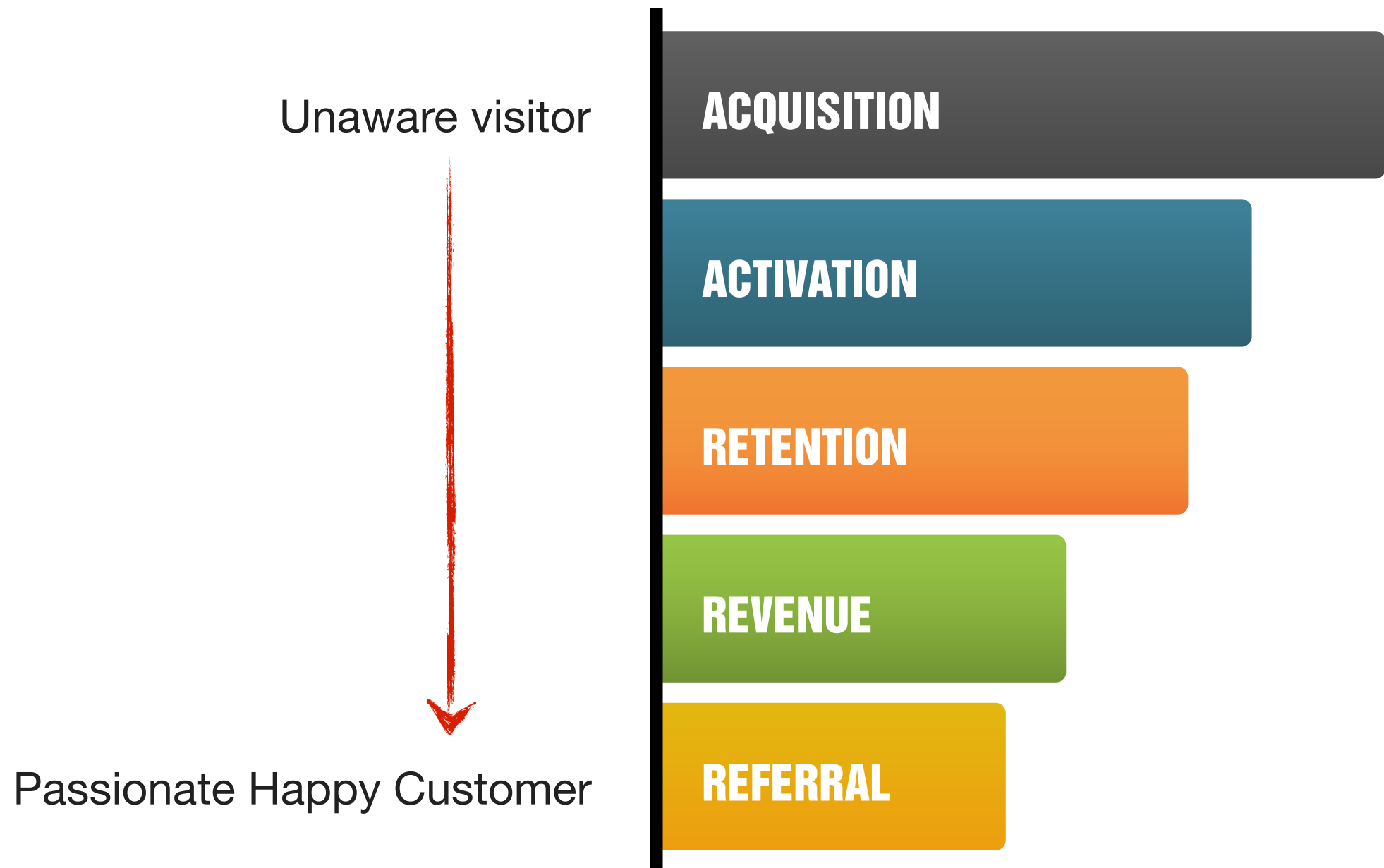
Author of Running Lean

Step 1: Model your business
as a **system**

Happy customers get you paid and doing this repeatedly and efficiently is the goal of every business.

Entrepreneurs build **systems** to
manufacture happy customers.

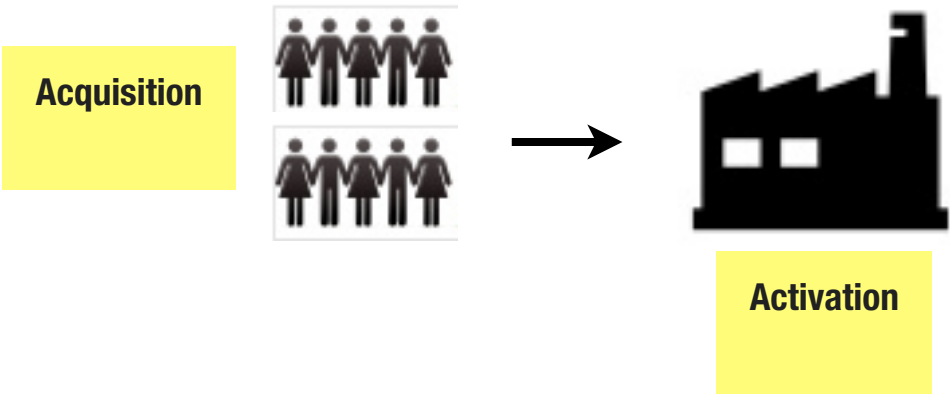
The Happy Customer Manufacturing Process

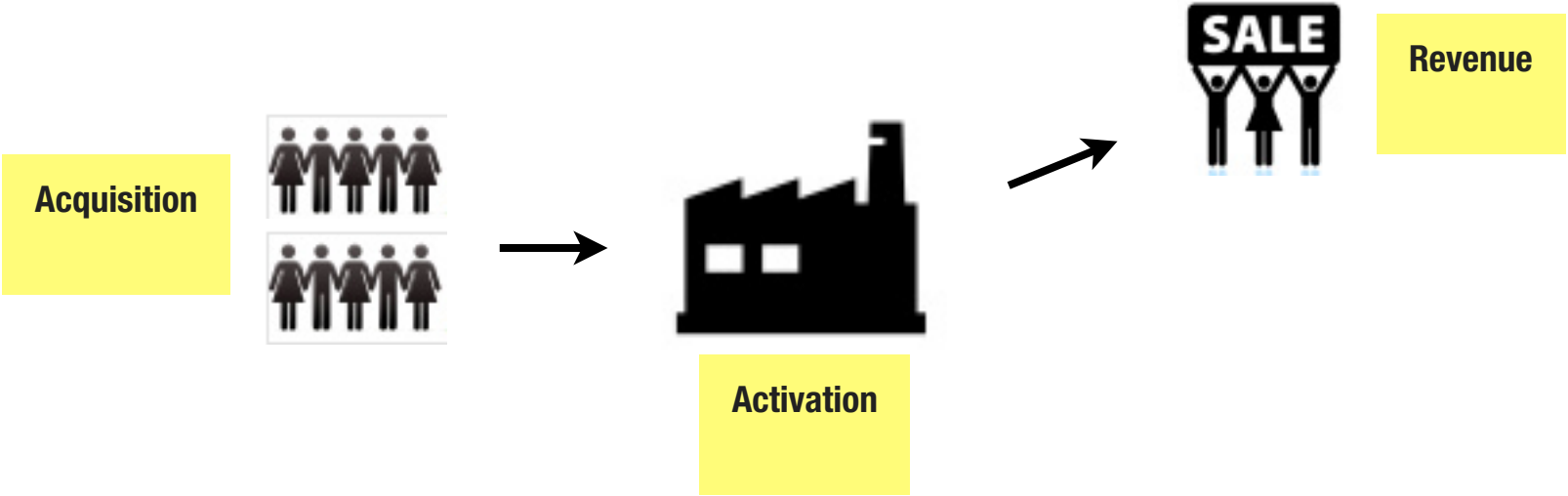


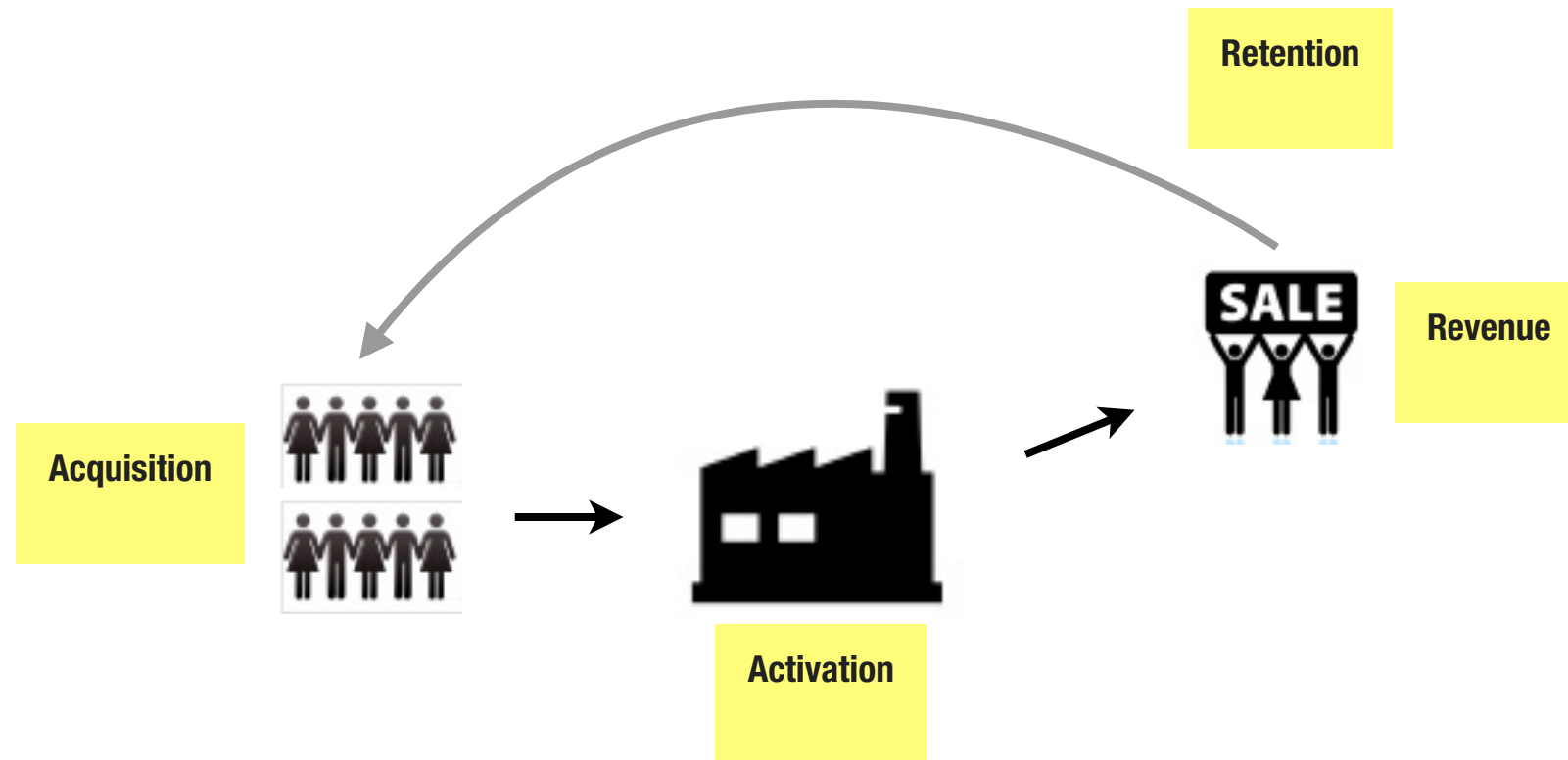


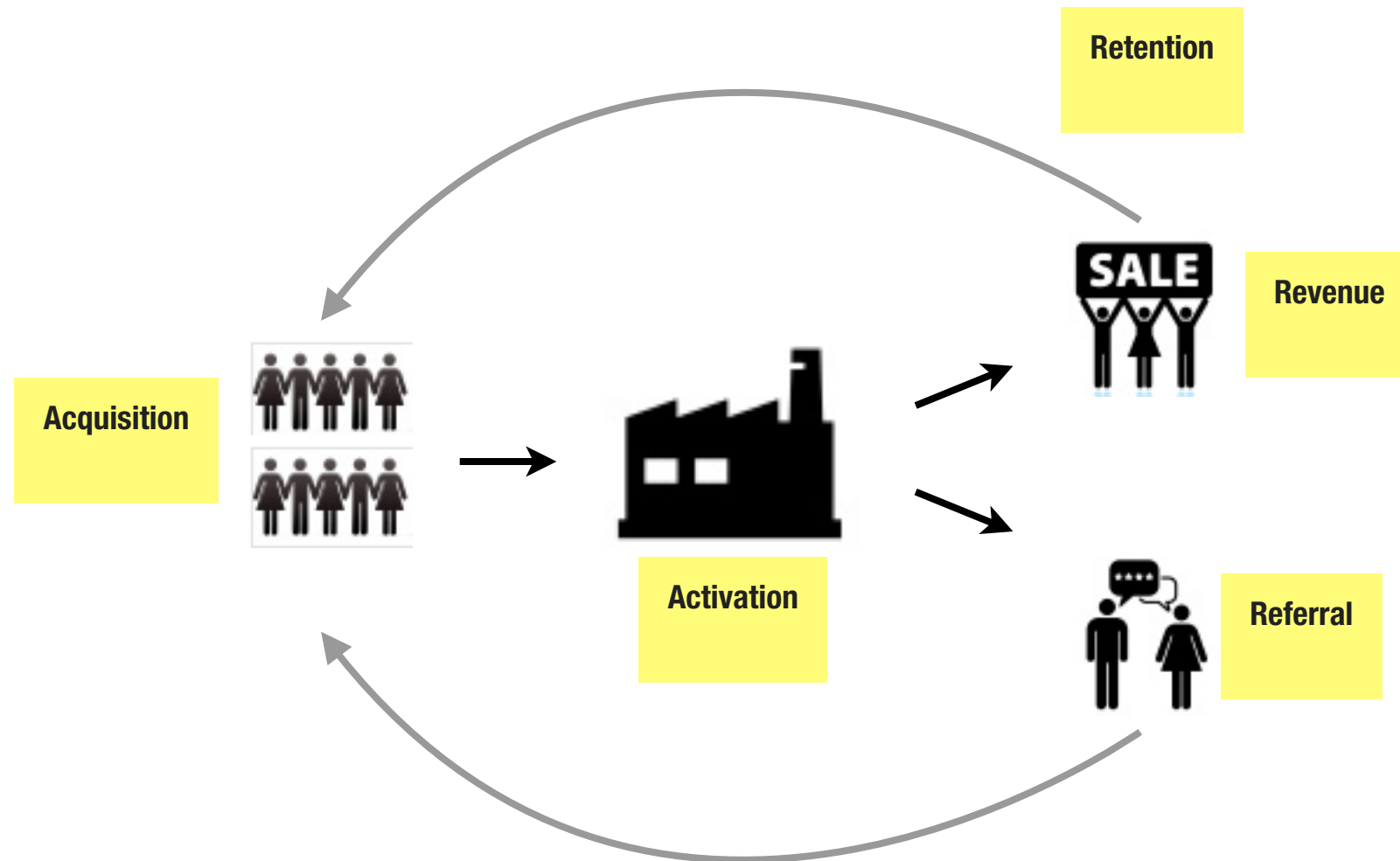
Acquisition











3 Stages of a Startup



3 Stages of a Startup



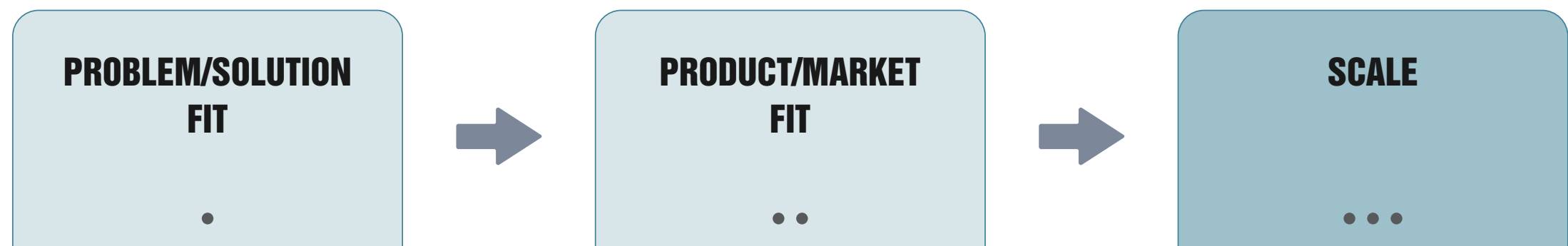
Do I have a problem worth solving?

3 Stages of a Startup

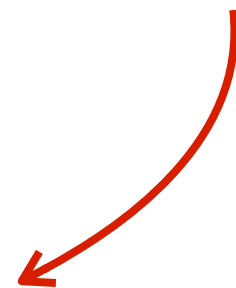


Have I built something people want?

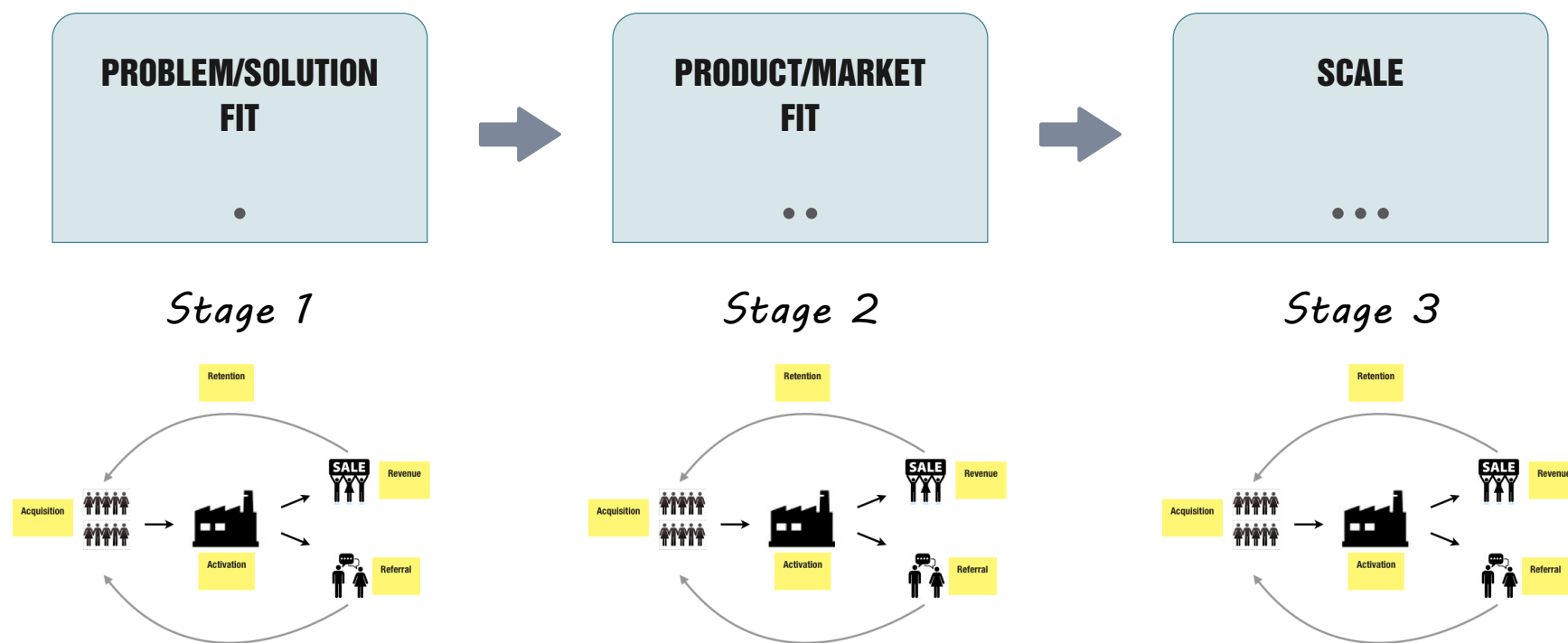
3 Stages of a Startup



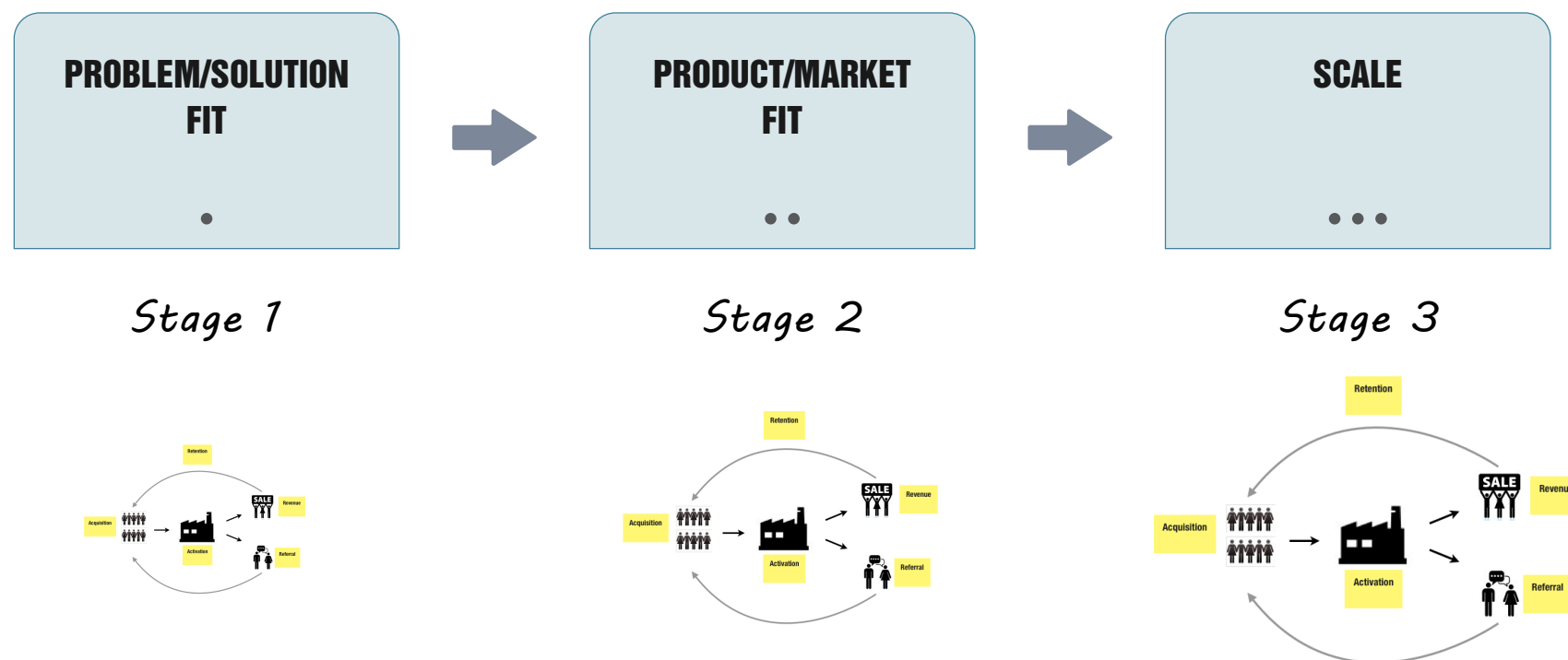
How do I accelerate growth?



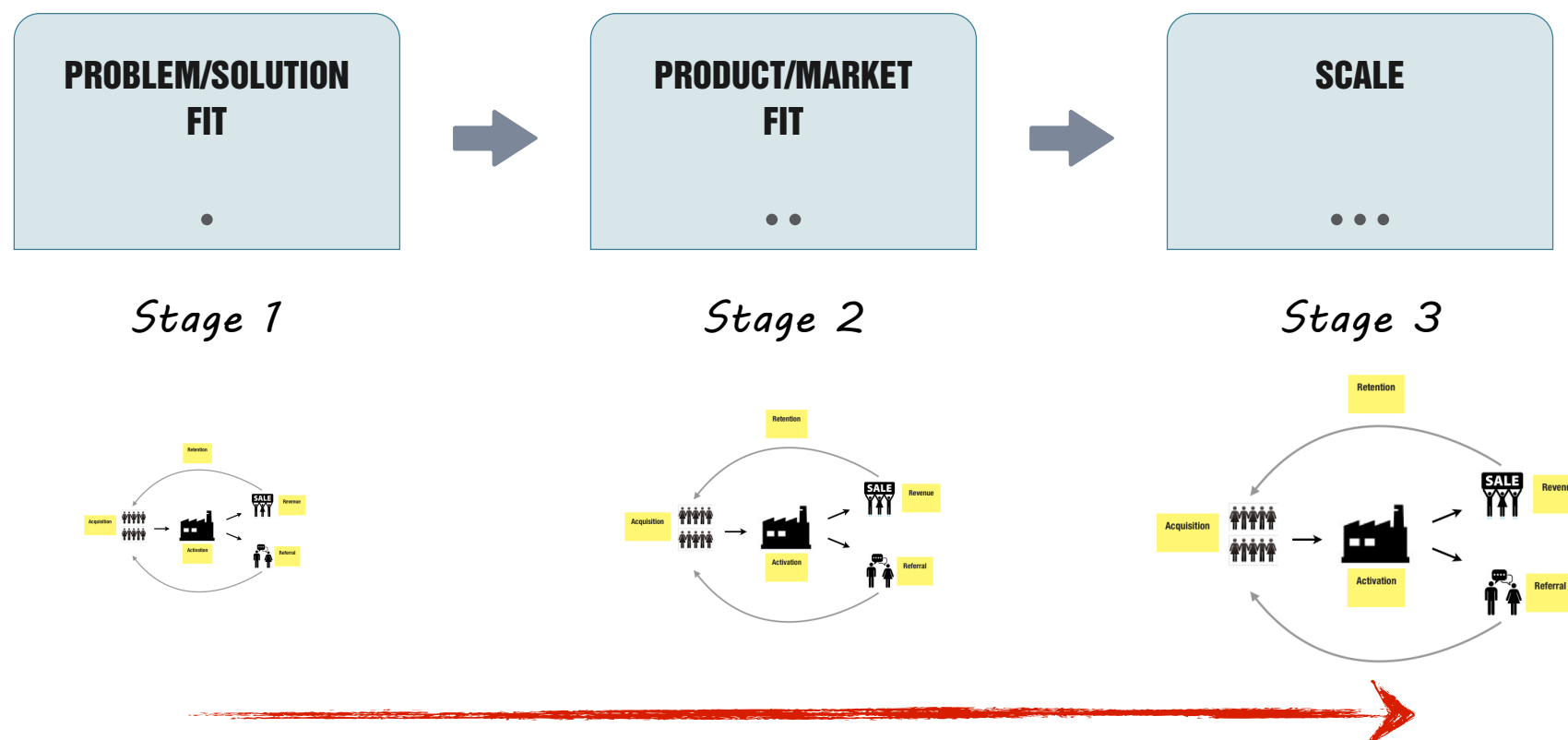
01 Each stage is a **system**.



02 Each stage is a **smaller scale** version of the next stage.



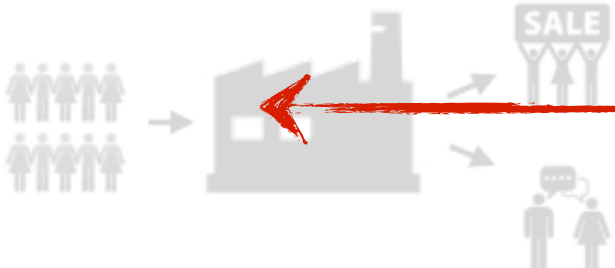
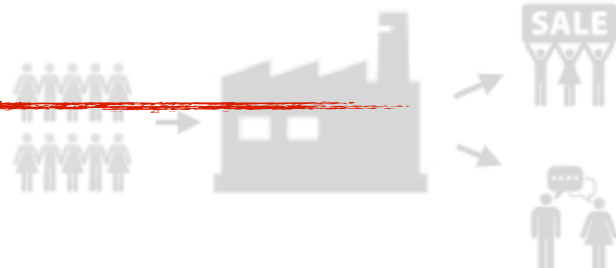
03 Each stage has a clearly defined **repeatable success metric**.



EXERCISE 1

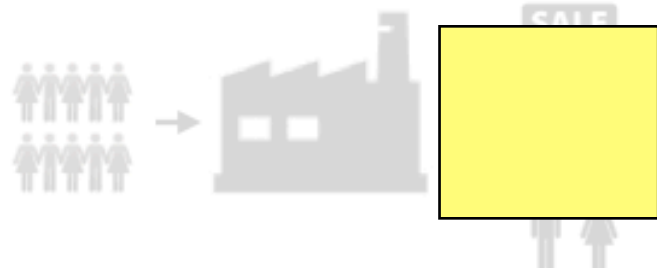
MODEL YOUR BUSINESS

PROBLEM/SOLUTION FIT			PRODUCT/MARKET FIT			SCALE		
SUCCESS METRICS			SUCCESS METRICS			SUCCESS METRICS		
								
Build	Measure	Learn	Build	Measure	Learn	Build	Measure	Learn
								
								
								
								
								
								

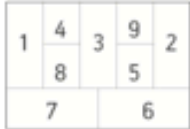
PROBLEM/SOLUTION FIT			PRODUCT/MARKET FIT			SCALE		
SUCCESS METRICS			SUCCESS METRICS			SUCCESS METRICS		
								
Build	Measure	Learn	Build	Measure	Learn	Build	Measure	Learn

If you don't know where you are going,
any road will get you there.

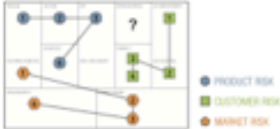
- Lewis Carroll, *Alice in Wonderland*

PROBLEM/SOLUTION FIT			PRODUCT/MARKET FIT			SCALE		
SUCCESS METRICS			SUCCESS METRICS			SUCCESS METRICS		
								
Build	Measure	Learn	Build	Measure	Learn	Build	Measure	Learn
								
								
								
								
								
								

PROBLEM List your top 1-3 problems.	SOLUTION Outline a possible solution for each problem.	UNIQUE VALUE PROPOSITION Single, clear, compelling message that states why you are different and worth paying attention.	UNFAIR ADVANTAGE Something that cannot easily be bought or copied.	CUSTOMER SEGMENTS List your target customers and users.
	KEY METRICS List the key numbers that tell you how your business is doing.		CHANNELS List your path to customers (inbound or outbound).	
EXISTING ALTERNATIVES List how these problems are solved today.		HIGH-LEVEL CONCEPT List your X for Y analogy e.g. YouTube = Flickr for videos.		
COST STRUCTURE List your fixed and variable costs.			REVENUE STREAMS List your sources of revenue.	



CANVAS FILL ORDER



RISK ITERATION PATH

Lean Canvas

Created by Spark59 // Online version available at www.leancanvas.com

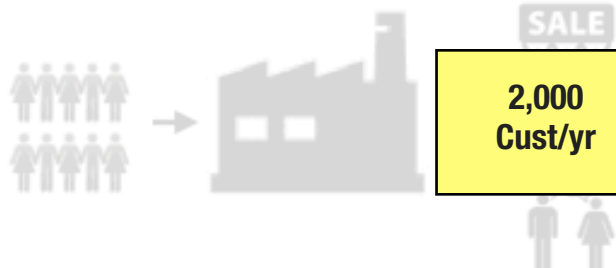
Iterated

How I ~~Wrote~~ My Book

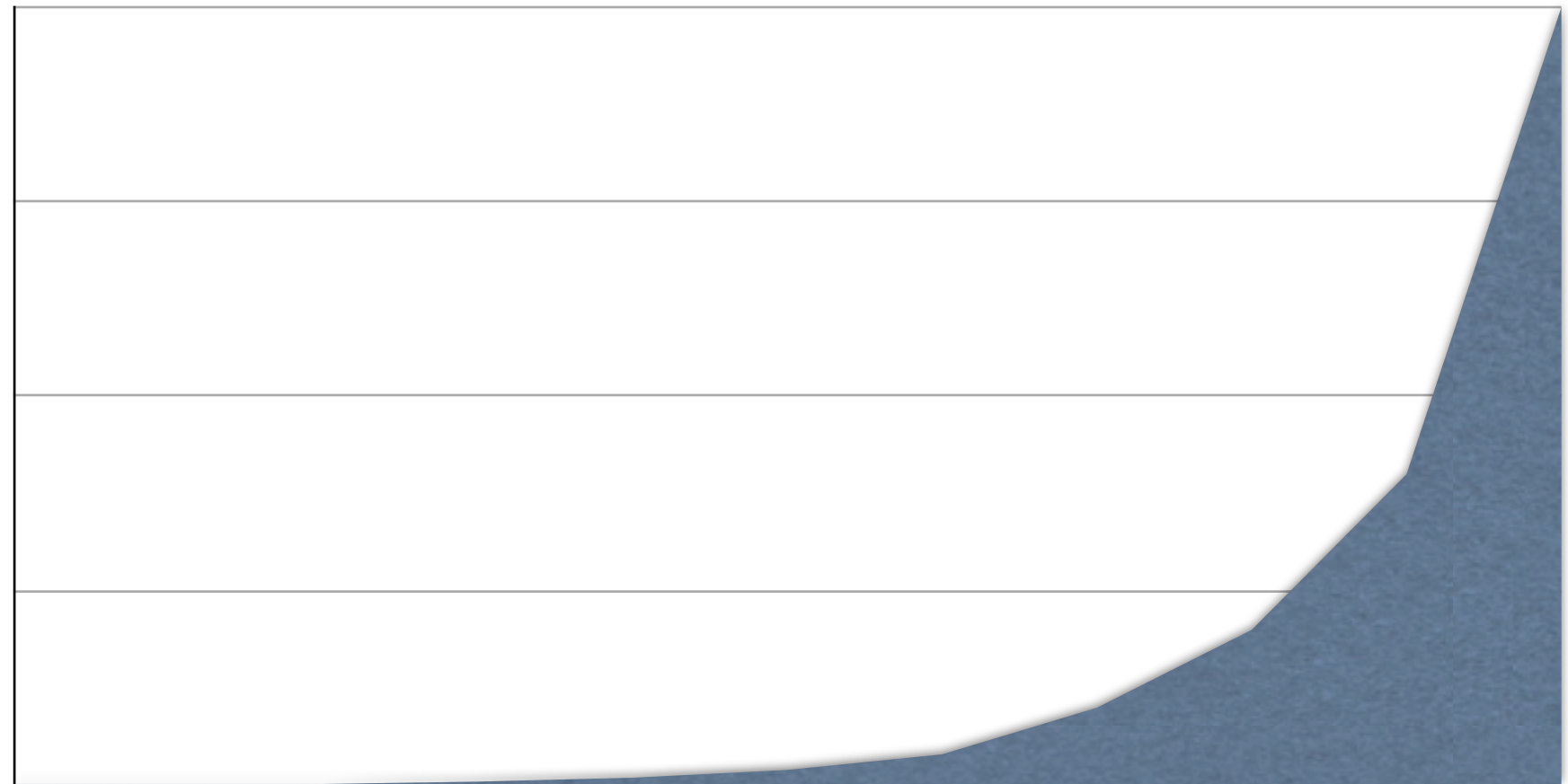
USERCYCLE CASE-STUDY



PROBLEM			CUSTOMER SEGMENTS
1. Hard to measure real progress. 2. Drown in a sea of numbers. 3. Metrics can't tell you why.			Software Companies
EXISTING ALTERNATIVES	KEY METRICS		EARLY ADOPTERS
	\$10M revenue / year		
1. Homegrown 2. Analytics & CRM software			SaaS products with > 20 sign-ups/day
		REVENUE STREAMS	
		\$200/mo with 2 yr lifetime ~ \$5000 LTV	

PROBLEM/SOLUTION FIT			PRODUCT/MARKET FIT			SCALE		
SUCCESS METRICS			SUCCESS METRICS			\$10M/yr 2,000 Cust/yr		
								
Build	Measure	Learn	Build	Measure	Learn	Build	Measure	Learn

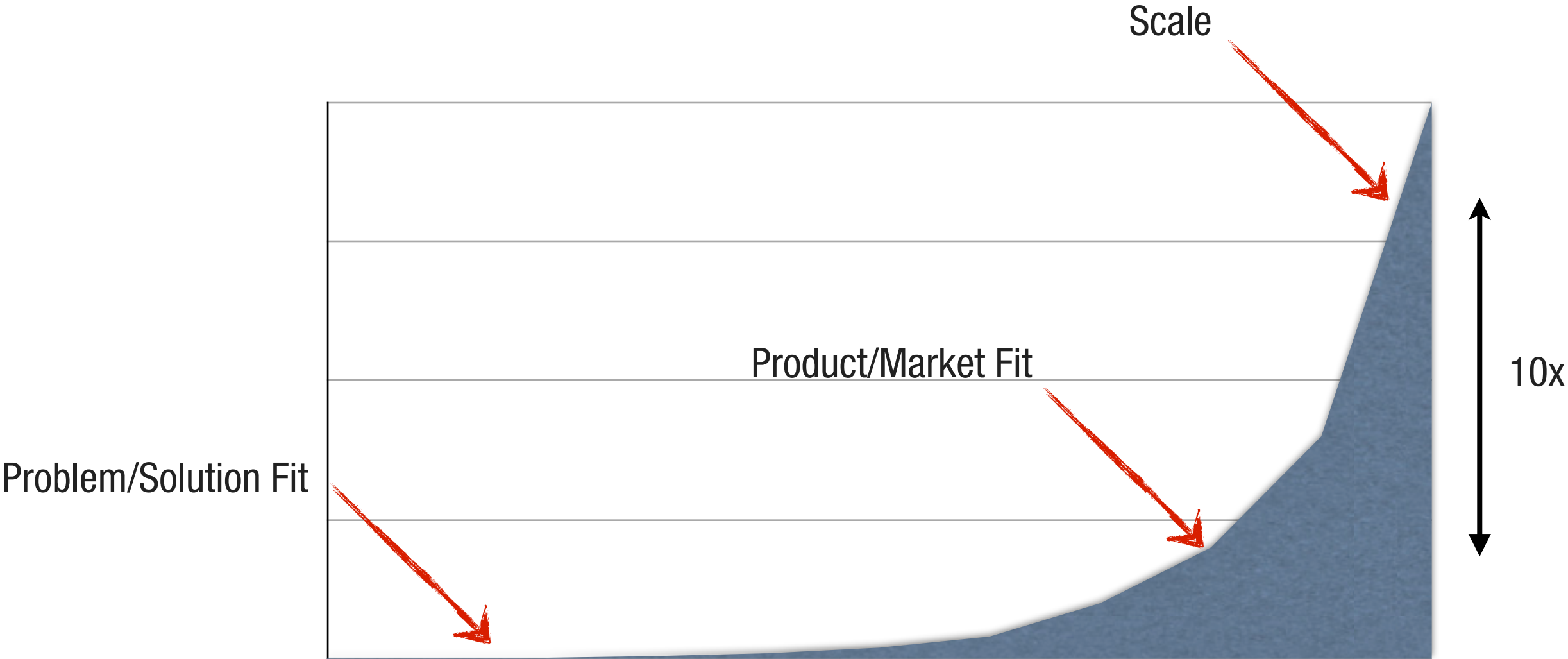
PROBLEM/SOLUTION FIT			PRODUCT/MARKET FIT			SCALE		
SUCCESS METRICS			SUCCESS METRICS					
 →   SALE ?			 →   SALE ?			 →   SALE \$10M/yr 2,000 Cust/yr		
Build	Measure	Learn	Build	Measure	Learn	Build	Measure	Learn
								
								
								
								
								
								



Hockey-stick curve



Hockey-stick curve



Hockey-stick curve

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



SUCCESS METRICS



Scale: \$10M/yr

2,000
Cust/yr



Build

Measure

Learn



Build

Measure

Learn



Build

Measure

Learn



PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



Success Metrics

\$1M/yr



Success Metrics

\$10M/yr



Build

Measure

Learn



Build

Measure

Learn



Build

Measure

Learn

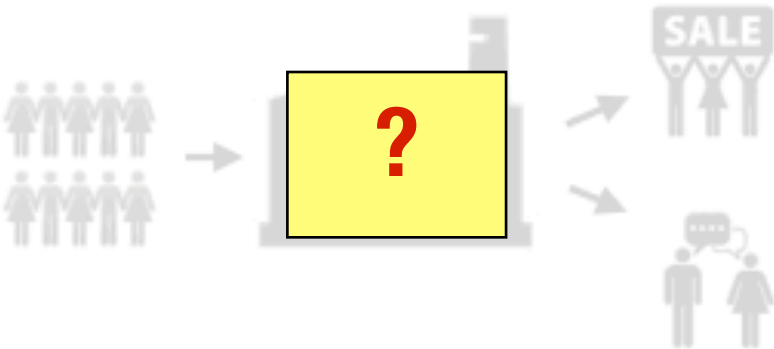


PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



Success Metrics



Success Metrics



Build

Measure

Learn

Build

Measure

Learn

Build

Measure

Learn

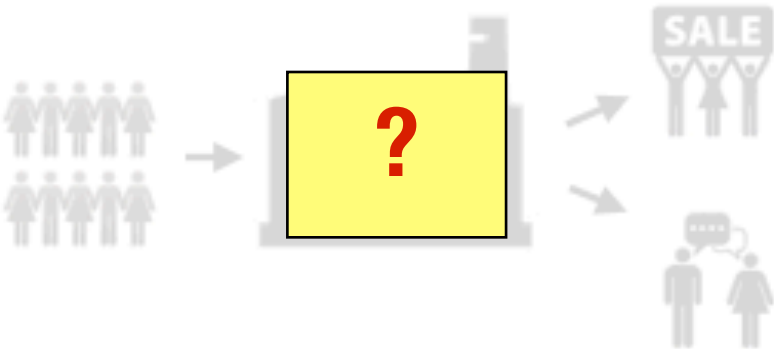


PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



8 weeks

Build

Measure

Learn



\$1M/yr



1.5 years from PSFIT

Build

Measure

Learn



\$10M/yr



3 years from PMFIT

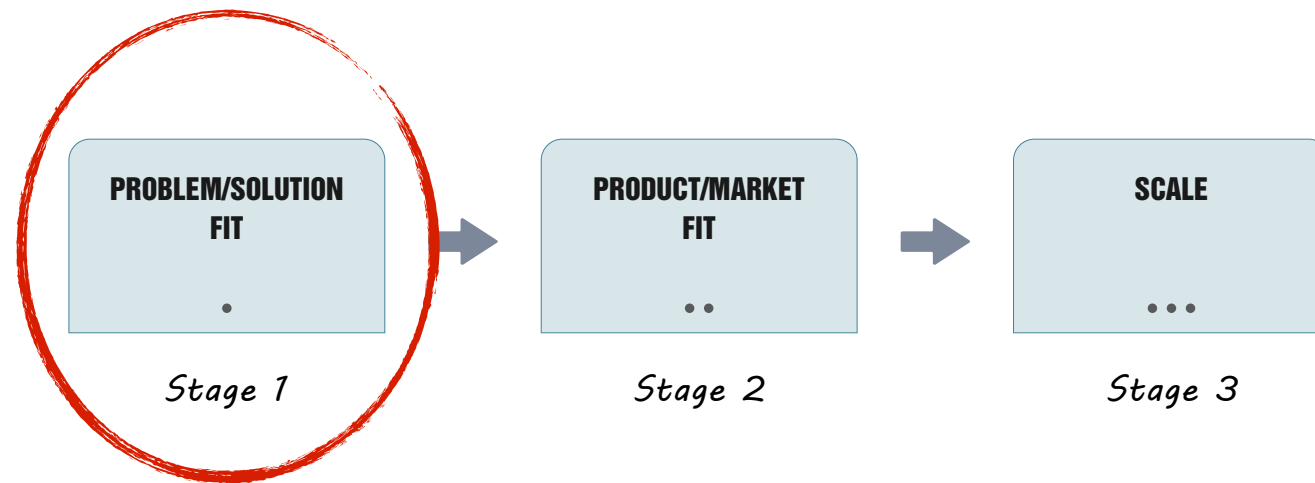
Build

Measure

Learn

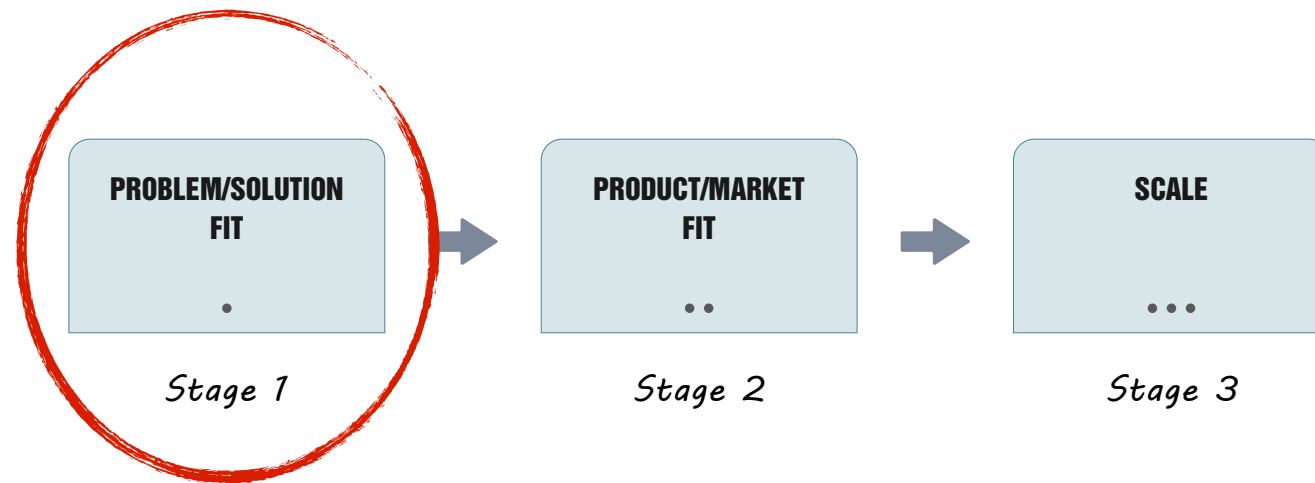


Problem/Solution Fit as a **system**



Recurring questions

1. How many interviews?
2. How should I score them?
3. When do I stop?



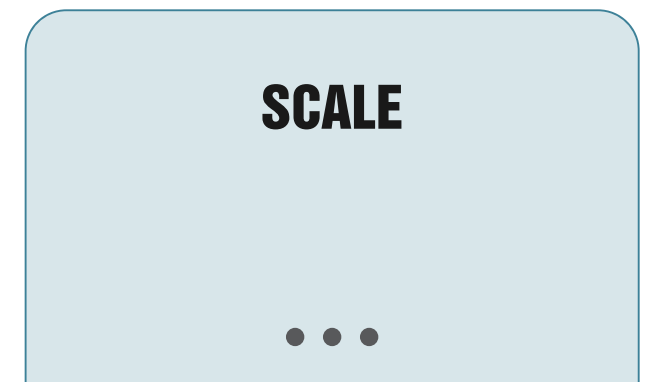
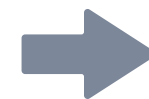
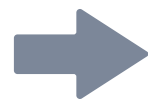
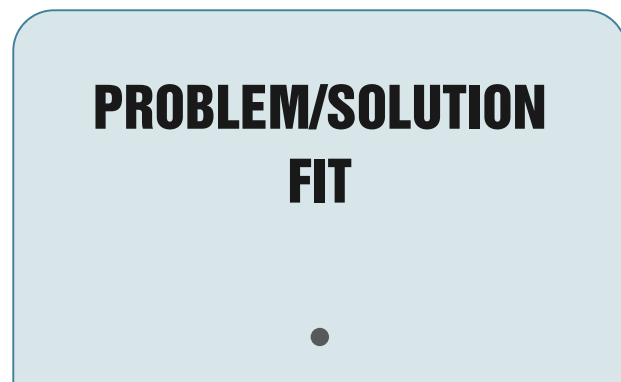
Expert advice

1. Don't lead prospects.
2. Listen to customers.
3. Avoid cognitive biases.

Step 1:

Define success criteria.

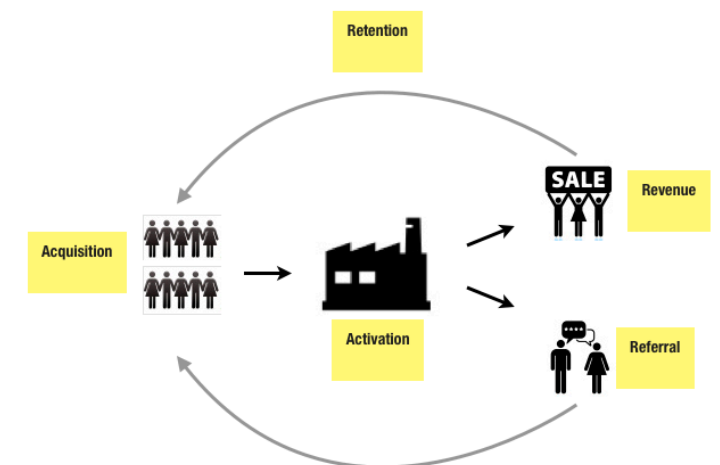
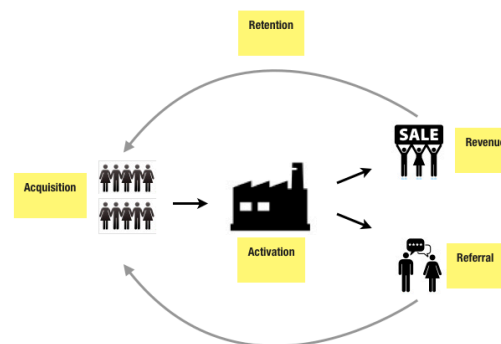
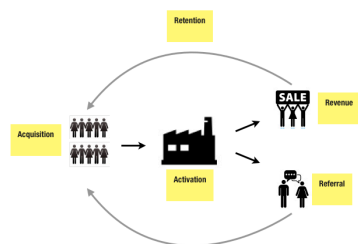
Do you have a **problem worth solving?**

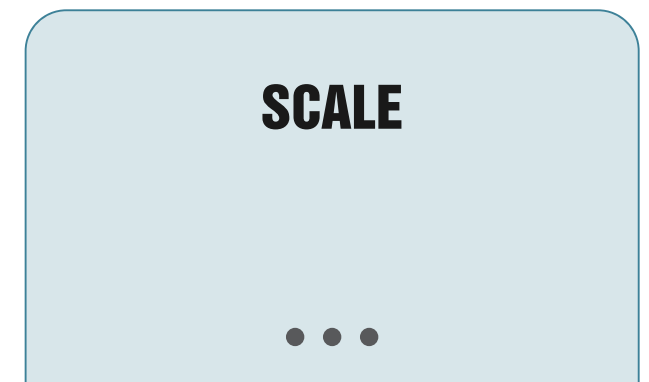
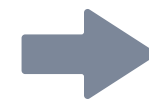
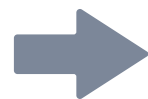
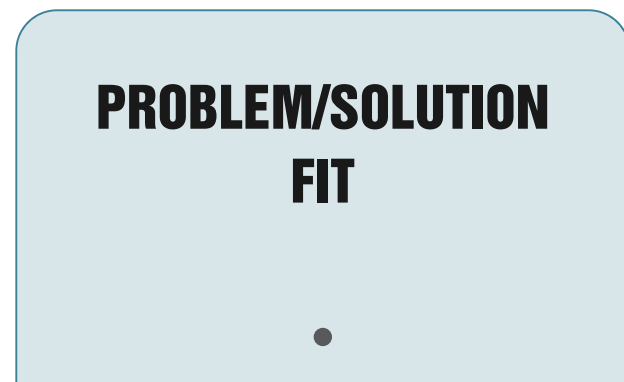


Stage 1

Stage 2

Stage 3

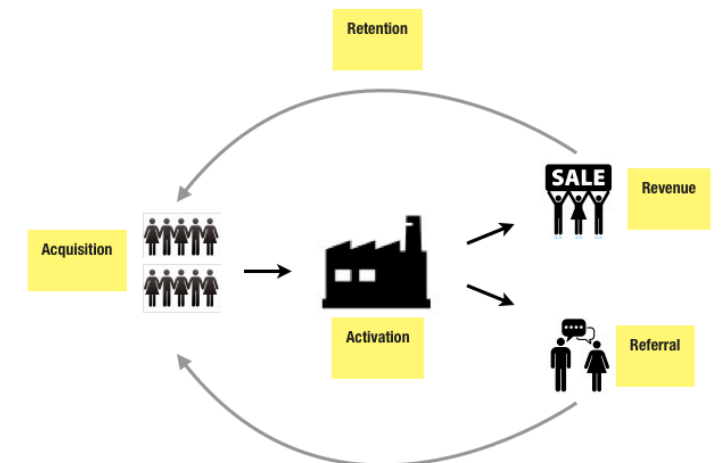
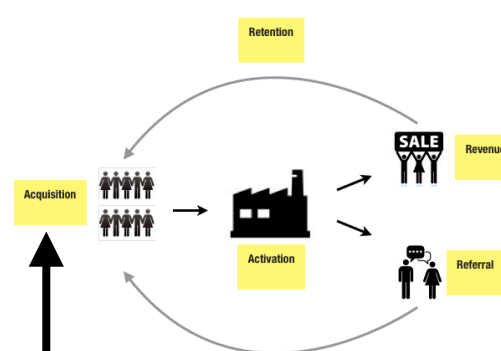
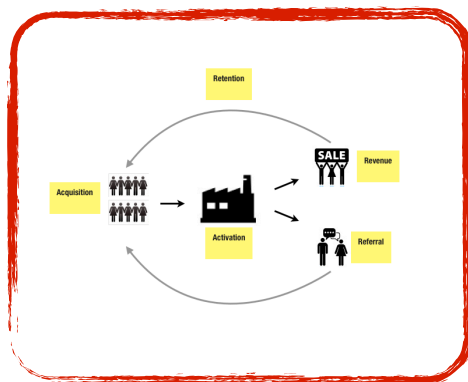




Stage 1

Stage 2

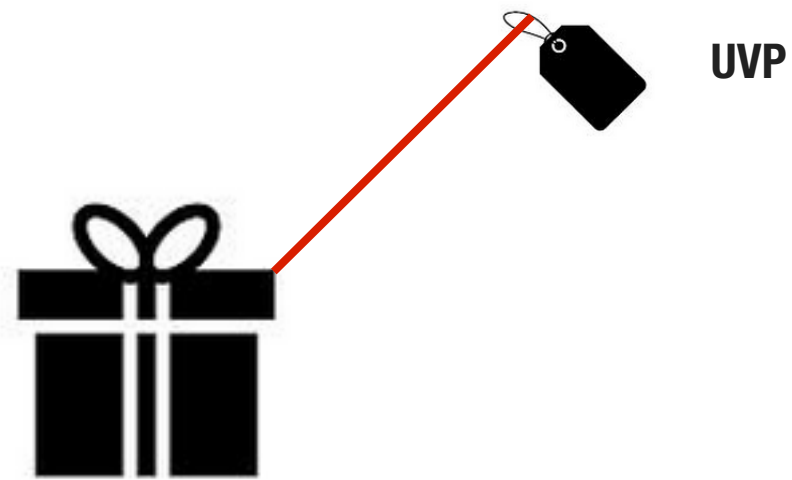
Stage 3



Acquisition



THE OFFER



DEMO



UVP

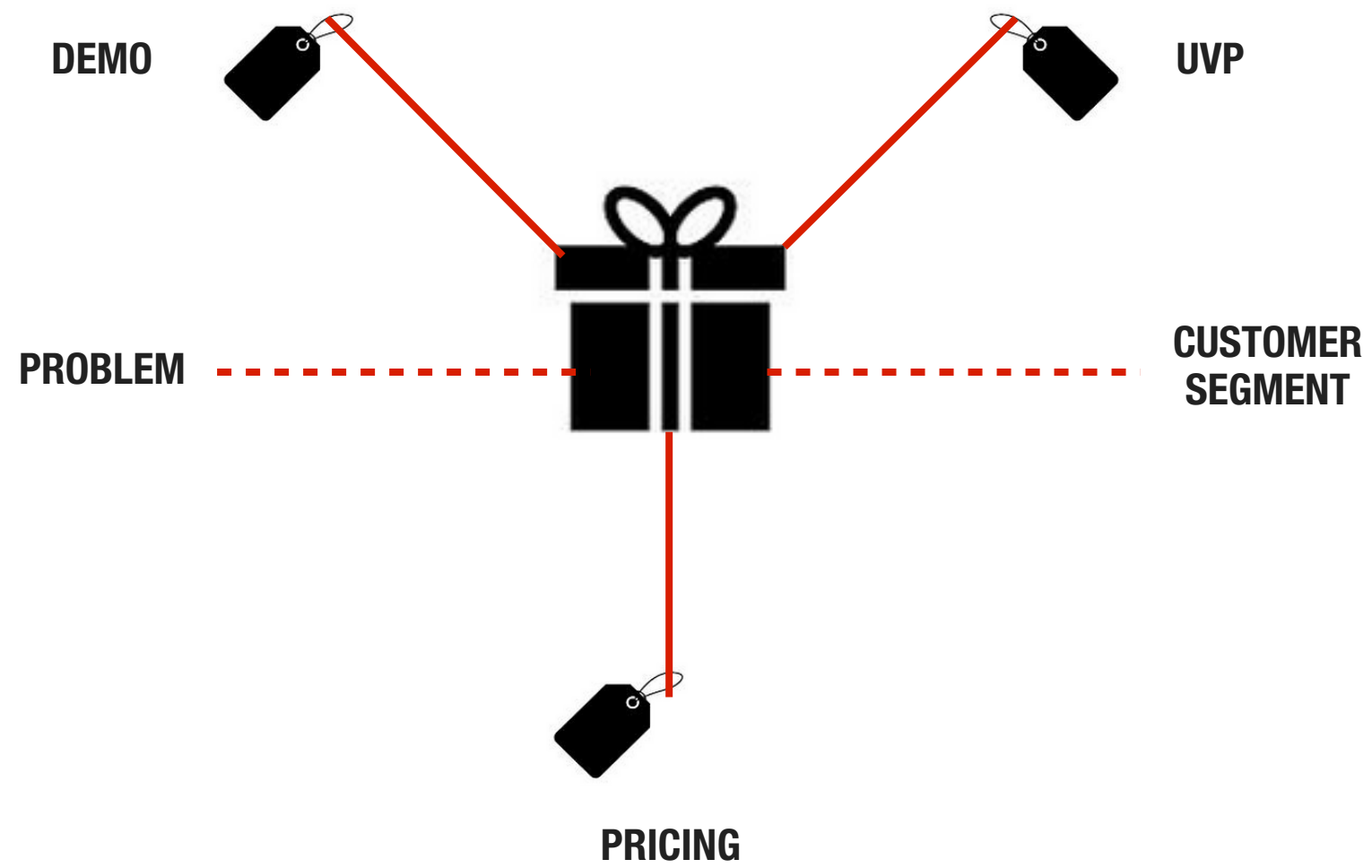
DEMO



UVP



PRICING



Research versus Interviews

Hypotheses generation



Hypotheses validation

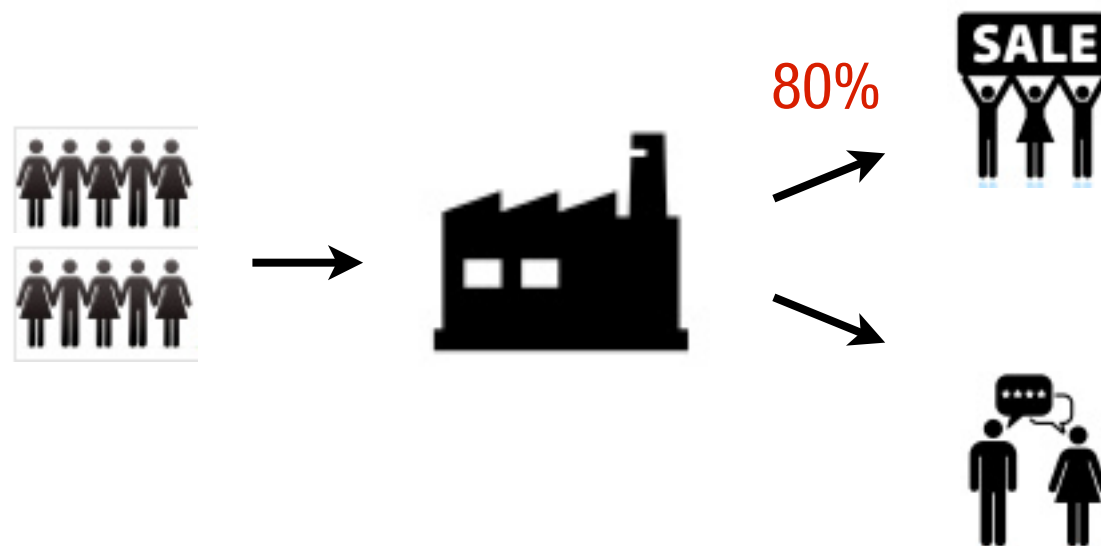




THE MAFIA OFFER

The Goal:

You are **done** when you can create “ready” customers at a **80% production rate**.

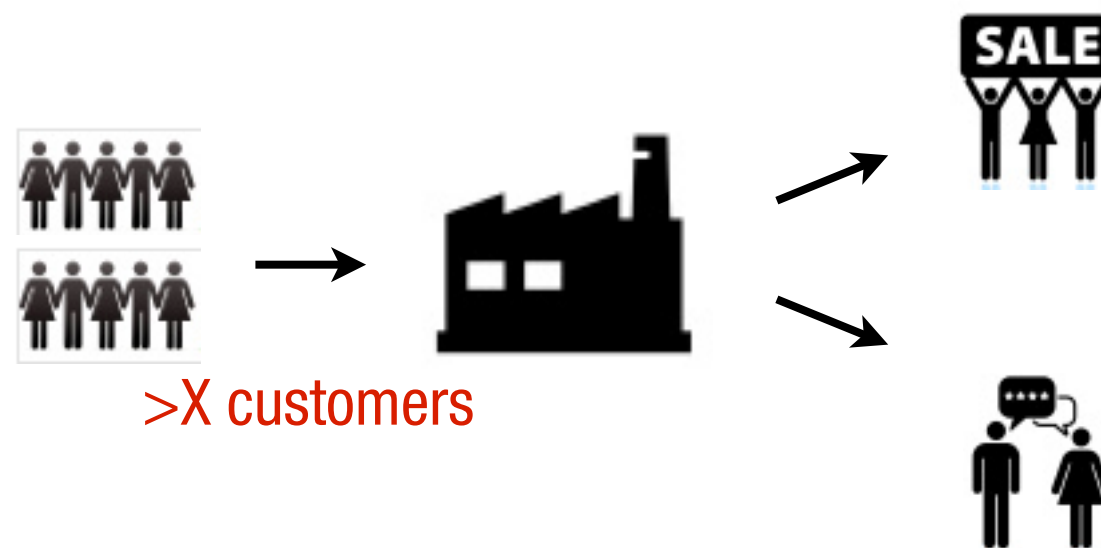




THE SMOKE TEST OFFER

The Goal:

You are **done** when you can demonstrate
“sufficient” interest-based **market demand**.

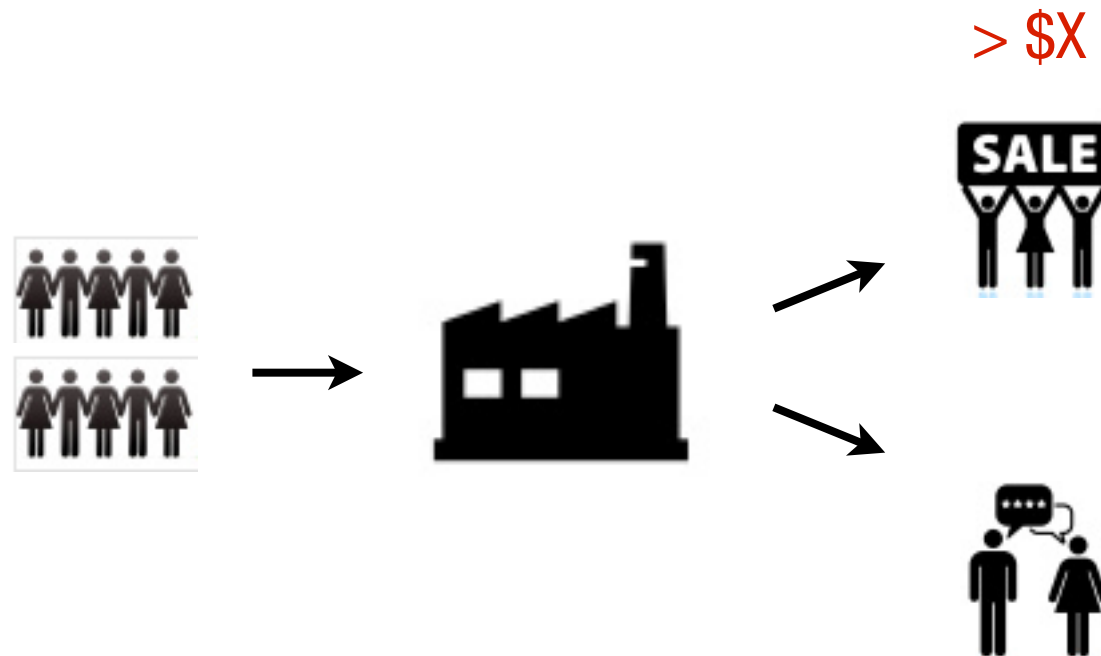




THE PRE-ORDER OFFER

The Goal:

You are **done** when you can raise “sufficient”
funds from customers.



Iterated

How I ~~Wrote~~ My Book

USERCYCLE CASE-STUDY

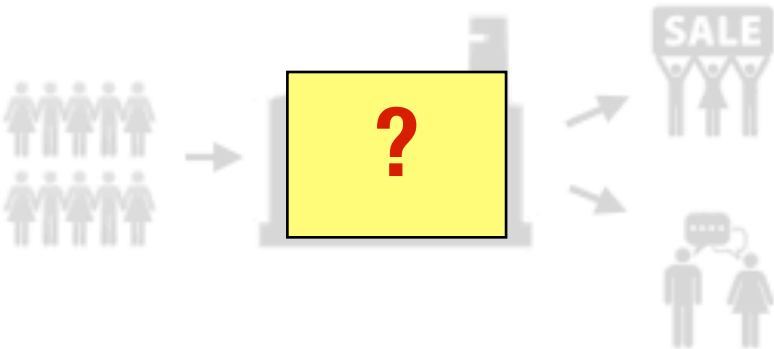


PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



8 weeks

Build

Measure

Learn



\$1M/yr



1.5 years from PSFIT

Build

Measure

Learn



\$10M/yr



3 years from PMFIT

Build

Measure

Learn

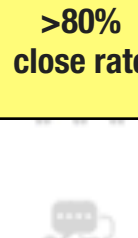


PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

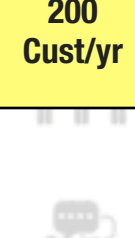
SUCCESS METRICS



>80%
close rate

8 weeks

\$1M/yr



200
Cust/yr

1.5 years from PSFIT

\$10M/yr



2,000
Cust/yr

3 years from PMFIT

Build

Measure

Learn



Build

Measure

Learn



Build

Measure

Learn

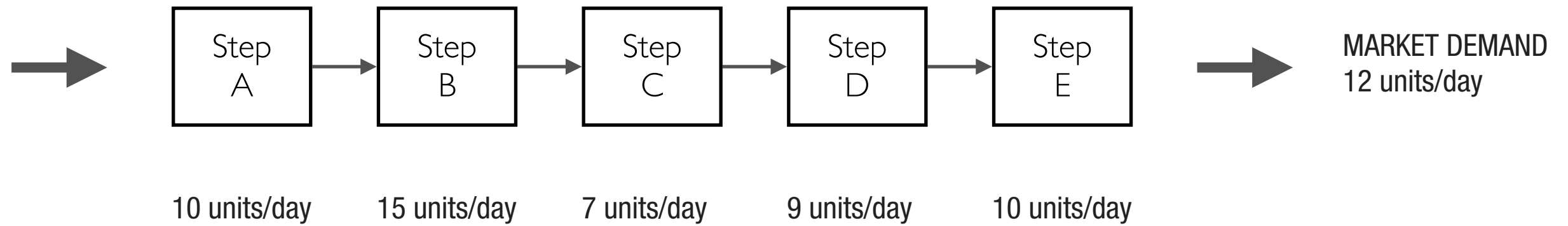


EXERCISE 1

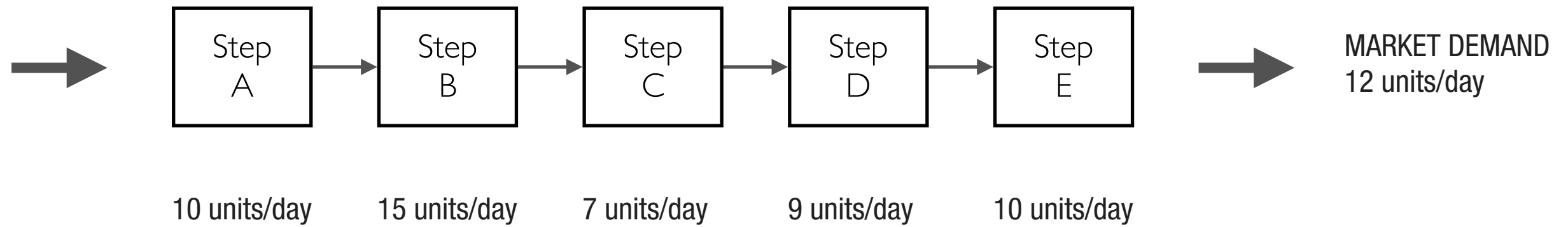
MODEL YOUR BUSINESS

Step 2: Identify your **constraint**

Production Example

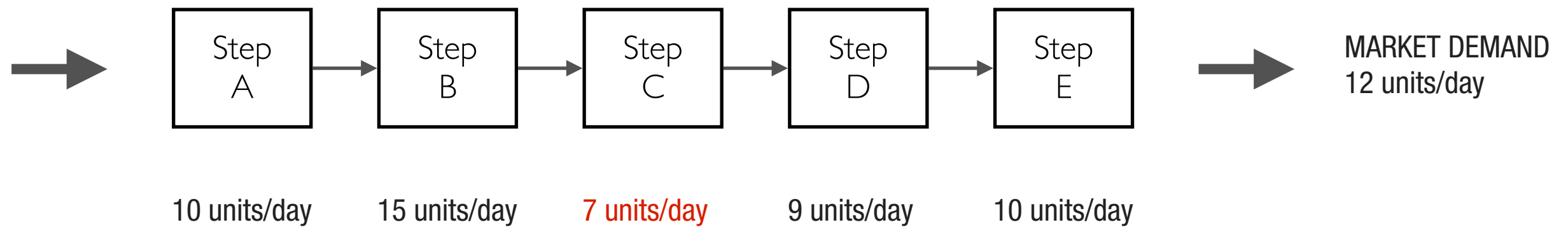


Production Example



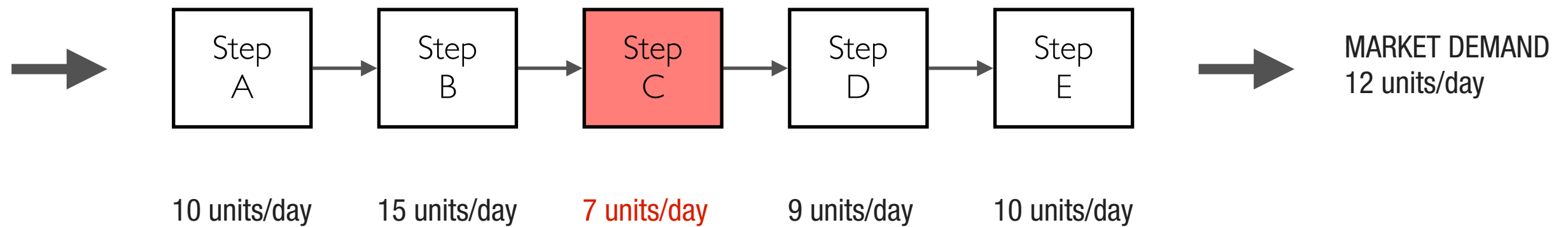
1. What is the **maximum system output** per day?

Production Example



1. What is the **maximum system output** per day?
2. Where is the **constraint**?

Production Example



1. What is the **maximum system output** per day?
2. Where is the **constraint**?

Throughput

T

Inventory

I

Operating Costs

OE

T

The rate at which the system
generates money through sales.

Revenue

I

All the money the system **invests**
in things it intends to sell.

Raw materials
Unfinished goods
Equipment/Infrastructure

OE

The money the system spends
turning inventory into
throughput.

Labor Costs
Utilities
Customer Service
Marketing/Sales

T

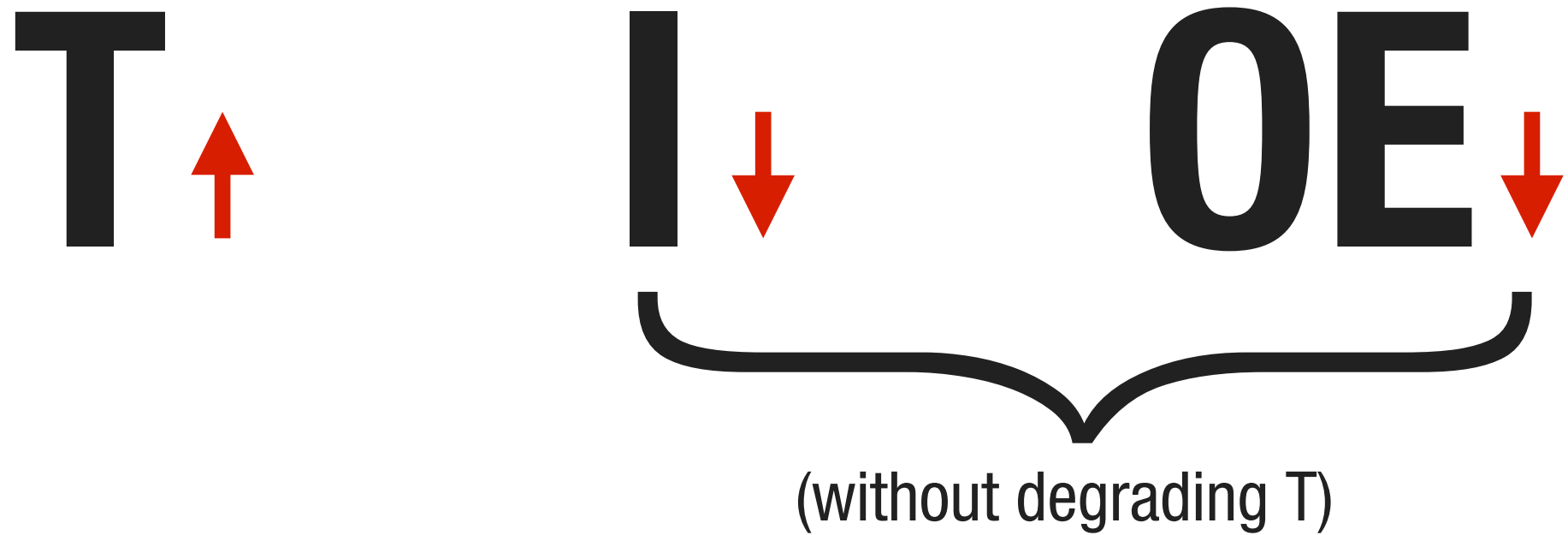
Revenue

I

Raw materials
Unfinished goods
Equipment/Infrastructure

OE

Labor Costs
Utilities
Customer Service
Marketing/Sales

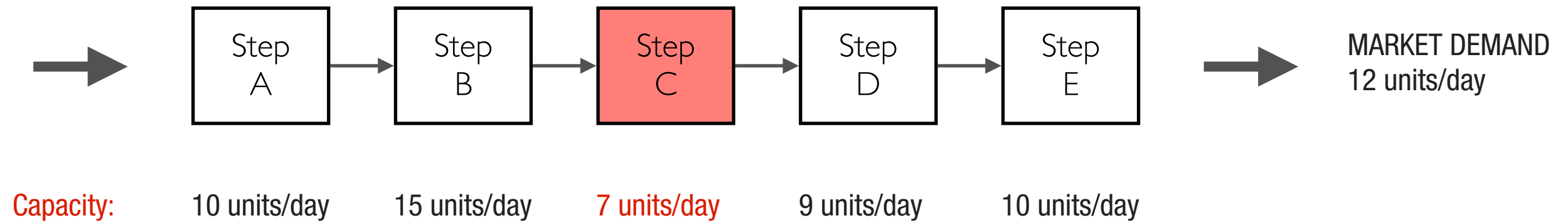


Revenue

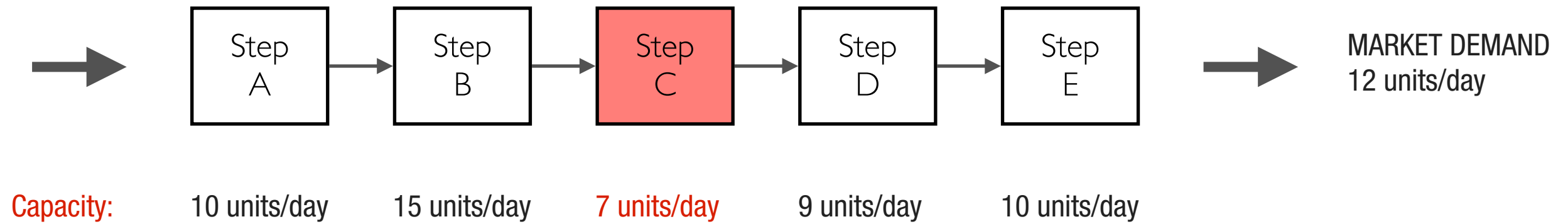
Raw materials
Unfinished goods
Equipment/Infrastructure

Labor Costs
Utilities
Customer Service
Marketing/Sales

Production Example - Identify Constraint

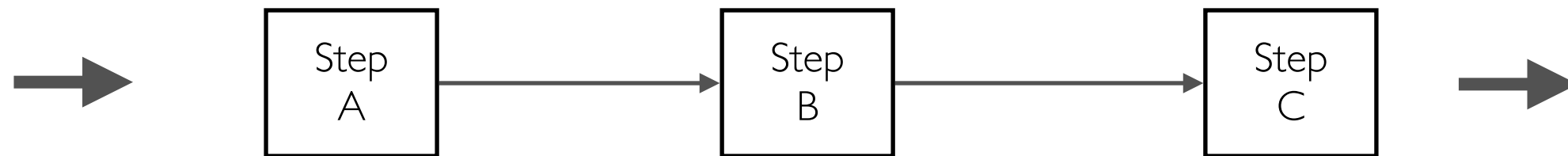


Production Example - How to Identify Constraint

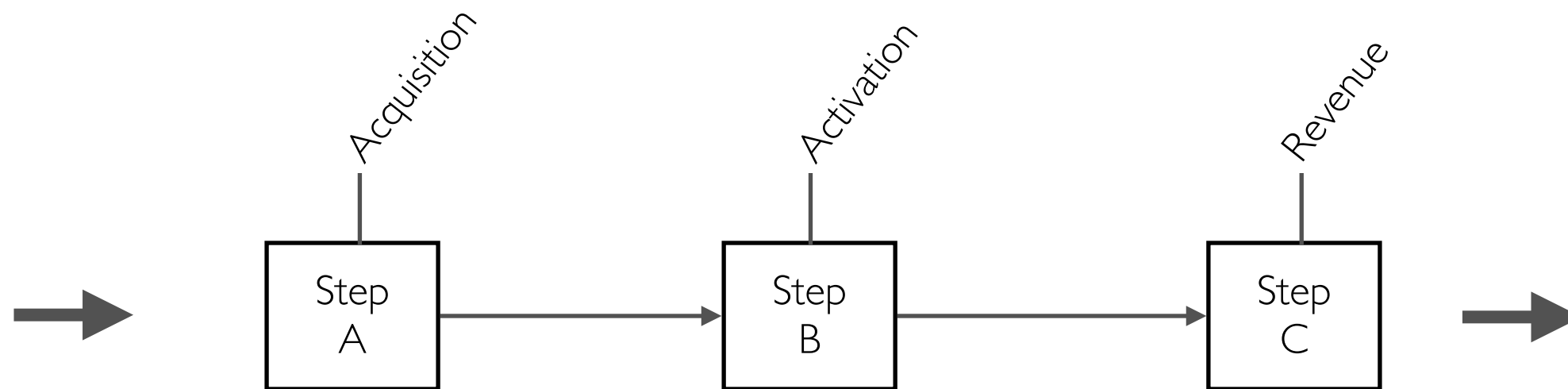


Look for where inventory **piles up**.

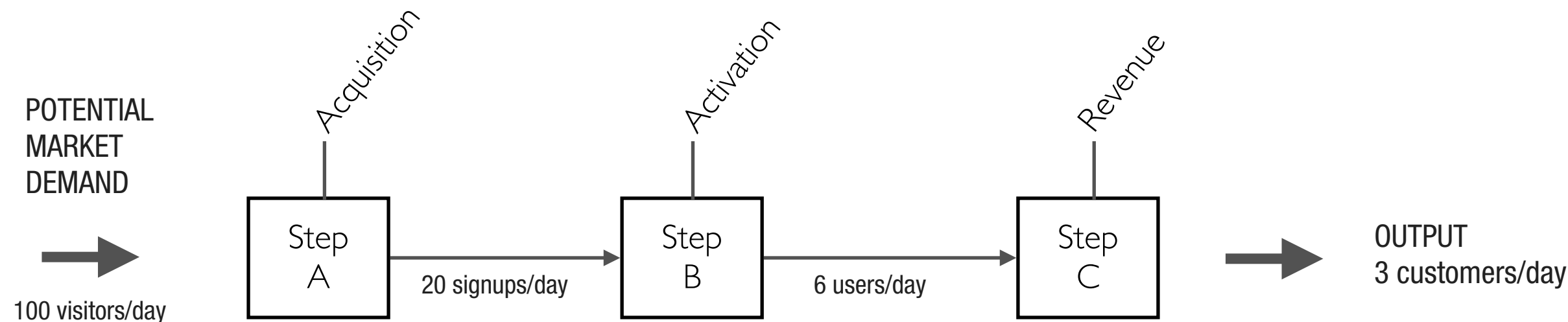
Customer Factory Example



Customer Factory Example



Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time To Conversion:	5 minutes	7 days	20 days

Throughput

T

Inventory

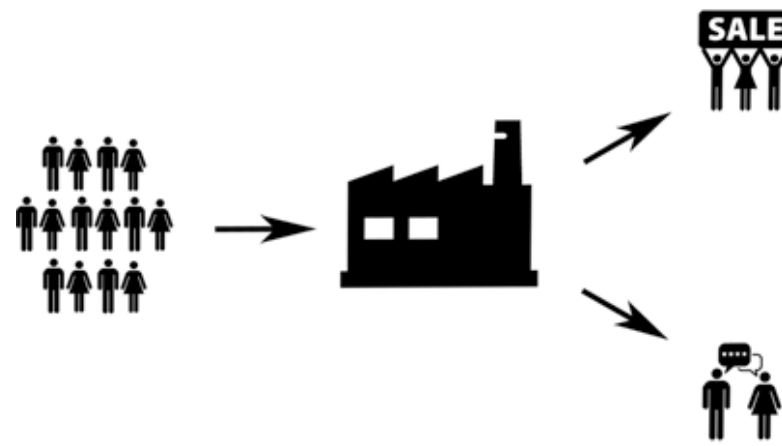
I

Operating Costs

OE

A business model describes how you
create, deliver, and capture value.

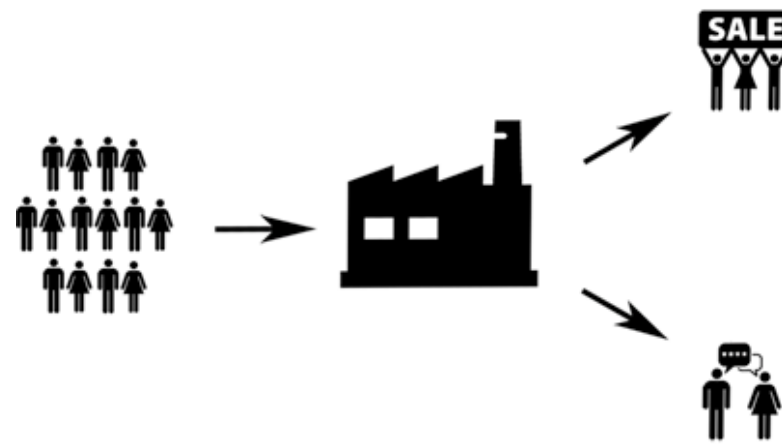
-Saul Kaplan



T

The rate at which the system
captures value.

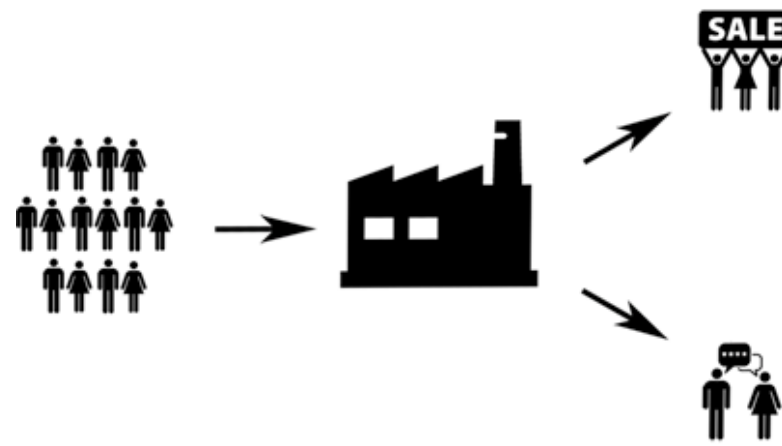
Revenue
Derivative currencies



I

The total value **invested** in
the system.

Users and Customers
Features/Product
Equipment/Infrastructure



OE

The resources spent to
turn inventory into throughput.

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

T

The rate at which the system
captures value.

Revenue
Derivative currencies

I

The **total value invested** in
the system.

Users and Customers
Features/Product
Equipment/Infrastructure

OE

The resources spent to
turn inventory into throughput.

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

T

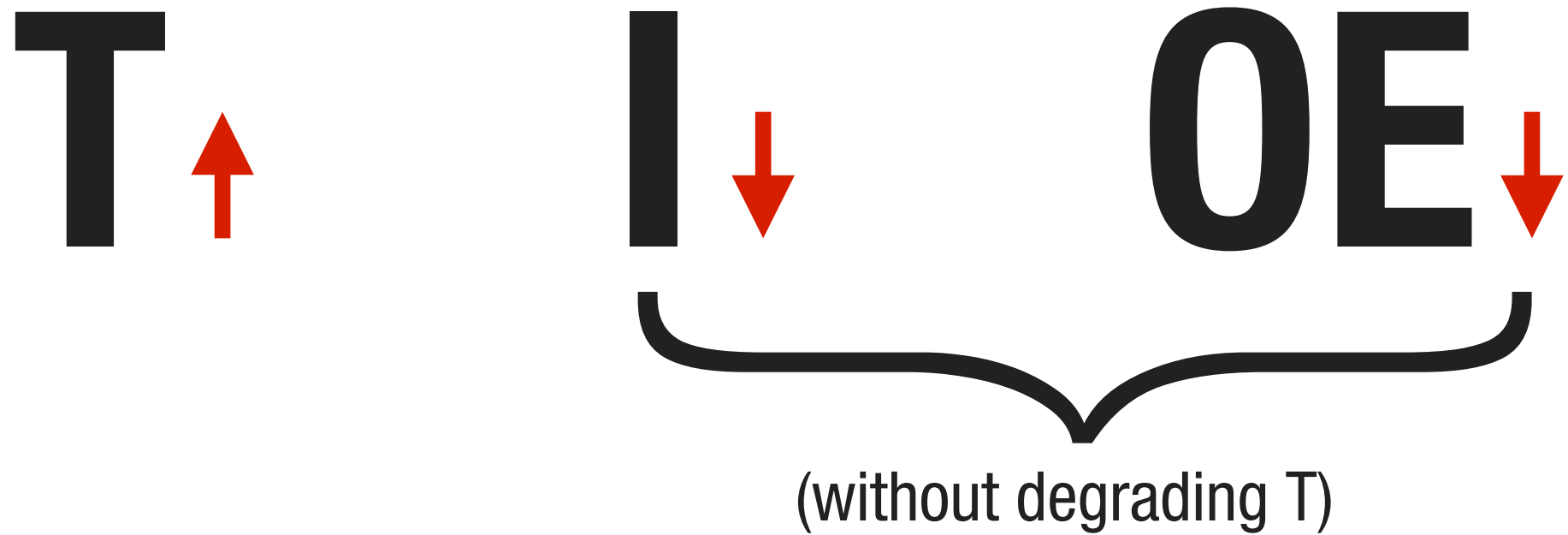
Revenue
Derivative currencies

I

Users and Customers
Features/Product
Equipment/Infrastructure

OE

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

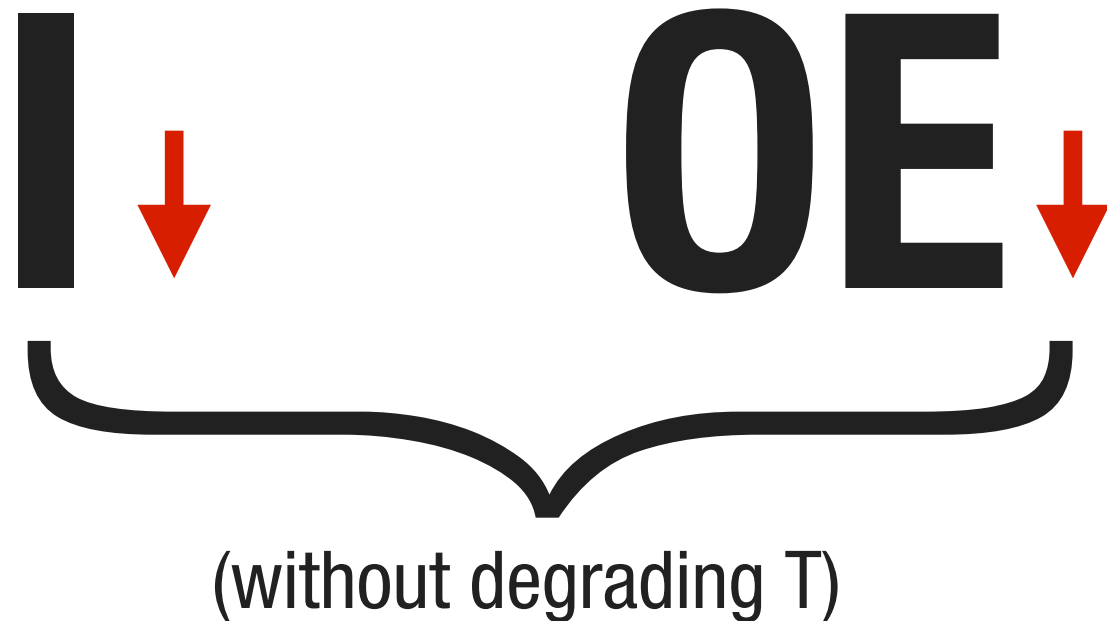
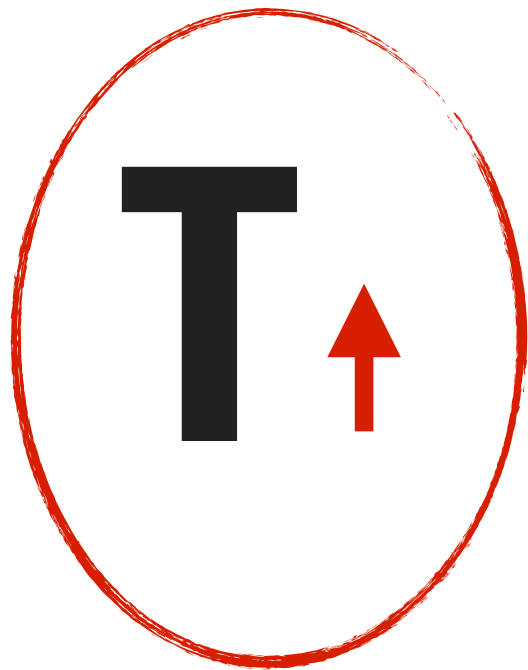


Revenue
Derivative currencies

Users and Customers
Features/Product
Equipment/Infrastructure

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

Increasing throughput has most **upside** potential - the macro that matters.

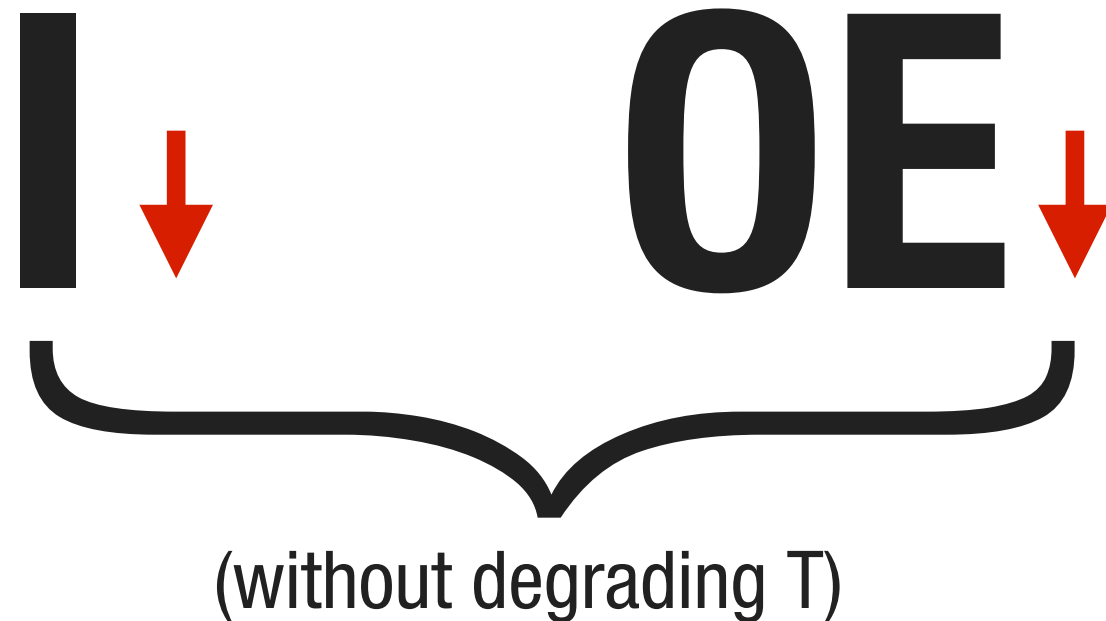
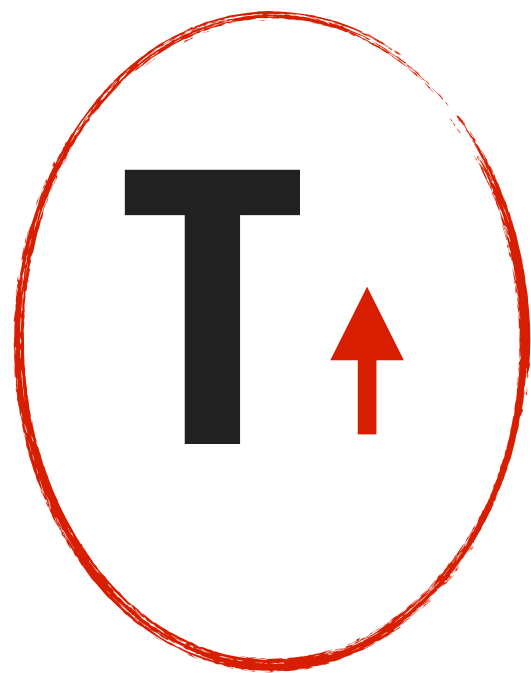


Revenue
Derivative currencies

Users and Customers
Features/Product
Equipment/Infrastructure

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

Throughput is measured by total **customer value captured**
not total customer value delivered
nor total number of customers - ARPU

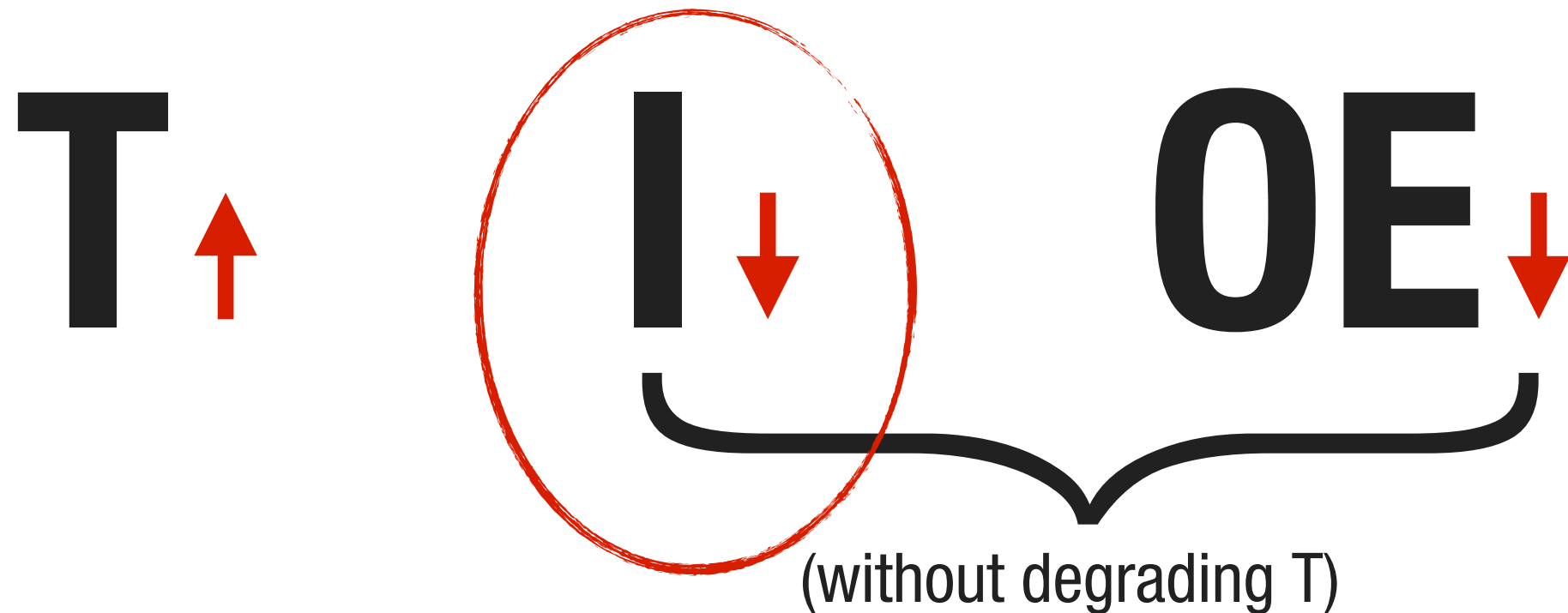


Revenue
Derivative currencies

Users and Customers
Features/Product
Equipment/Infrastructure

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

Maximize throughput with **as few** users and features as possible - Reduce Waste.

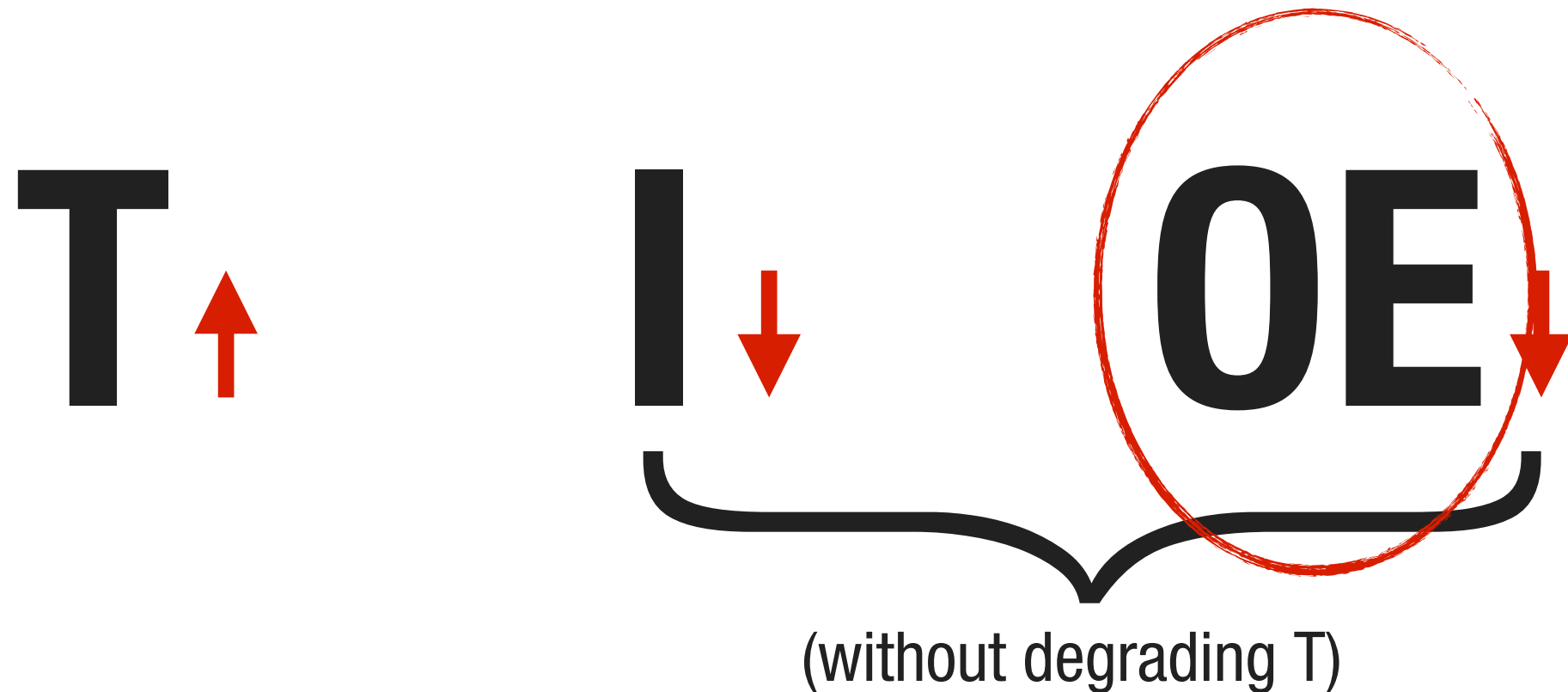


Revenue
Derivative currencies

Users and Customers
Features/Product
Equipment/Infrastructure

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

Maximize throughput with **as little** overhead as possible - Reduce Costs.

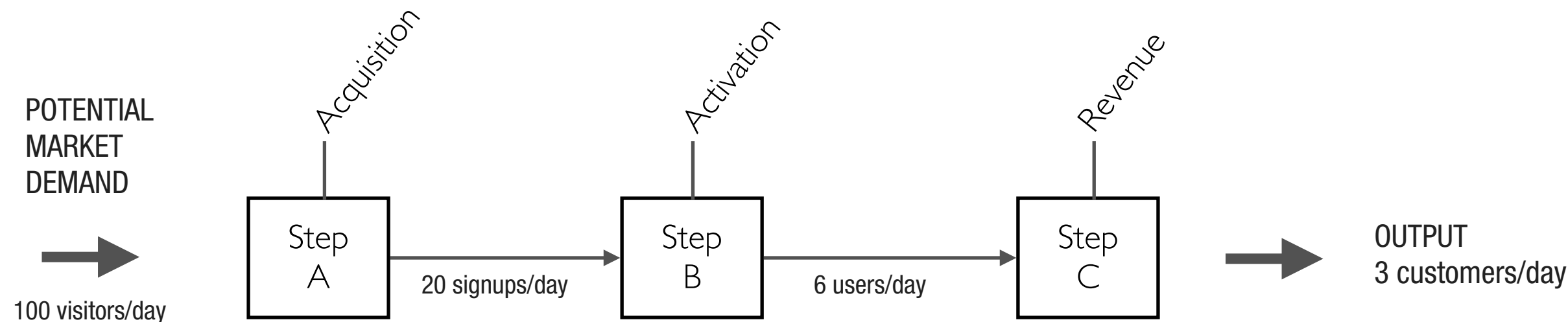


Revenue
Derivative currencies

Users and Customers
Features/Product
Equipment/Infrastructure

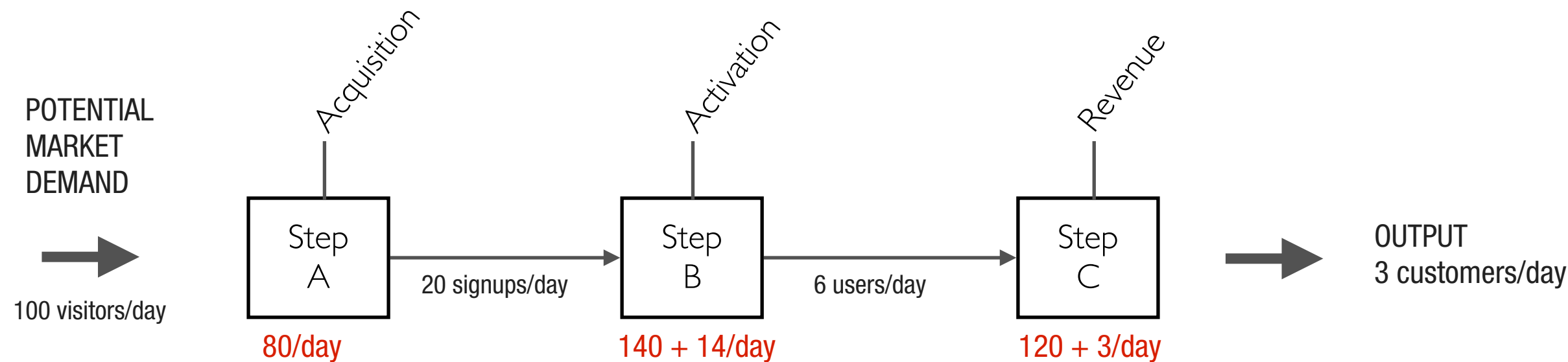
Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

Customer Factory Example



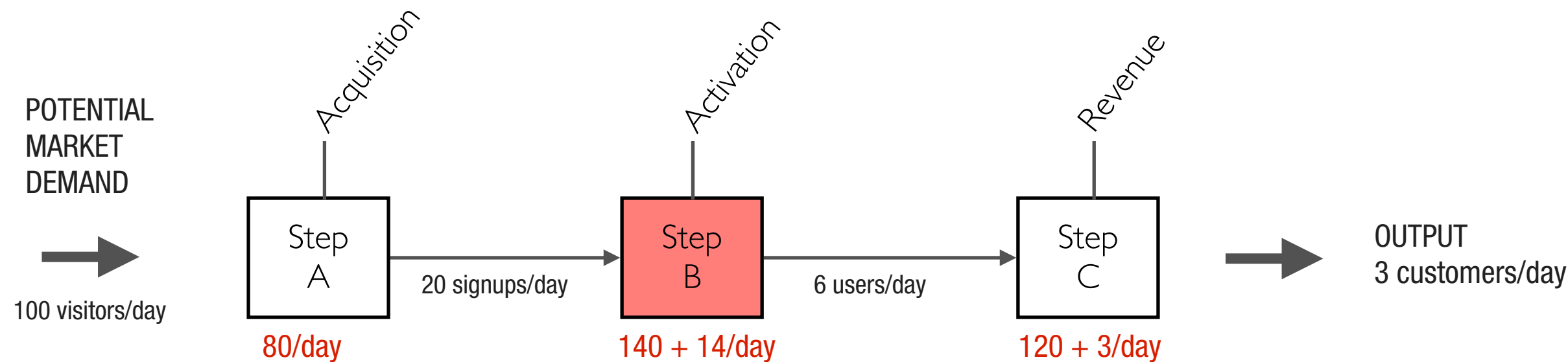
Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time to Conversion	5 minutes	7 days	20 days

Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time to Conversion	5 minutes	7 days	20 days

Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Yield:	20%	30%	50%
TTC:	5 minutes	7 days	20 days

Iterated

How I ~~Wrote~~ My Book

USERCYCLE CASE-STUDY



Step 1:

Define success metric.

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



8 weeks

Success Metrics



1.5 years from PSFIT

Success Metrics



3 years from PMFIT

Build

Measure

Learn



Build

Measure

Learn



Build

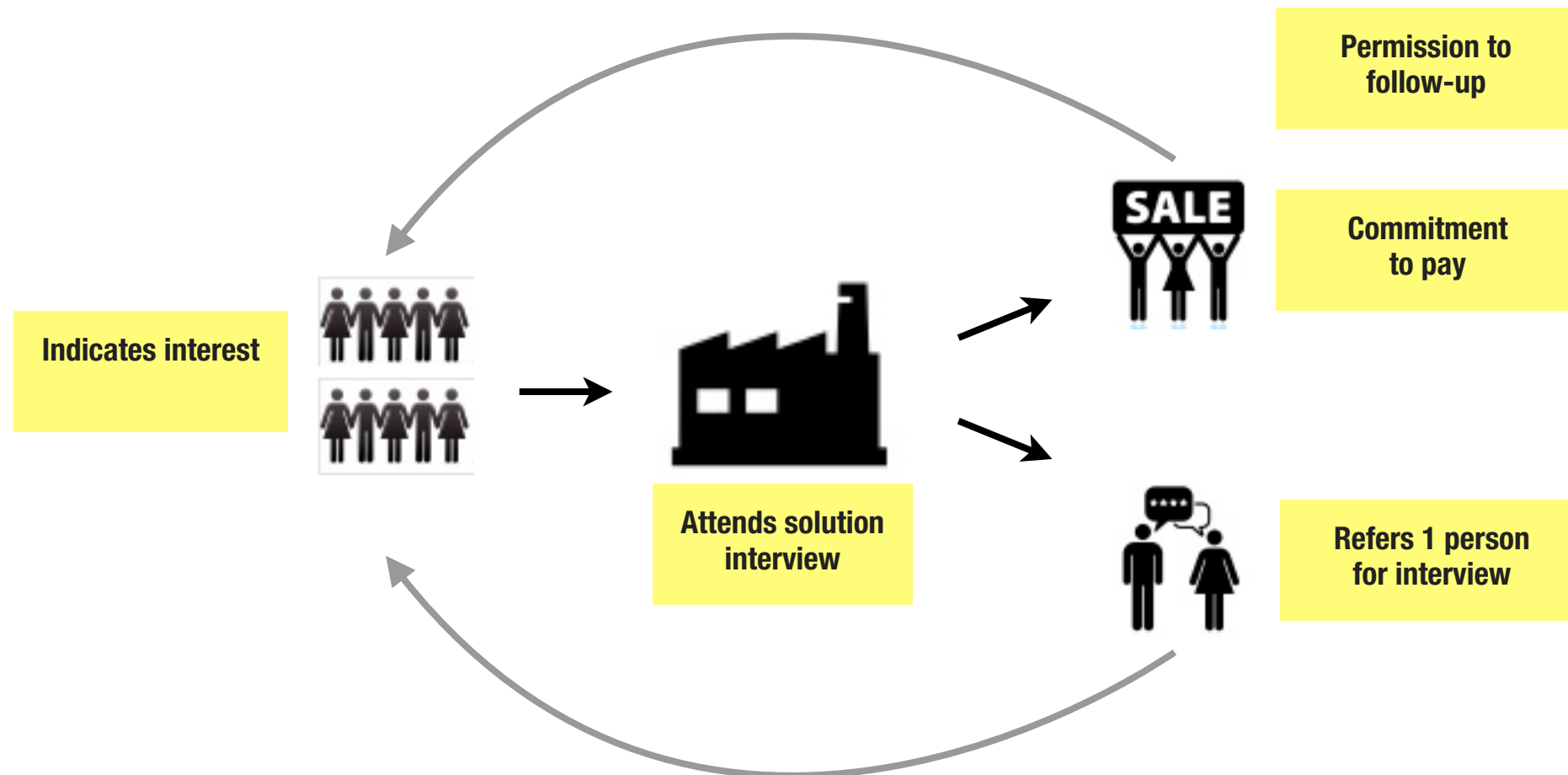
Measure

Learn

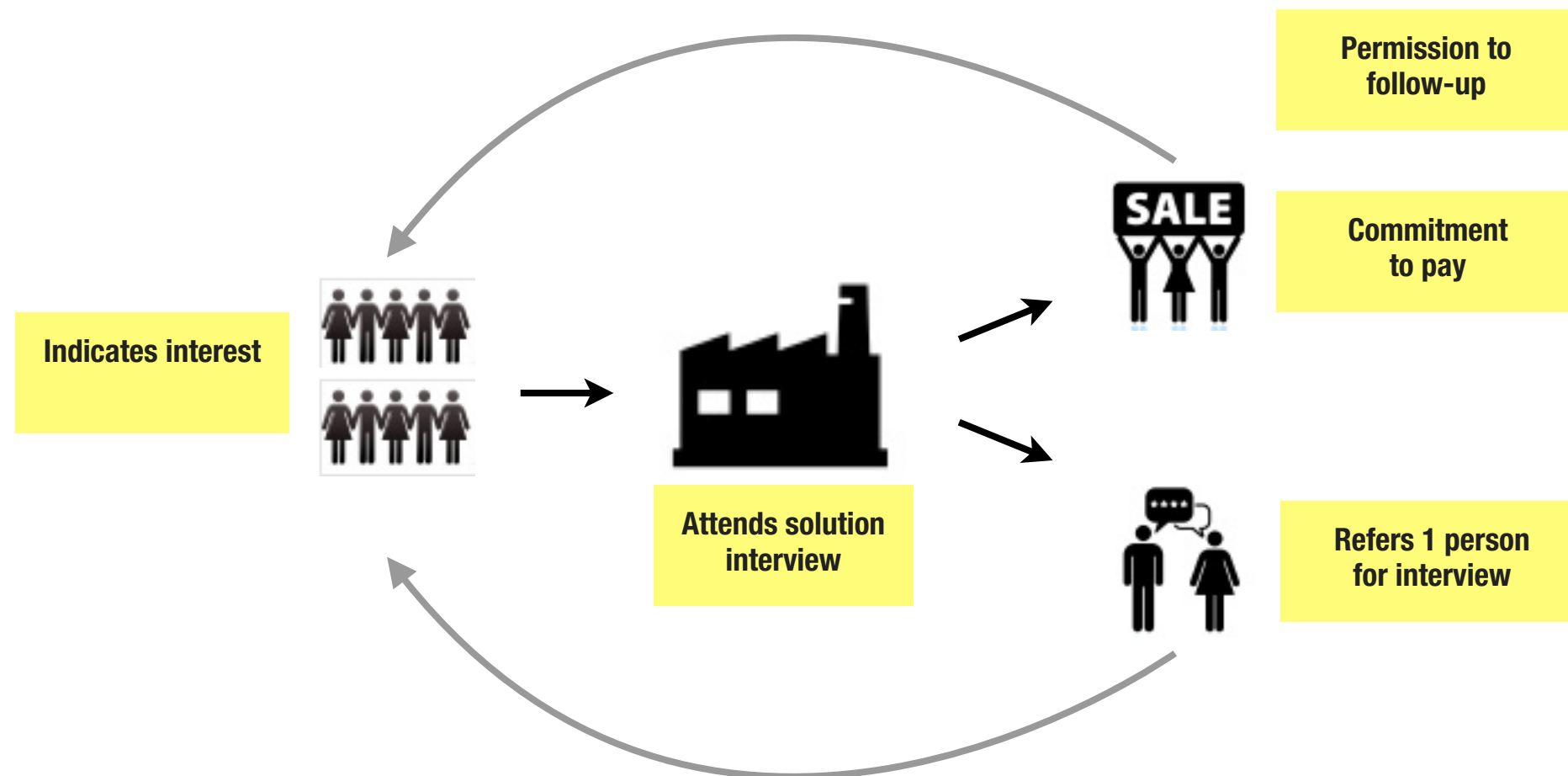


Step 2:

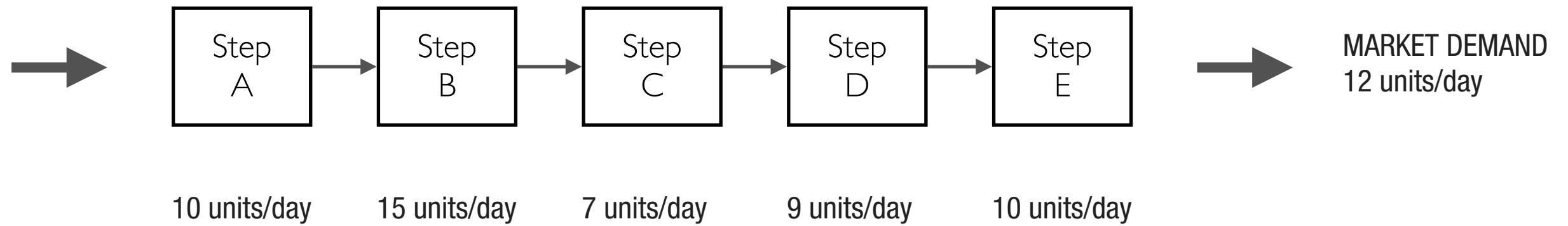
Map **user actions** to macro events.



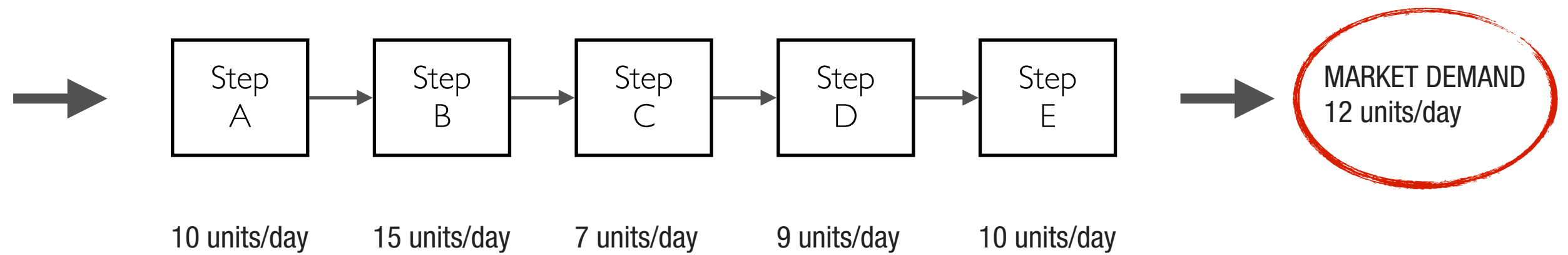
Where is the constraint?



Production Example



Production Example



Step 3:

Measure in batches.

New Product: USERcycle – a better way to track and engage your customers

Written by [Ash Maurya](#)

In the course of applying lean startup techniques to my other products, I've stumbled across a recurring problem of **finding better ways to track and improve engagement with my users.**

This not only applies to early users when lots of things can and do go wrong, but also to later users, when you need to actively drive retention and engagement. Like others, I started by cobbling together a home-grown solution which quickly got hard to maintain.

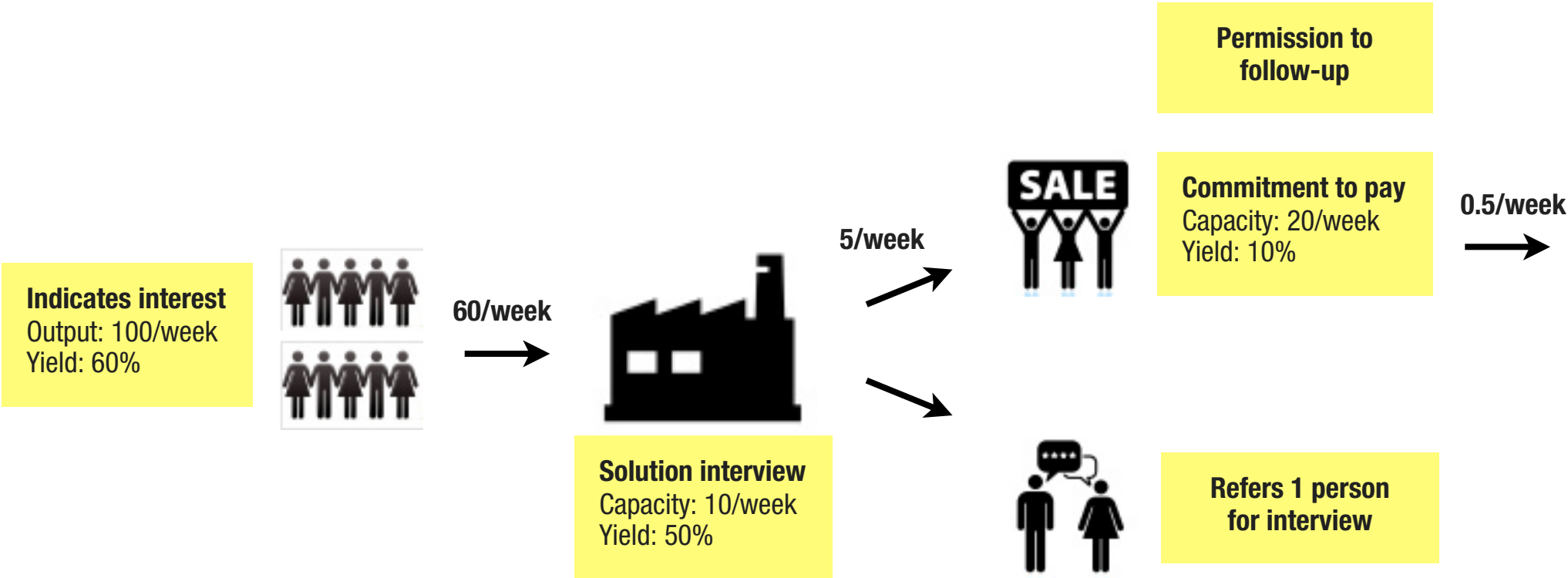
I've taken a new approach which applies a lot of this learning and overcomes earlier limitations.



COMING SOON: The better way to track and engage your customers.

If you're willing to participate, please head on over to <http://www.usercycle.com> and sign-

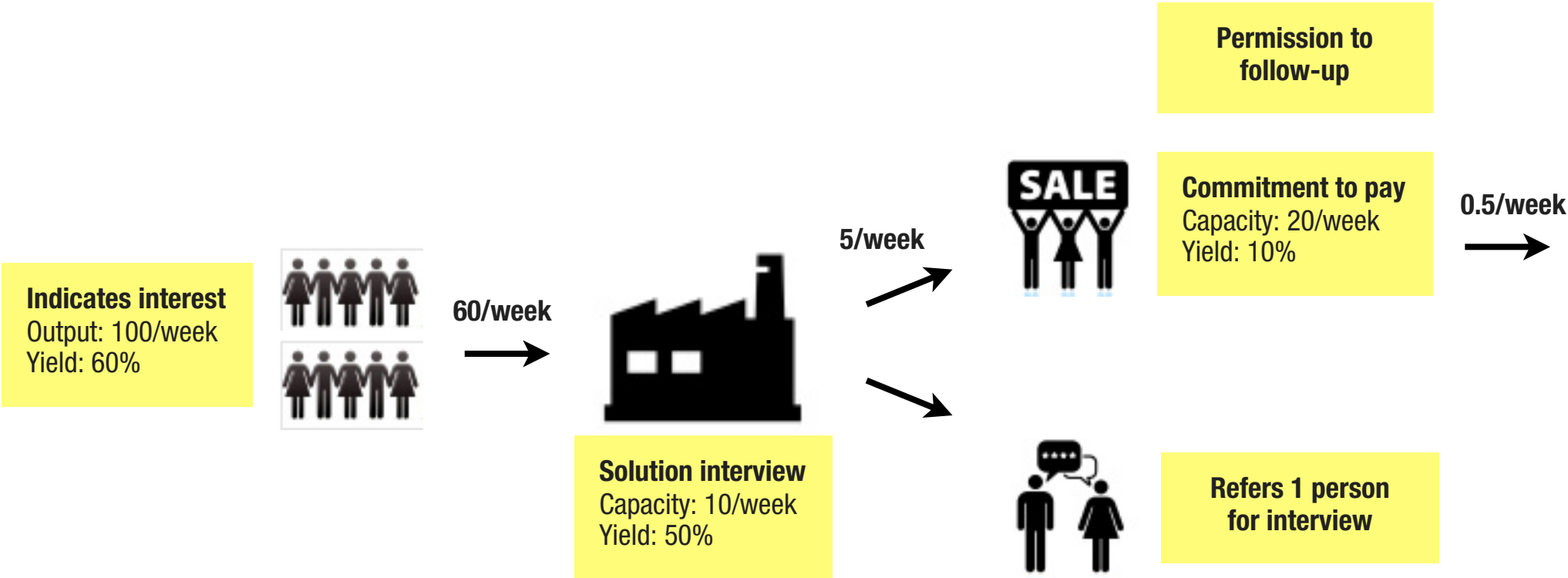
Batch 1



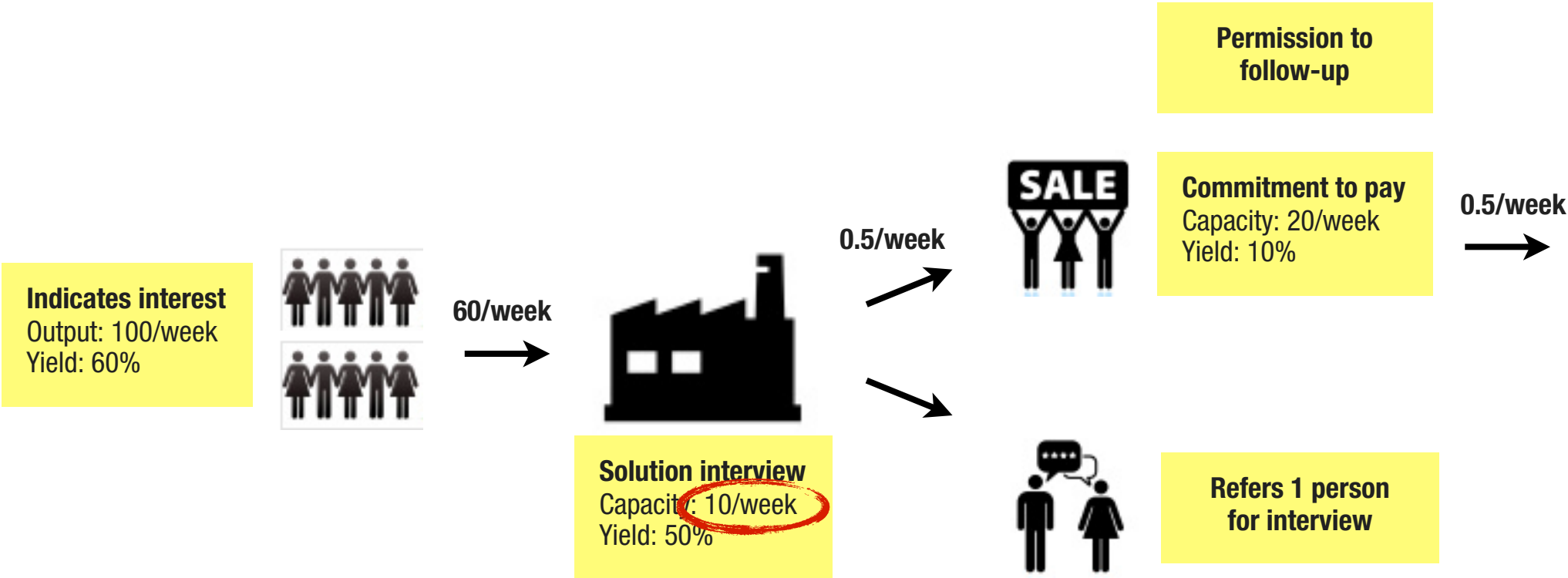
Step 4:

Identify the constraint.

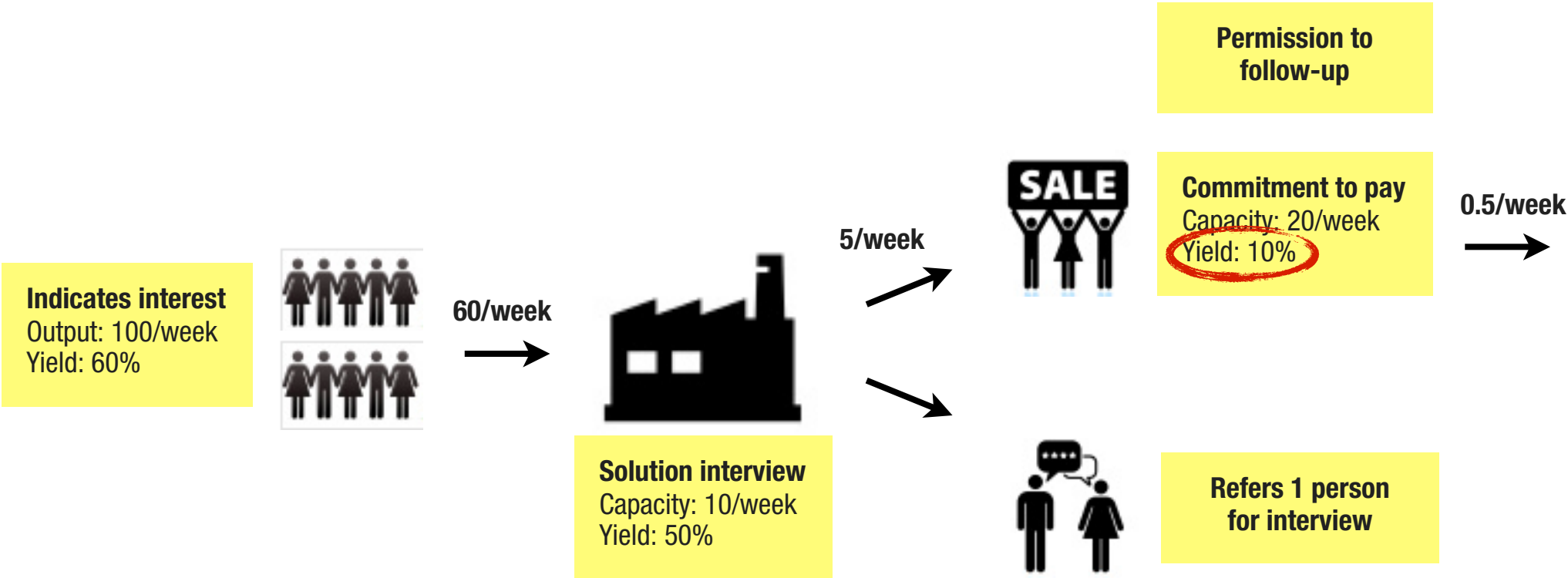
Batch 1



Batch 1



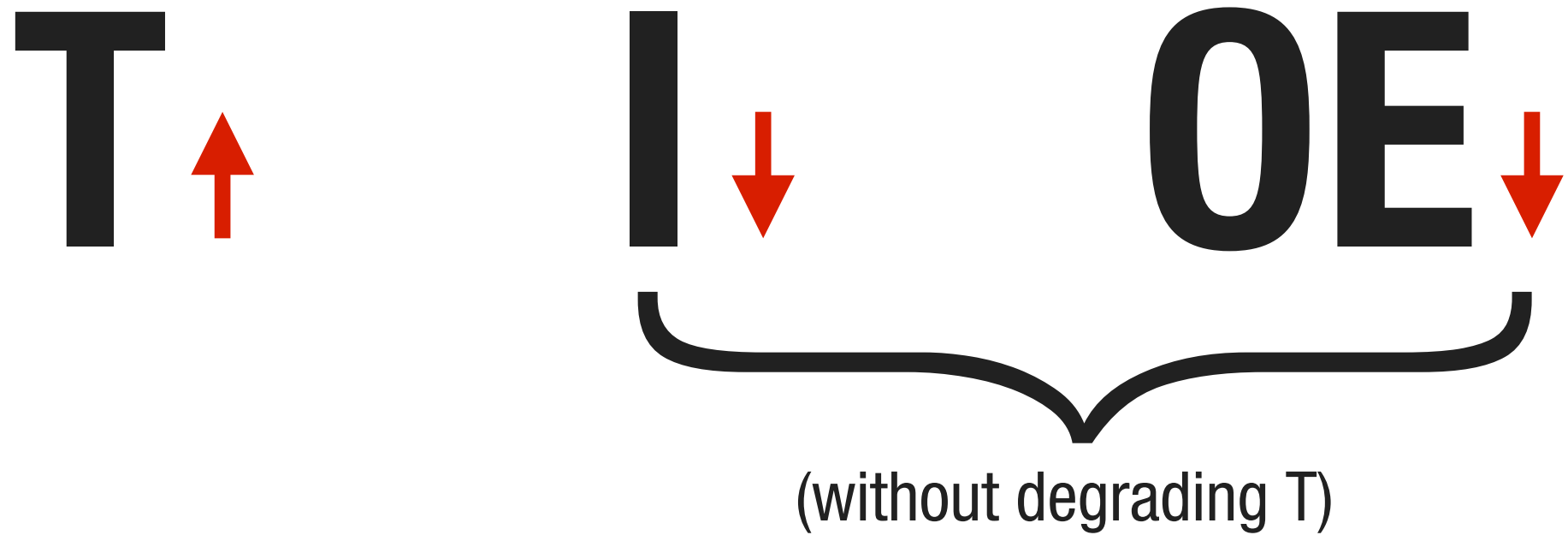
Batch 1



EXERCISE 2

IDENTIFY YOUR CONSTRAINT

Step 3: **Break** your constraint

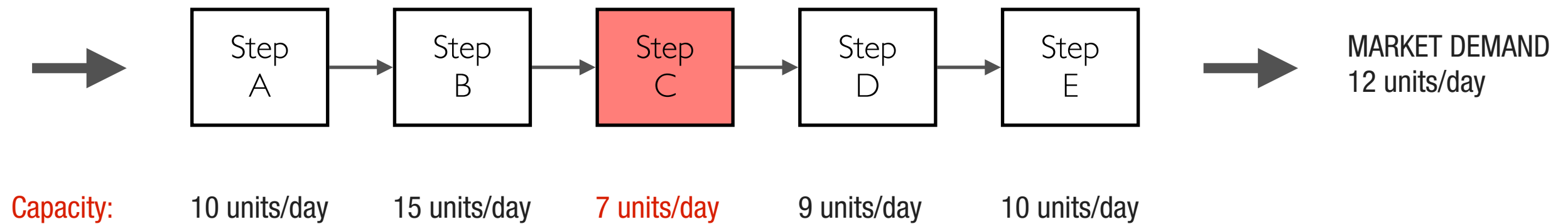


Revenue
Derivative currencies

Users and Customers
Features/Product
Equipment/Infrastructure

Product Development
Customer Service
Marketing
Hosting Costs
Software Subscriptions

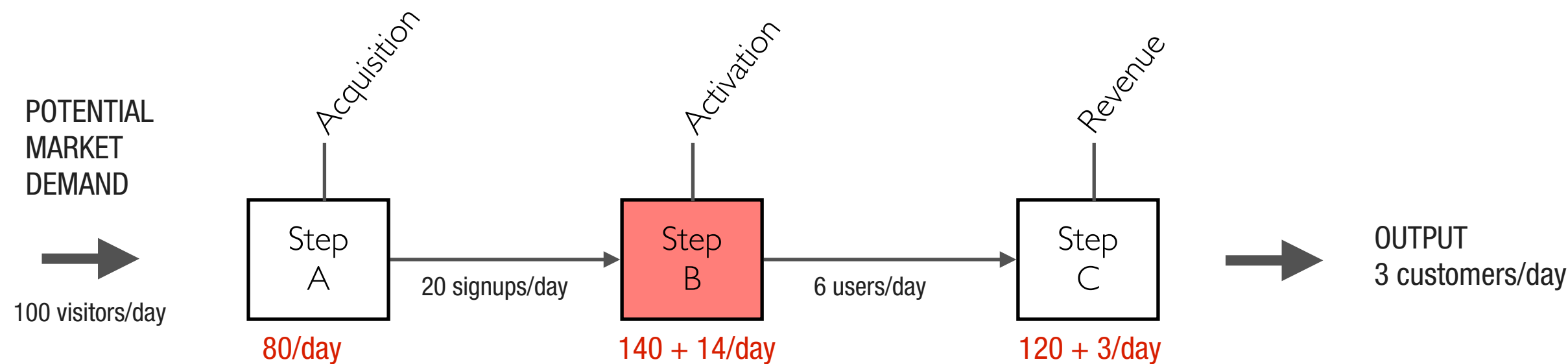
Production Example - TOC Solution



1. **Identify** constraint
2. **Exploit** constraint
3. **Subordinate** everything else
4. **Elevate** constraint
5. **Go back** to step 1

- 01 Identify the **type** of constraint
 - physical (people, equipment) or policy.

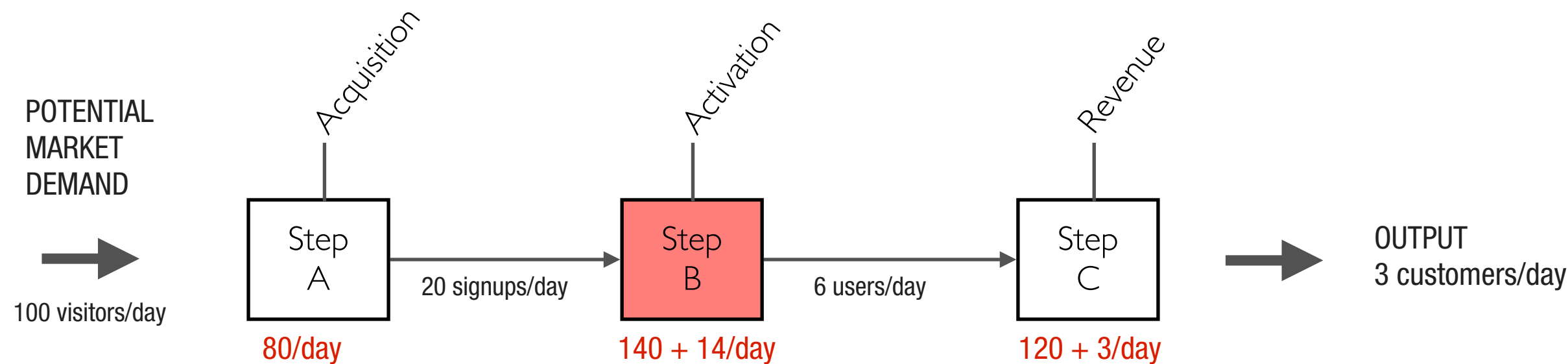
Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time to Conversion:	5 minutes	7 days	20 days

02 Uncover **root cause**.

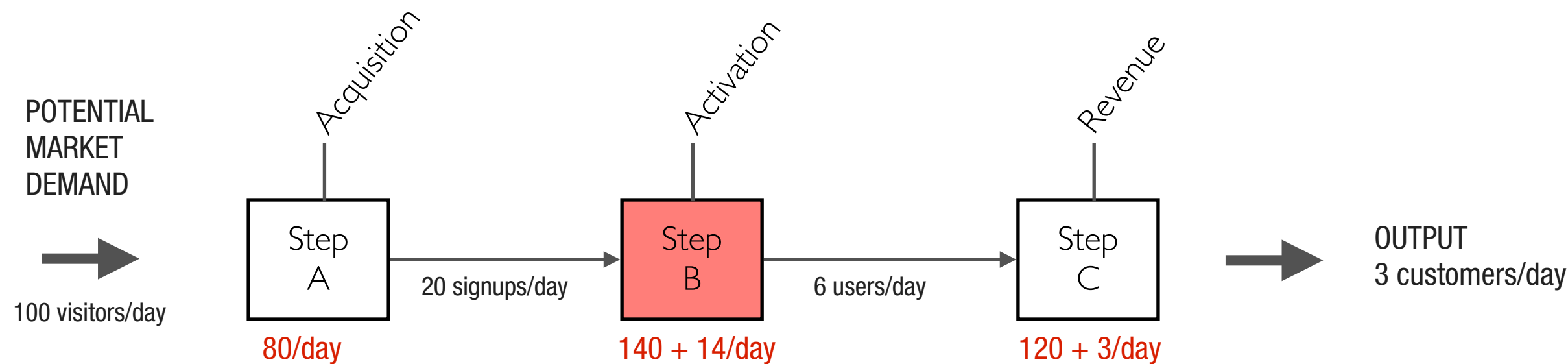
Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time to Conversion:	5 minutes	7 days	20 days

03 Implement **low hanging** fixes first
- e.g. policy changes.

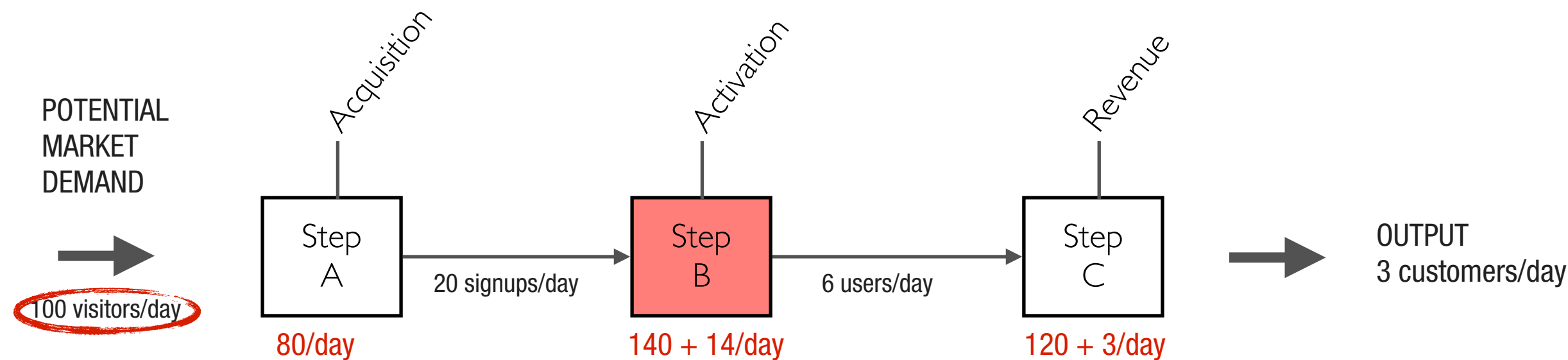
Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time to Conversion:	5 minutes	7 days	20 days

04 **Balance** rest of system to minimize waste.

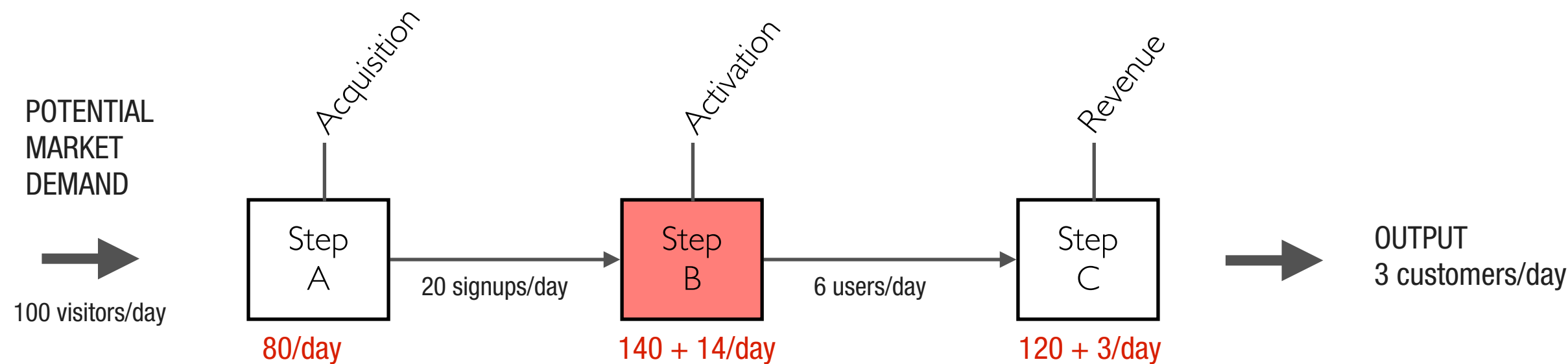
Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time to Conversion:	5 minutes	7 days	20 days

04 **Run** experiments to improve bottleneck efficiency.

Customer Factory Example



Equipment Capacity:	10,000 users/day	1000 users/day	1000 users/day
People Capacity:	N/A	20 users/day	20 users/day
Conversion Rate:	20%	30%	50%
Time to Conversion:	5 minutes	7 days	20 days

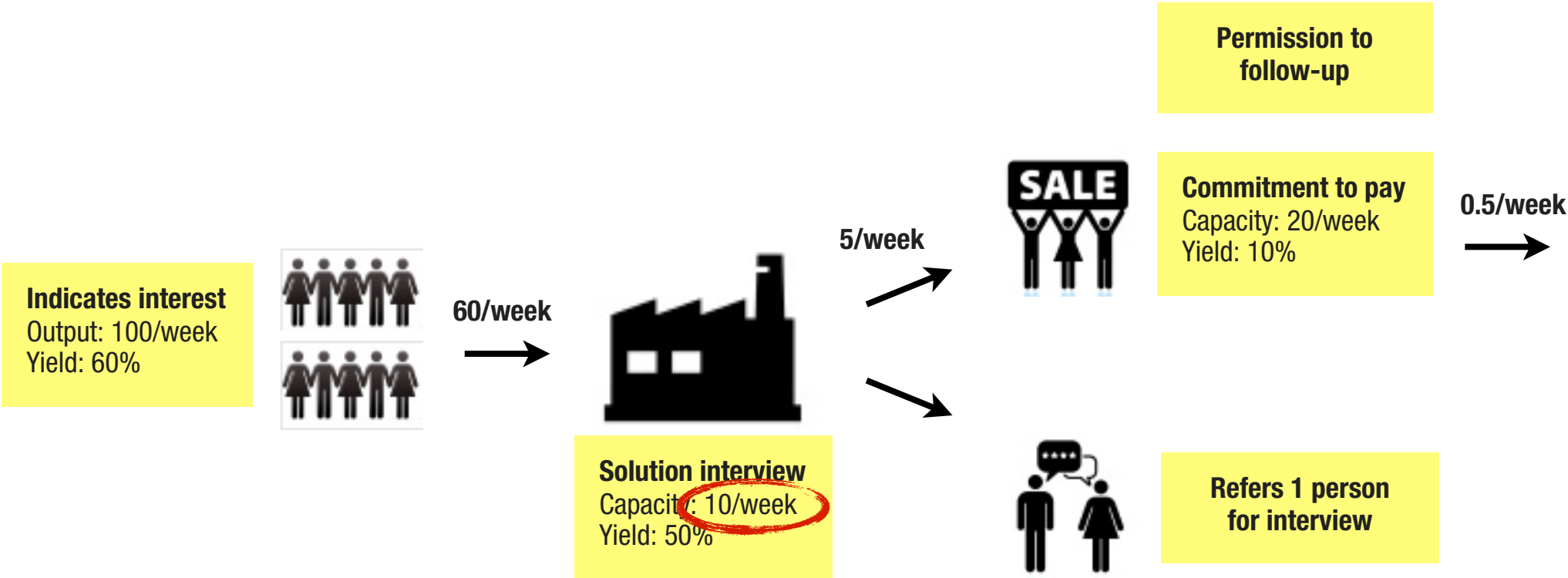
Iterated

How I ~~Wrote~~ My Book

USERCYCLE CASE-STUDY

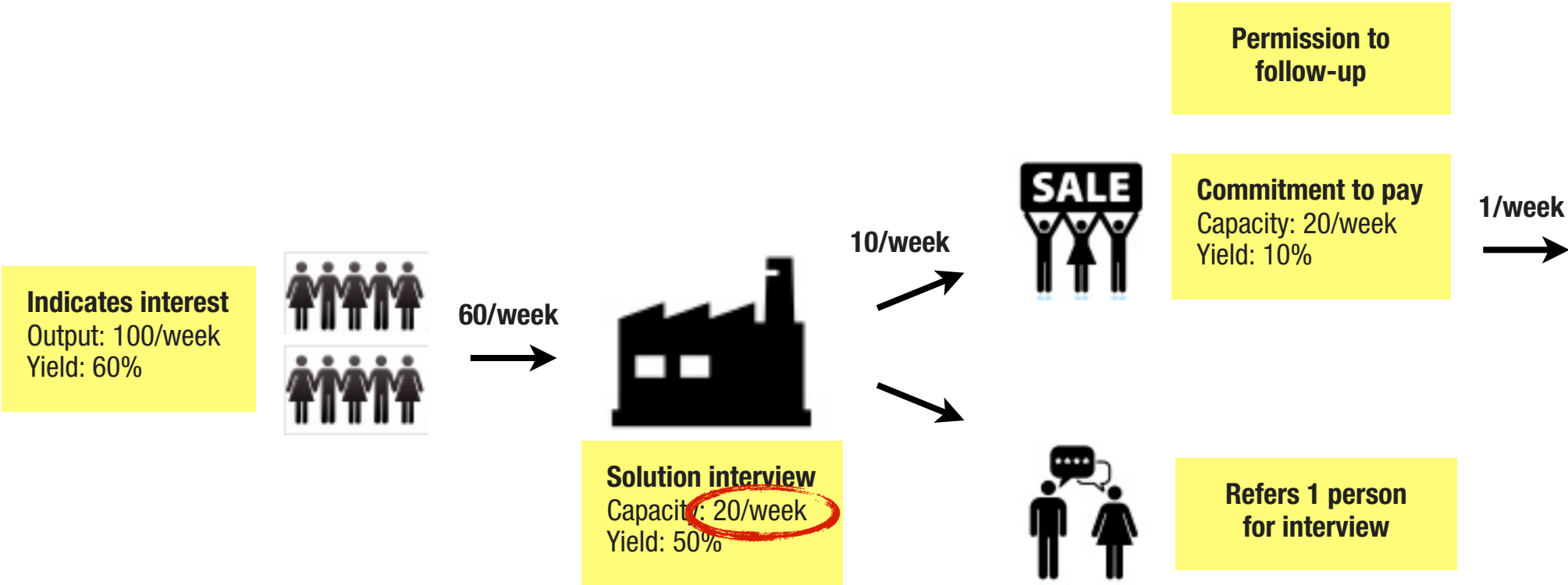


Batch 1



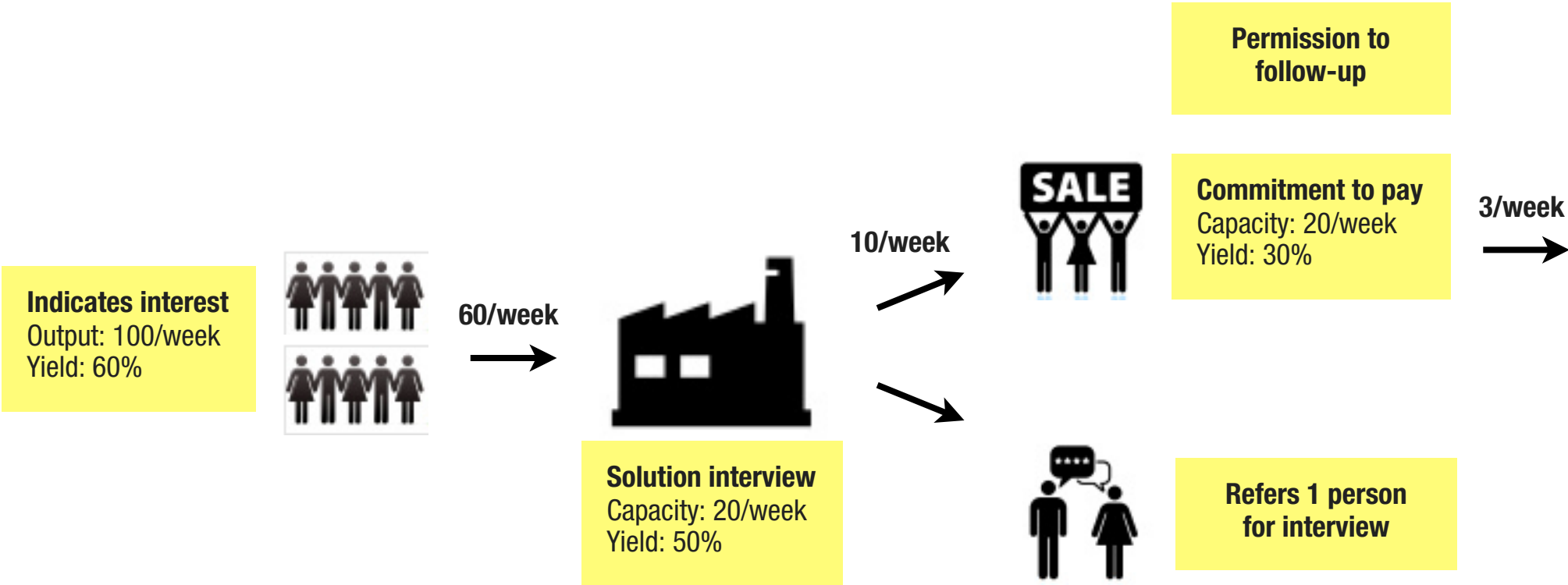
Exploit the **constraint**.

Batch 2



Implement **policy change**.

Batch 3



Balance system load.

Why an Application Process?

We are rolling out USERcycle using a 10X launch model

We've written about the 10X launch model [here](#).

The basic idea is that in order to build the "right" product, we decided it was important to be highly selective with our early customers (early adopters). While we believe USERcycle can service a wide array of products, trying to tackle them all at once would be a mistake.

Who is an ideal early customer?

An ideal early customer is someone building a **SaaS-like product** (trial based or freemium) with some **early traction** (over 10 sign-ups a day).

We decided to start with SaaS because it's a much simpler business model to tackle. It has a timeboxed funnel and a clear goal: to convert users into paying customers. We have also spent a decade building these kinds of products and understand them really well.

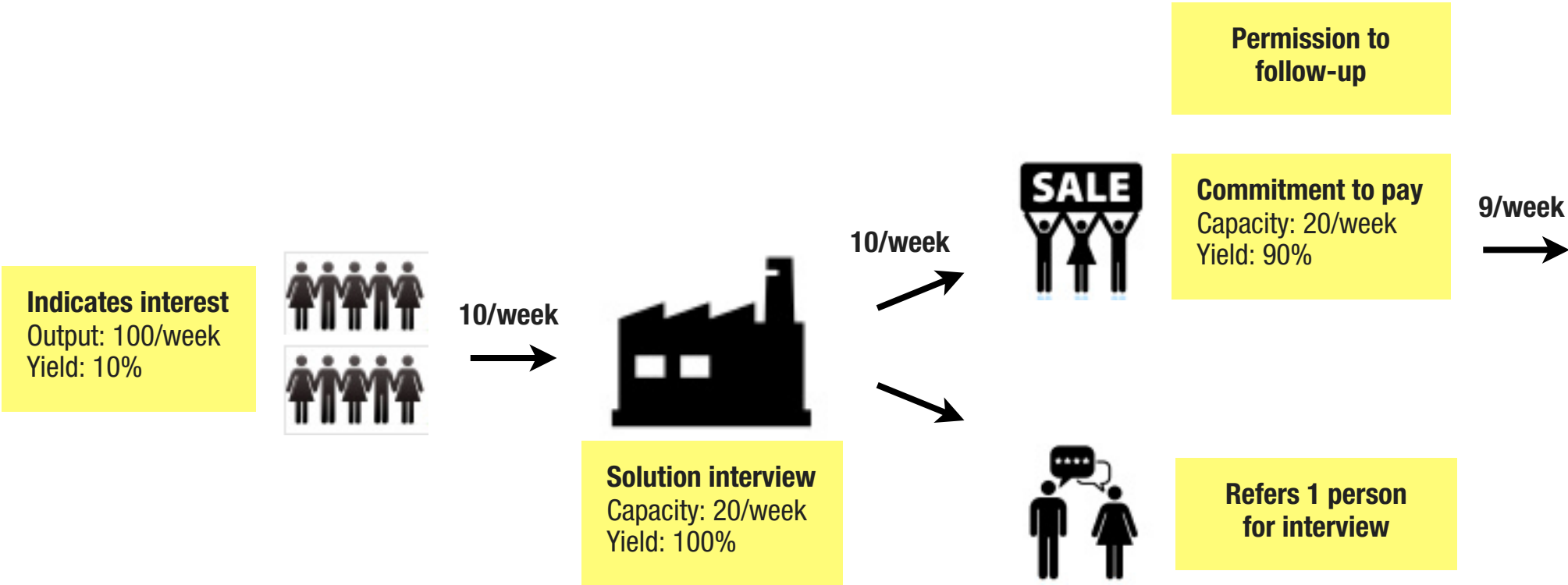
The early traction requirement is needed to ensure fast learning for both of us. USERcycle relies heavily on cohorts and experiments both of which require steady daily traffic to drive optimal learning and results.

How much does USERcycle cost?

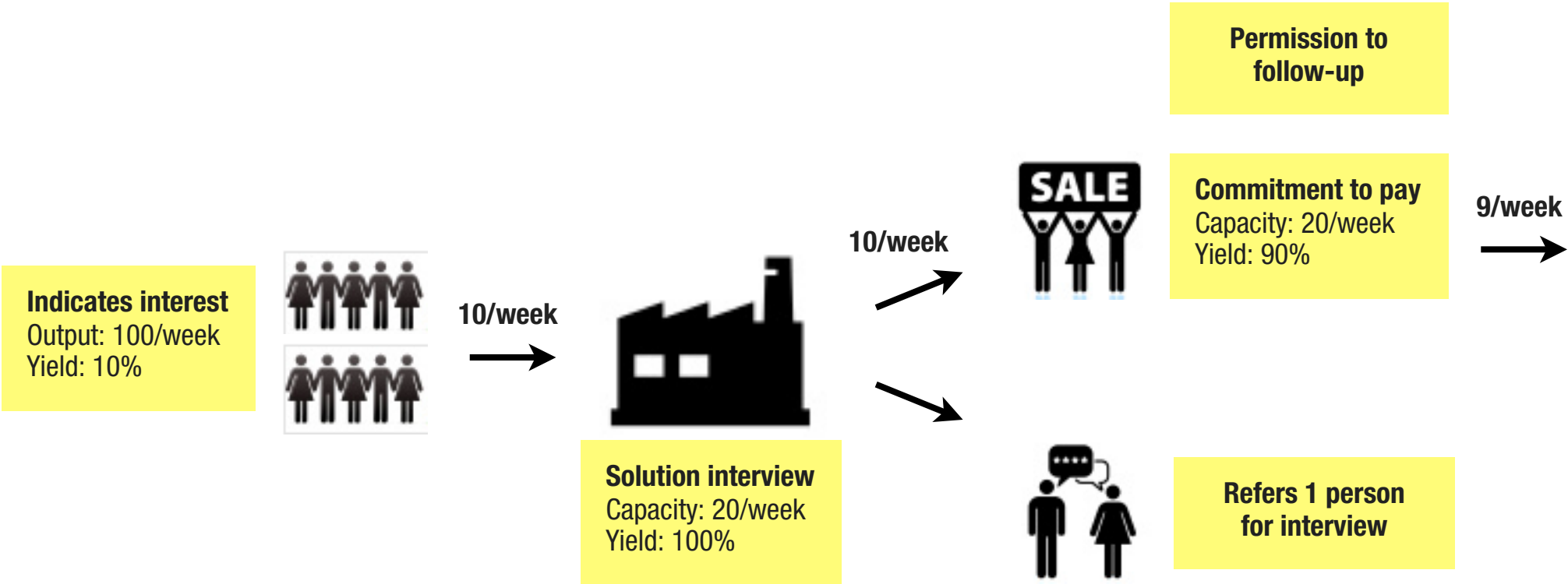
USERcycle is currently offered under a single **\$200/mo** pricing plan with a 14-day trial.

Like you, we don't readily sign-up for \$200/mo plans. In this case though, we strongly believe we

Batch 4

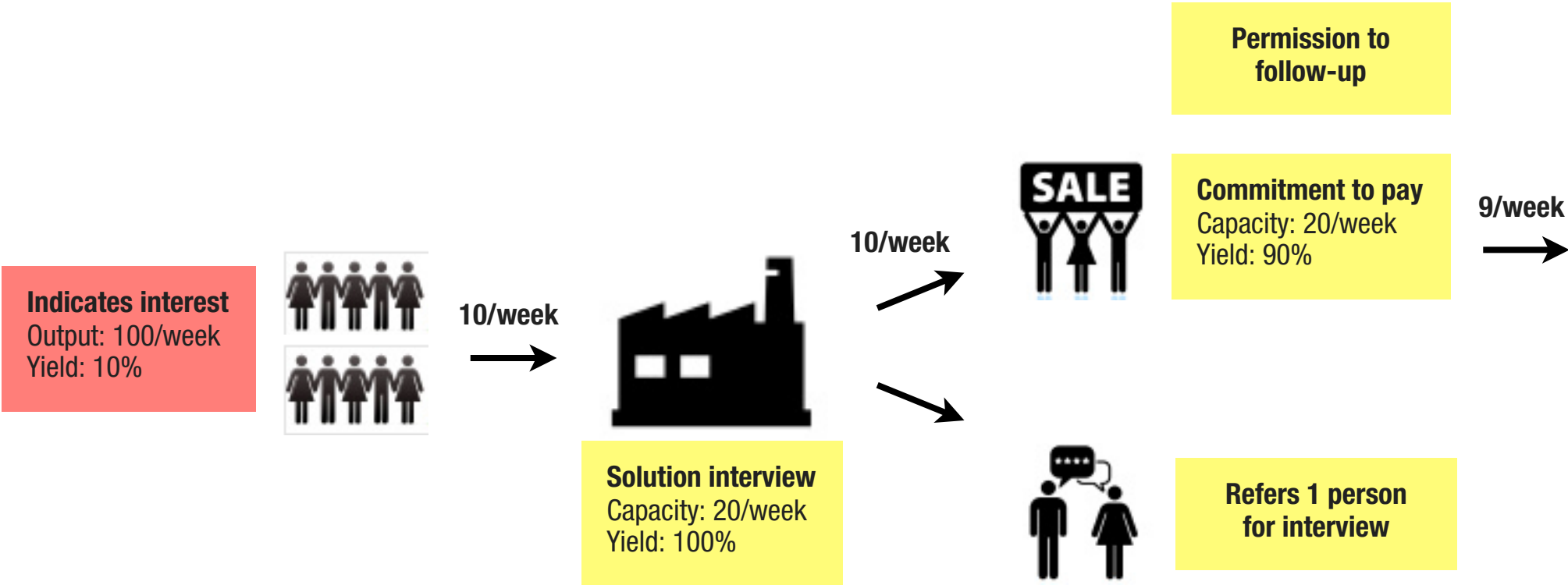


Batch 4



Where's the **constraint** now?

Batch 4



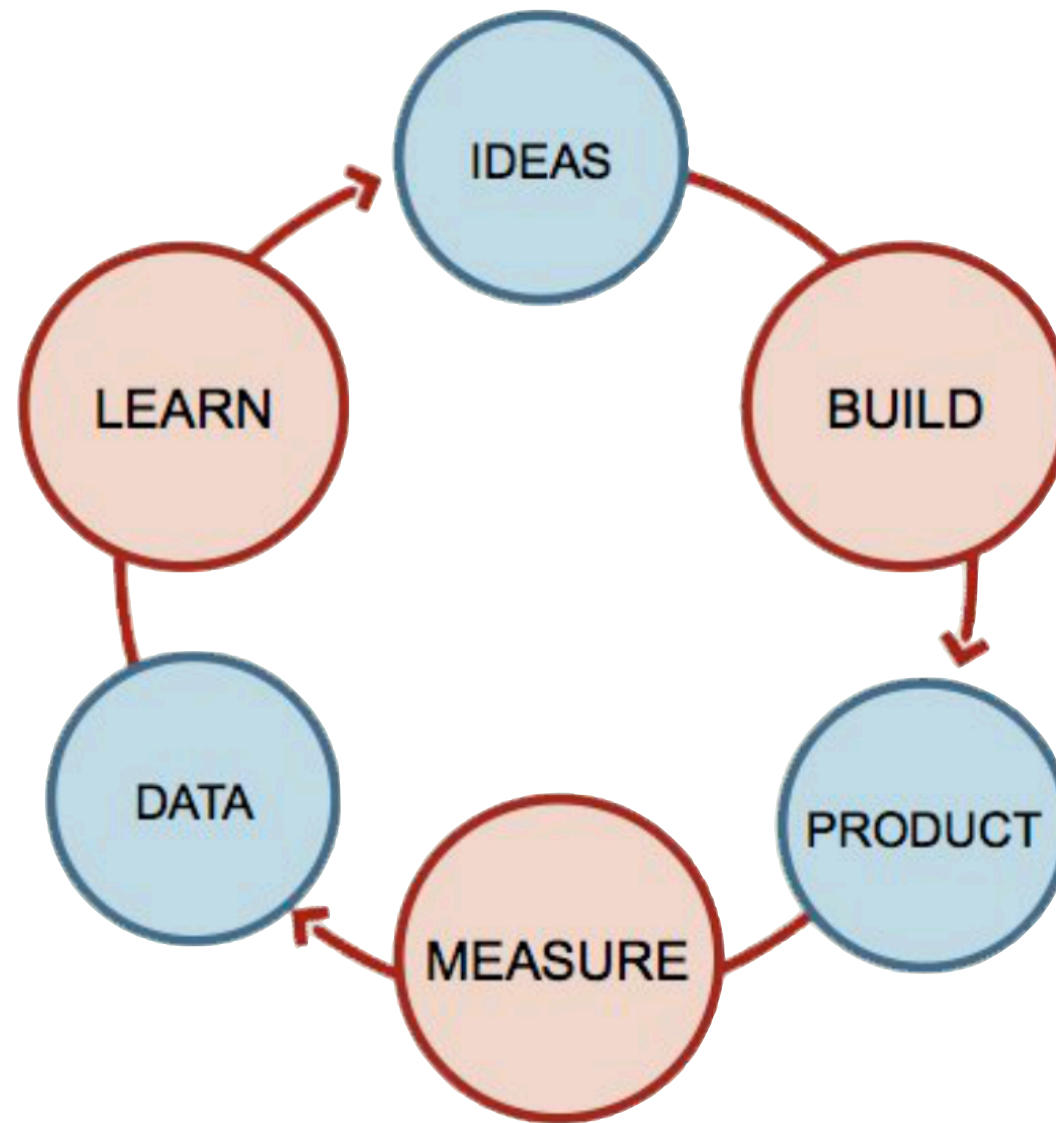
Where's the **constraint** now?

EXERCISE 3

BREAK YOUR CONSTRAINT

Experiment like a scientist

What is an Experiment?



01 Experiments aren't standalone but **additive**.

02 Expected outcomes need to be **declared upfront.**

“If you simply plan on **seeing** what happens, you will always **succeed** at seeing what happens.”

- Eric Ries, *The Lean Startup*

Reasonably smart people can rationalize anything but entrepreneurs are **especially gifted** at this.

1. They hate to be proven **wrong**.

1. They hate to be proven **wrong**.

2. They don't have **enough** information to make these predictions.

03 Expected outcomes need to be **falsifiable**.

Too Vague:

Being known as an “expert” will drive early adopters

Too Vague:

Being known as an “expert” will drive early adopters

Specific and Testable:

Blog post will drive >100 early sign-ups

Falsifiable Hypothesis

Specific Repeatable Action will Expected Measurable Outcome

e.g. **Blog post will drive >100 early sign-ups**

04 Experiments need to be **time-boxed**.

05 Breakthrough insights are usually **hidden** within **failed** experiments.

A pivot not grounded in learning is a disguised “see what sticks” strategy.



“There is no such thing as a failed experiment- **only unexpected outcomes.**”

- Buckminster Fuller

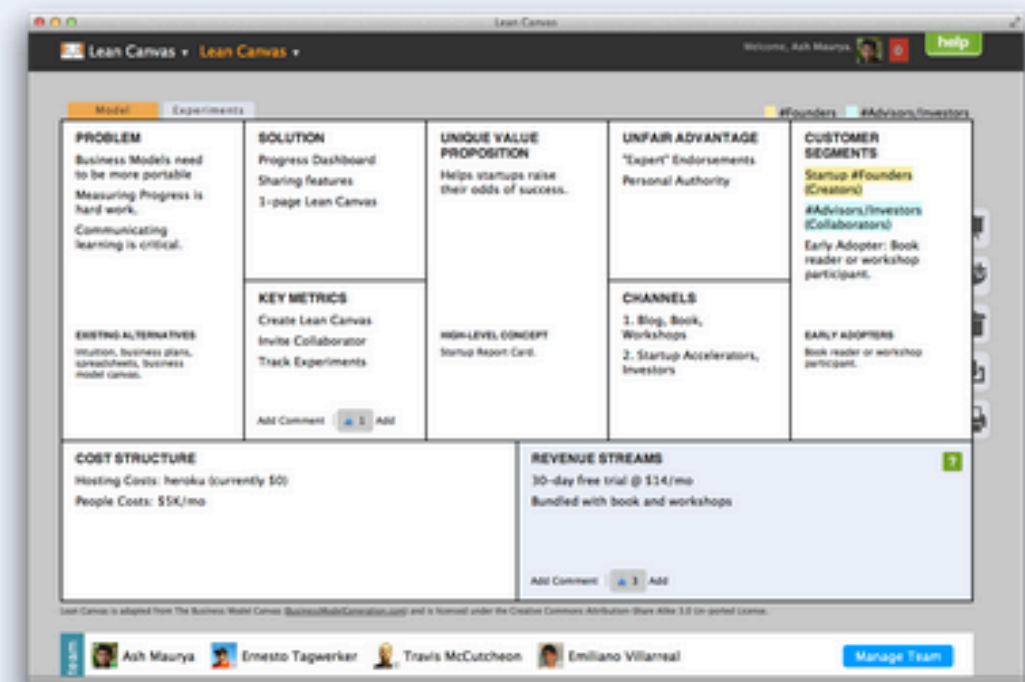
Lean Canvas - Your Startup Blueprint

Join thousands of startups, universities, and accelerators who have discovered Lean Canvas - the faster, more effective way to communicate your business model with internal and external stakeholders.

Business plans take too long to write, are seldom updated, and almost never read by others but documenting your hypotheses is key.

Lean Canvas solves this problem using a 1-page business model. Sign up now to create a business model that will be read by more people, be more easily updated, and let you focus on building your business - faster.

Create your first canvas



Metrics Dashboard

Monthly ▾

Acquisition

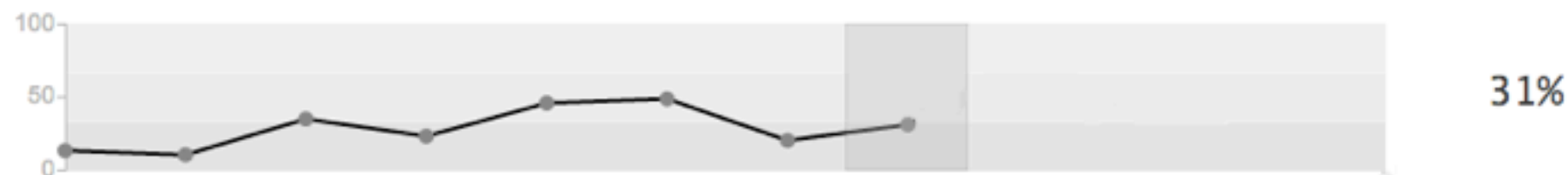
1852
people

Activation



35%

7 day retention % ▾



31%

Referred



23%

Revenue



1%

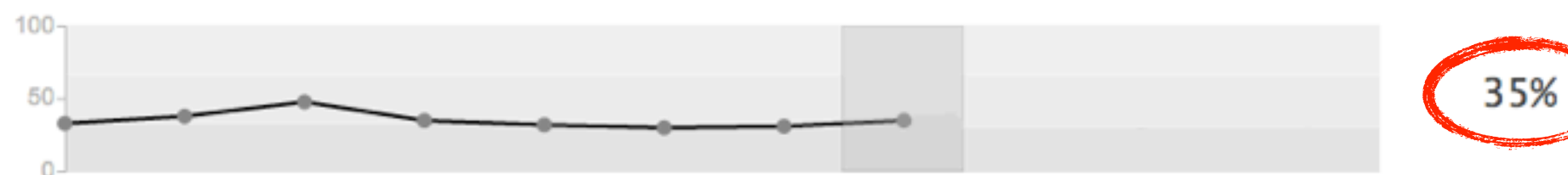
Metrics Dashboard

Monthly ▾

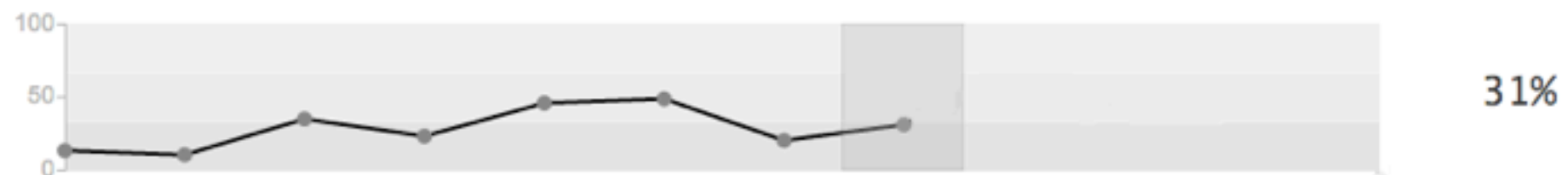
Acquisition



Activation



7 day retention % ▾

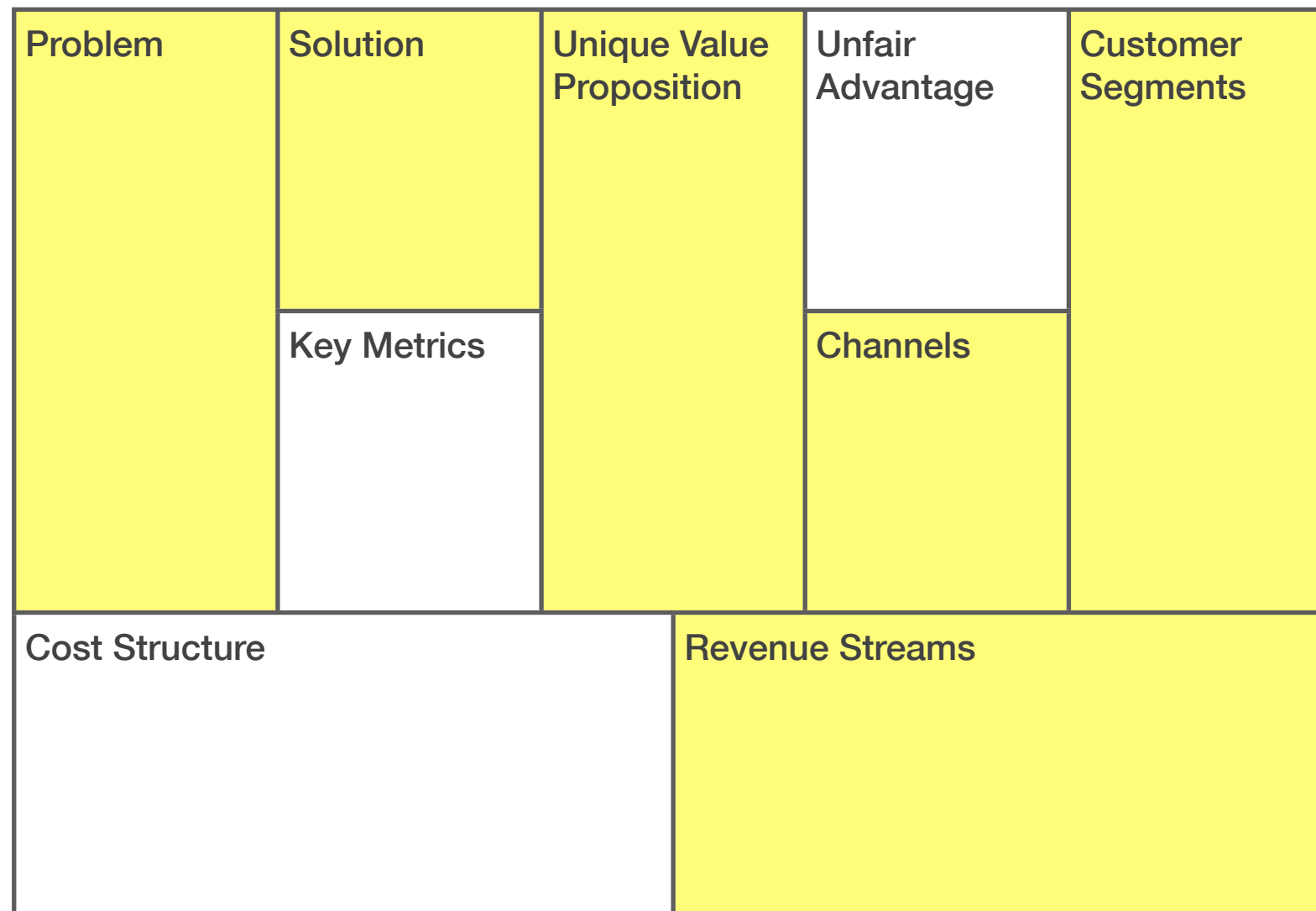


Referred



Revenue



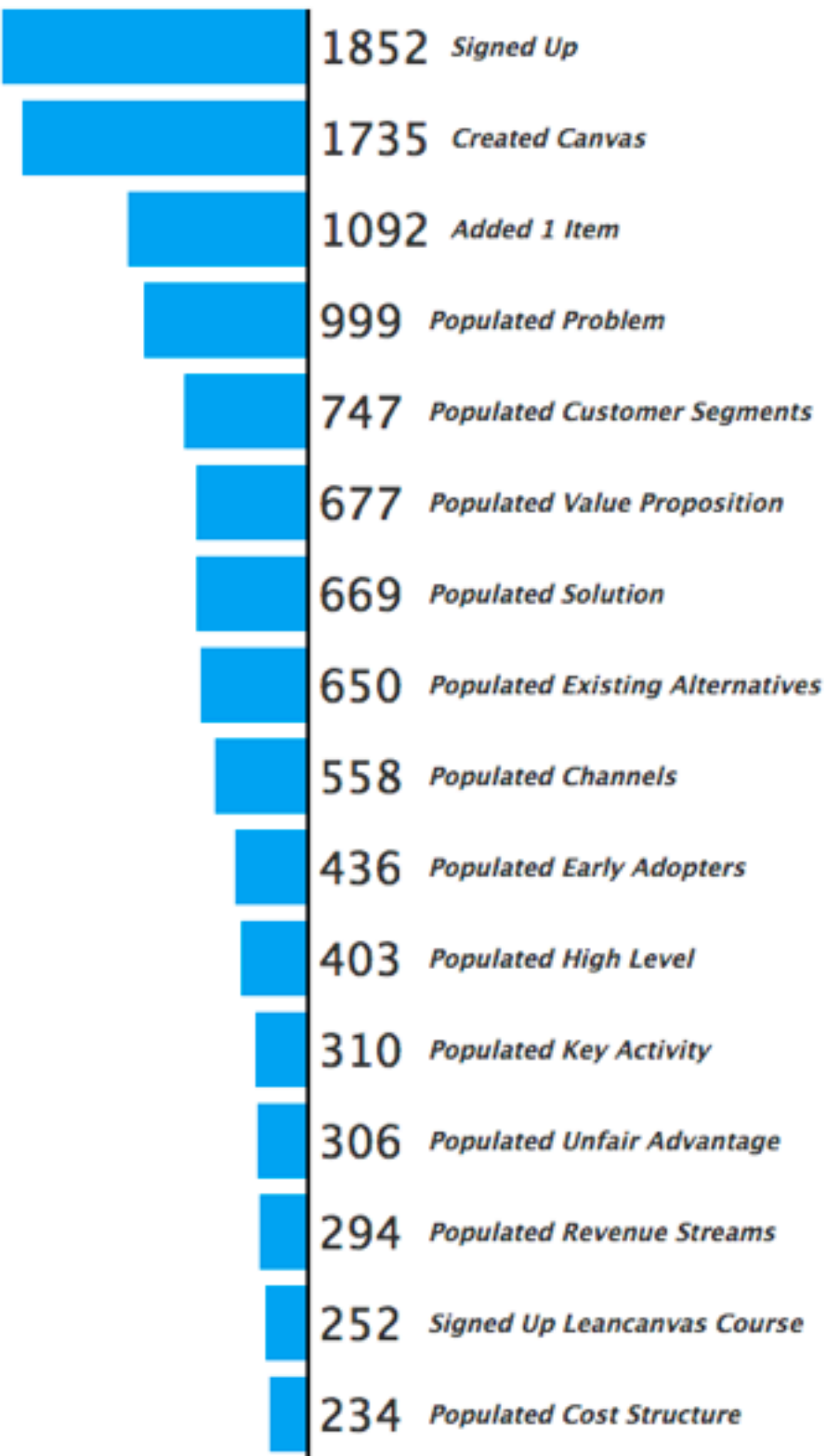


Activation = Complete 6 out of 9 boxes

Metrics Dashboard

Activation

Jul 2012 | Signed Up → Activated



*“You can A/B test your way to **better**, but it’s hard to A/B test your way to **awesome**.”*

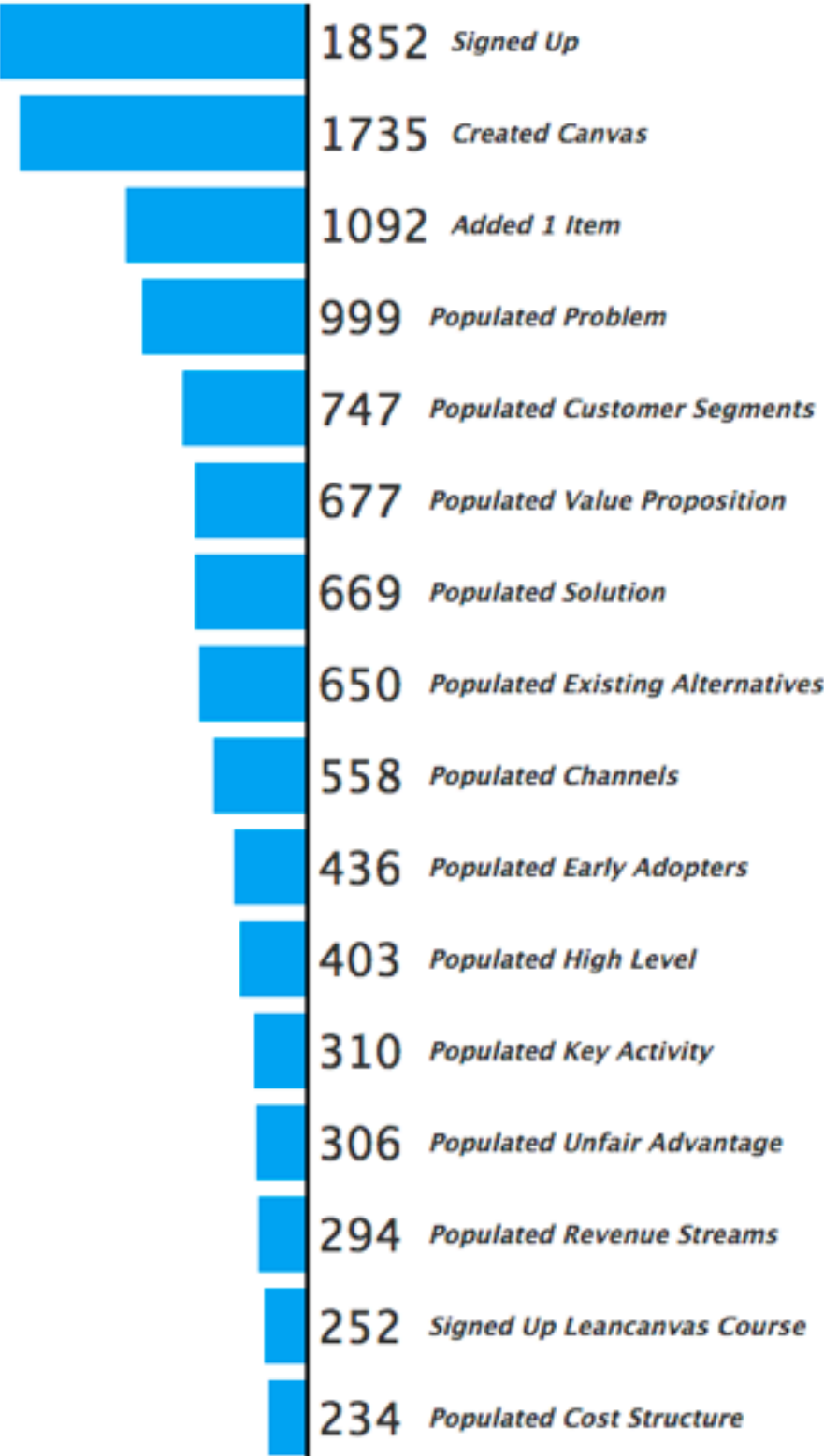
-Dharmesh Shah

06 Metrics can tell you what's going wrong
but not why.

Metrics Dashboard

Activation

Jul 2012 | Signed Up → Activated



652 Activated

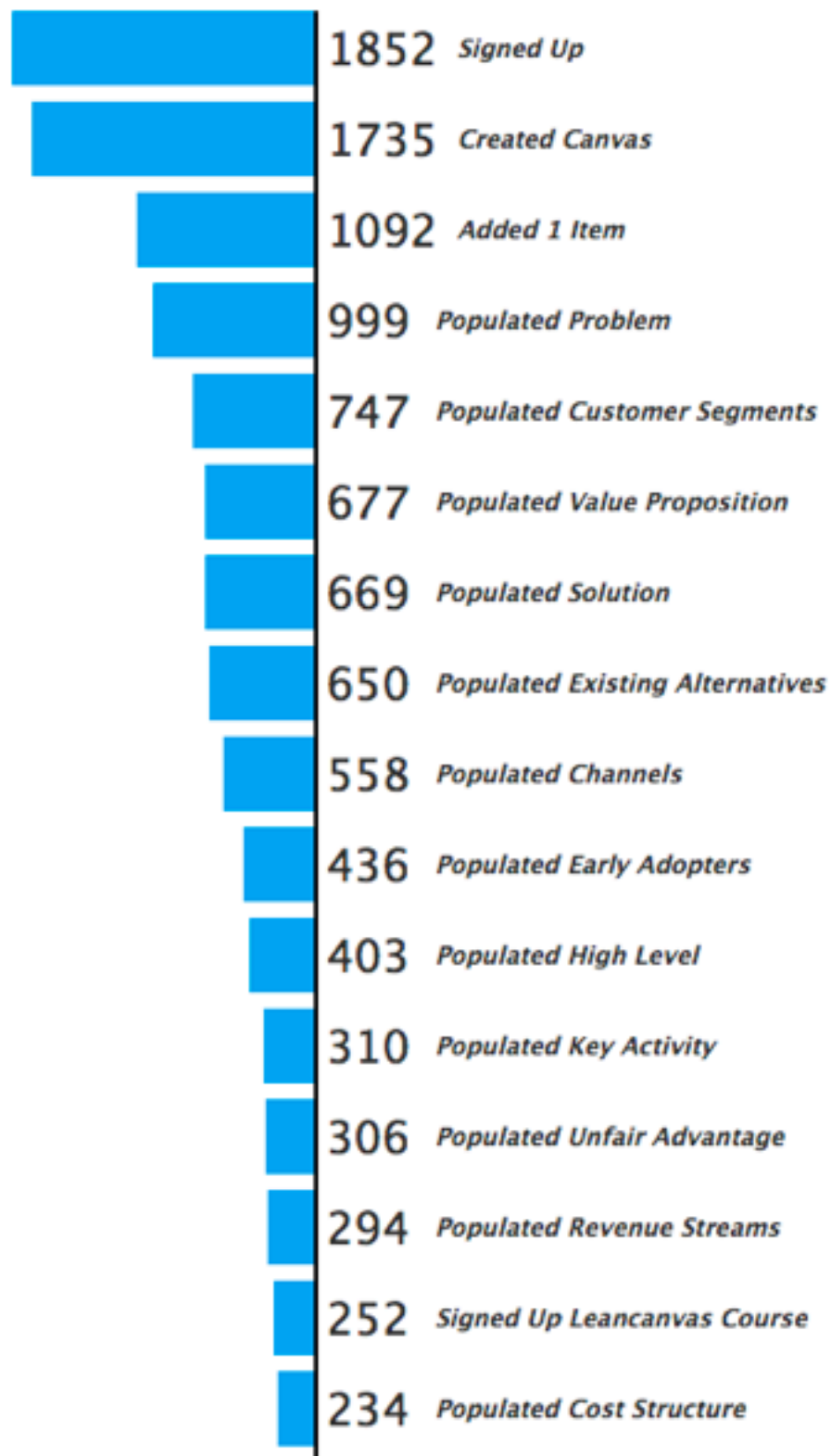
Show Dropped Users

	Stephan Gieffers	76.9 days
	Tommi Kaikkonen	66.7 days
	Adam Meehan	20 hours
	ShinyaTakimoto ShinyaTakimoto	28.7 days
	Hal Seki	13.7 days
	Harry Arbasa	23.2 days
	Gilmar Oliveira	95.2 days
	mrblogfr mrblogfr	5.1 days
	Abhi Jayakumar	94.1 days
	Mikko Mäntylä	42 min
	David Tomasula	12.9 days
	Singlebrook Technology	18 hours
	Alex Lau	32 min
	mark vanderland	2.2 days
	Remigijus Staniulis	35.1 days
	Dan Weeks	4.5 days
	Søren Pommer	2 hours
	Gerry Kirk	3.9 days
	Luis Guzman	1.3 days

Metrics Dashboard

Activation

Jul 2012 | Signed Up → Activated



1200 Haven't Activated

Show Successful Users

- kevin Cassidy
- Darryl Palmer
- neo neo
- kazuyuki nakahara
- Lee Wright
- Ignacio Babé
- r r
- Jérémie Pottier
- charlie letts
- jay park
- John Cave
- Michael Martinez
- omri liba
- jb felten
- Natalia Natalia
- Mohsin Mohsin
- Ricardo Seixas
- Thom Feroah
- clavir clavir

07 Build a **continuous feedback loop** with customers for **rapid** hypothesis generation.

Email Campaigns

Event-triggered Emails

SUBJECT LINE

[Congratulations on completing](#)

[Welcome to LeanCanvas](#)

+

Conditional Emails

SUBJECT LINE

[\[LeanCanvas\] Checking in...](#)

+

Edit Conditional Email



Send an email if user has not

within of having

From

Subject

Hi {first_name},

You signed up for Lean Canvas, but something kept you from completing your first canvas.

What was it? And is there anything I can do to help?

Ash

Author, Running Lean and Founder, Spark59

[Guide on {variable} usage](#)

[Save & Activate Campaign](#)

Close

1. Too busy.
2. Need more information.
3. Just kicking tires.

1. Too busy.

2. Need more information.

3. Just kicking tires.



Grab Our Free 7-Day Lean Canvas Course

What you'll learn:

How to quickly capture your core business model assumptions.

How to systematically refine your business model.

How to effectively communicate your business model to internal and external stakeholders.

Jumpstart your business model

The Lean Canvas Course is a series of video lessons delivered daily to your email inbox.

[Sign Me Up](#) or [I'm not interested](#)

Lean Canvas Course - Day 1



**LEAN CANVAS
COURSE - DAY 1**

Hashtag: #runninglean

ASH MAURYA
@ashmaurya
ashmaurya.com
spark59.com

 [Leave a comment](#)

 [Expand](#)

Results?

Experiments

7-Day Course A/B test (A/B Test)

Test activation after 7-day course

Option A:	false	4745 participants	1500 converted	31.6% (5% better than option B) showing
Option B:	true	4727 participants	1419 converted	30.0% show

There are 9472 participants in this experiment. The best choice is option A: it converted at 31.6% (5% better than option B). With 95% probability this result is statistically significant. Option B converted at 30.0%. Option A selected as the best alternative.

No significant impact.

Except...

Lean Canvas Course - Day 1

LEAN CANVAS COURSE - DAY 1

Hashtag: #runninglean

ASH MAURYA
@ashmaurya
ashmaurya.com
spark59.com



[Leave a comment](#)[Expand](#)

Marcel Valdez
3 months ago

Great video, but I would be even better if the exercises were somehow linked to the book. For example: Using the guides of chapter X to X, answer Question 1.

[Reply](#)

Ash
3 months ago

Marcel - Great point. Although, as much as I'd like everyone to have a copy of the book :-), I have to assume these videos might be viewed stand-alone.

In subsequent videos, I'll also be presenting newer content that goes beyond the book.

Cheers.

[Reply](#)

Misha Chellam
3 months ago

I enjoyed this first video a lot and am looking forward to the next few days of the course!

[Reply](#)

 [Reply](#)

Andreas Hager

3 months ago

Thanks, and compliments from Sweden on providing something I need in an accessible way. Looking forward to the next few days.

 [Reply](#)

Ted S

3 months ago

Did the brain dump, but i still think my idea is awesome. What am I doing wrong?

 [Reply](#)

Ash

3 months ago

Ted: Is the idea awesome, or the business model? If you think the business model works well on paper already, then move to identifying risks (what could derail the business model if it were to be disproved) and then running experiments to test them.

 [Reply](#)

Alan

3 months ago

Thank for the talk !!!

 [Reply](#)

Steven

2 months ago

Excellent presentation - direct and simple. How would the consulting service model differ if it differs at all.

 [Reply](#)

Santhosh KG

about 1 month ago

Great Presentation !! Valuable Points

 [Reply](#)

Anonymous

about 1 month ago

Thank you, it was very good. Your english is very clear, but I would like to see subtitles.

Ash Maurya

about 1 month ago

Thx - we'll be adding transcription/sub-titles in soon.

 [Reply](#)

Michael Lins
about 1 month ago

 [08:18:29](#)

I think I will get there with these help you made available.
May Jesus have you in your days, pal.
Thanks. Really.

 [Reply](#)

joelca
about 1 month ago

Great content, I am mentoring Startups in Wayra Mexico and will be great to localize/translate your content in Spanish. Any plans?

 [Reply](#)

Andros
about 1 month ago

Hello, which are the origin of this modified canvas?

 [Reply](#)

Garth
about 1 month ago

So far so great :) My free time comes in packets, so I would also appreciate the links if they are available. Thank you.

 [Reply](#)

Norman Mundell
26 days ago

Wow, great video - thanks!

 [Reply](#)

John
25 days ago

Ash, I have just watched the first video and had a very personal connection with the Entrepreneurial references... Being "Awesome solution focused" so very true as well the disortion references. It's as if you have to set up a reality infrastructure around yourself that understands not to stifle you but also provide you reality checks with hard metrics

 [Reply](#)

Jason
24 days ago

Ash, that was great. Thank you. I am already 6 months through my startup and this has helped incredibly with the positioning of the business model to different parties.

 [Reply](#)

Yolounitedstatas@gmail.com
18 days ago

I agree with the thread above. It would be nice to have a link to start this exercise with the video. Great information on the video as a good start. I said yes to all of these and even more excited now and I was before.

to answer them, but it would be better if it all was centralized with the leancanvas. The canvas "comments" area doesn't work to well for this.

 [Reply](#)

Torra

11 days ago

 [01:08:47](#)

This vid was straight to the point and honest and so true!

 [Reply](#)

Cornnelius Nasan

11 days ago

Awesome Value!

 [Reply](#)

Richard Marquez

4 days ago

Very good introduction to a great concept.

 [Reply](#)

Dan Neff

3 days ago

Great overview-- concise and a low jargon factor.

 [Reply](#)

Vasu

3 days ago

Very clear and concise. Helps enterprises build products as well

 [Reply](#)

Barry Levinson

1 day ago

Excellent information. I wish I had had this 10 years ago!

 [Reply](#)

Your comment

Your name

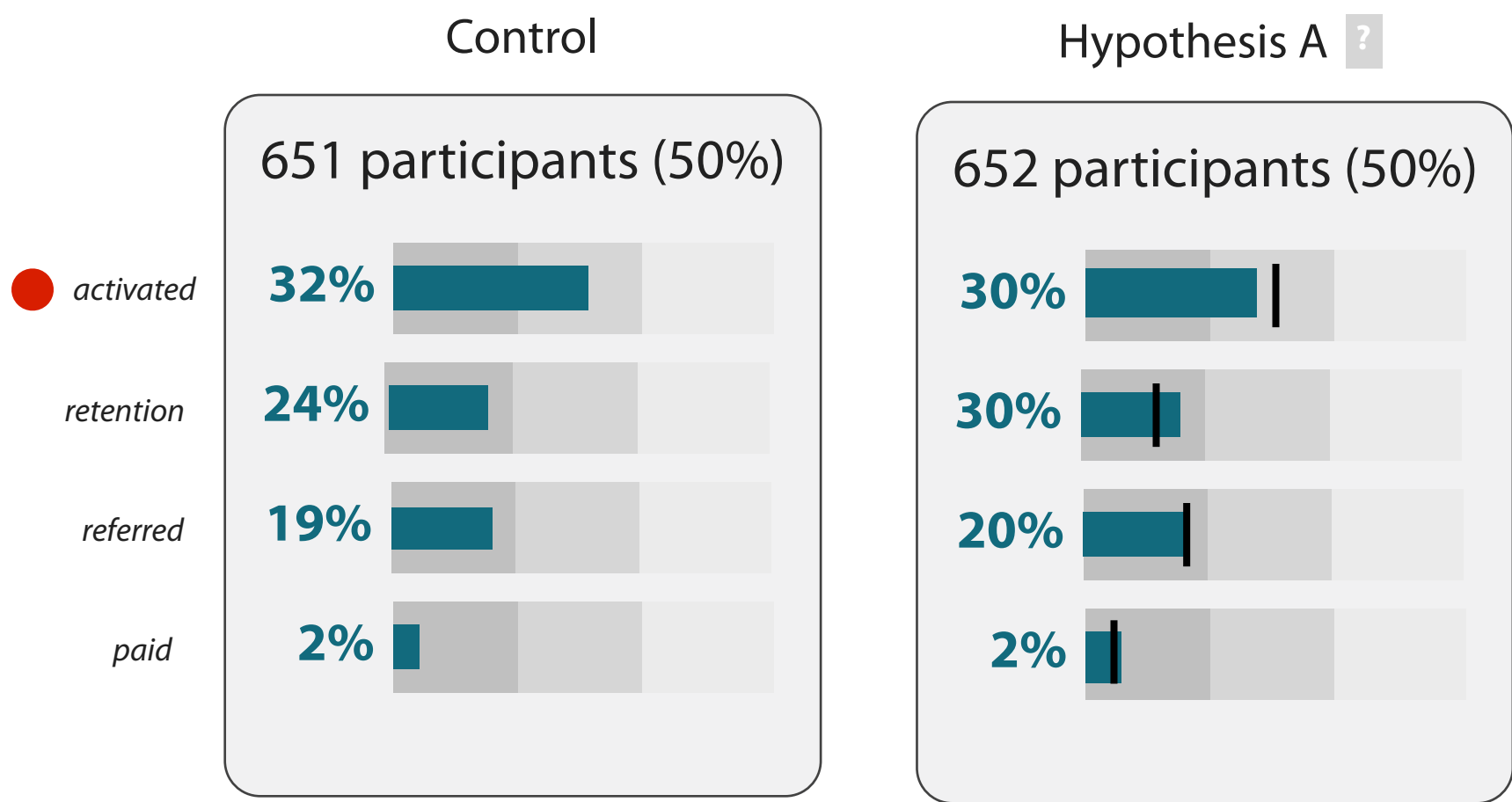
Your message

08 Focus on a single key metric,
but always monitor the full customer lifecycle.

7-Day Course (A/B Test)

300 Participants have run this experiment.

Time Range: July 9, 2012 - July 13, 2012



More data is needed to determine a winner.
Hypothesis A is currently winning with a **44%** improvement and a **80%** chance to beat the baseline.

Lifecycle Messaging

Day 1

Welcome + Week 1 Challenge

Day 3

Educational Content #1

Day 5

Educational Content #2



Lifecycle Messaging

Day 1

Welcome + Week 1 Challenge

Day 3

Educational Content #1

Day 5

Educational Content #2

Day 9

Check-in + Week 2 Challenge

What happened #1

Help content

Offer help

Day 14

Educational Content #3

Day 20

Educational Content #4

Day 24

Check-in + Week 4 challenge
+ soft sell

What happened #2

Help content

Offer help

Day 29

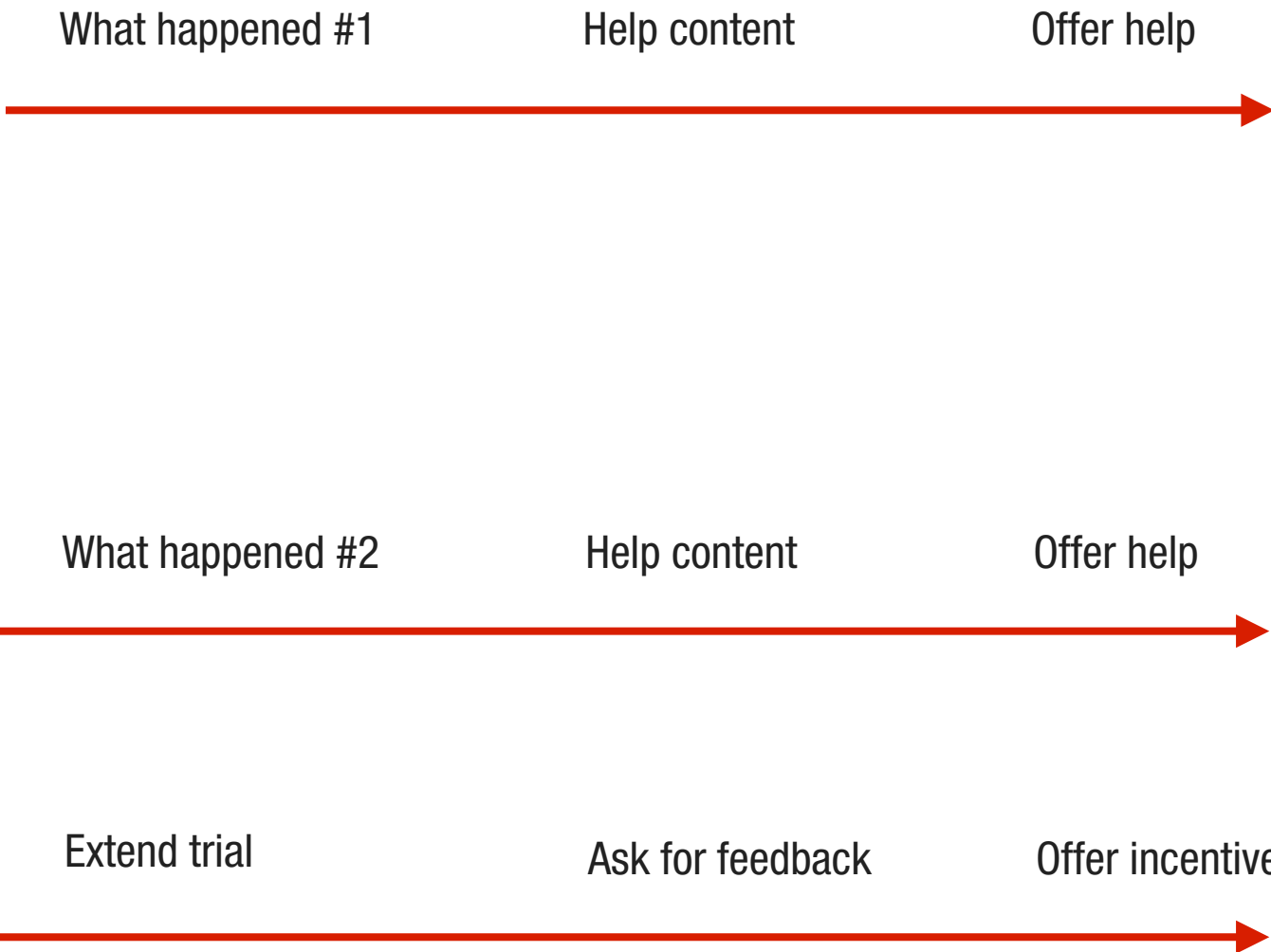
Offer Bonus

Extend trial

Ask for feedback

Offer incentive

...



TPS reports

*“The mistake other people make is that they **simply copy** our tools and process and expect similar results.”*

- Jeffrey Liker, The Toyota Way

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



>80%
close rate

8 weeks

S

\$1M/yr

S



200
Cust/yr

S

\$10M/yr

S



2,000
Cust/yr

3 years from PMFIT

Build

Measure

Learn



Build

Measure

Learn



Build

Measure

Learn



EXPERIMENT REPORT

Title: [TITLE]

Author: [NAME]

Created: [DATE]

Background

What are you trying to learn or achieve?

Falsifiable Hypotheses

Declare your expected outcome.

Use this format:
[Specific Repeatable Action] will [Expected Measurable Outcome]

Details

How will you setup this experiment?

Results

Enter your qualitative/quantitative data.

Validated Learning

[VALIDATED or INVALIDATED] 

Summarize your learning from the experiment.

Next Action

What's the next experiment?

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



8 weeks

Success Metrics

\$1M/yr



Success Metrics

\$10M/yr



3 years from PMFIT

Build

Measure

Learn

Build

Measure

Learn

Build

Measure

Learn



Experiment
Title
Falsifiable Hypothesis
Due Date

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



>80%
close rate

8 weeks

Build

Measure

Learn



Experiment
Title
Falsifiable Hypothesis
Due Date

\$1M/yr



200
Cust/yr

Build

Measure

Learn



Success Criteria

\$10M/yr



2,000
Cust/yr

3 years from PMFIT

Build

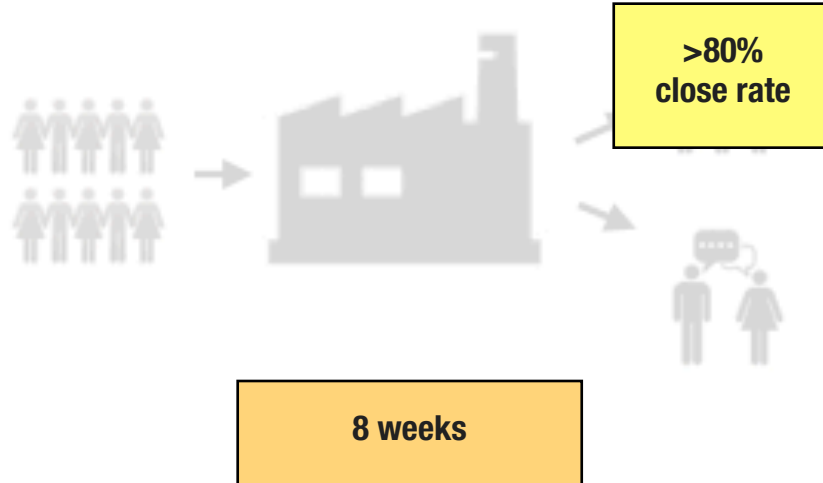
Measure

Learn



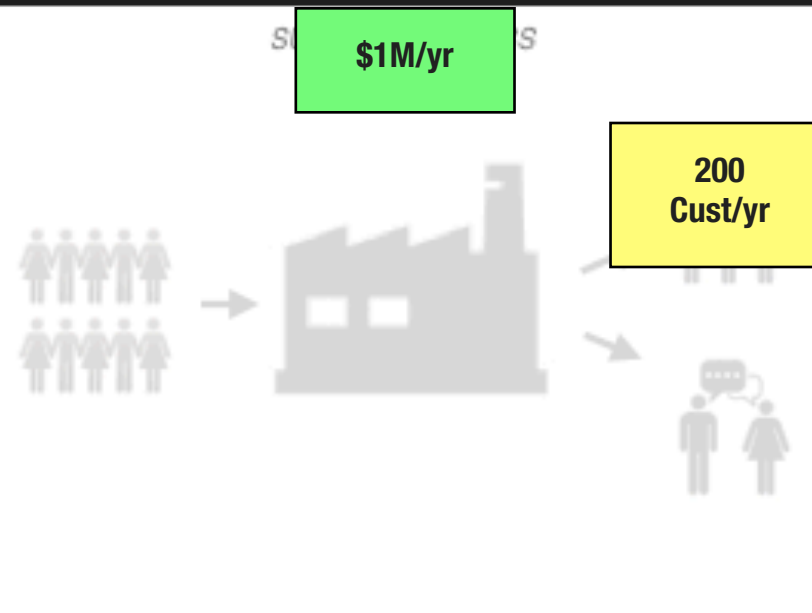
PROBLEM/SOLUTION FIT

SUCCESS METRICS



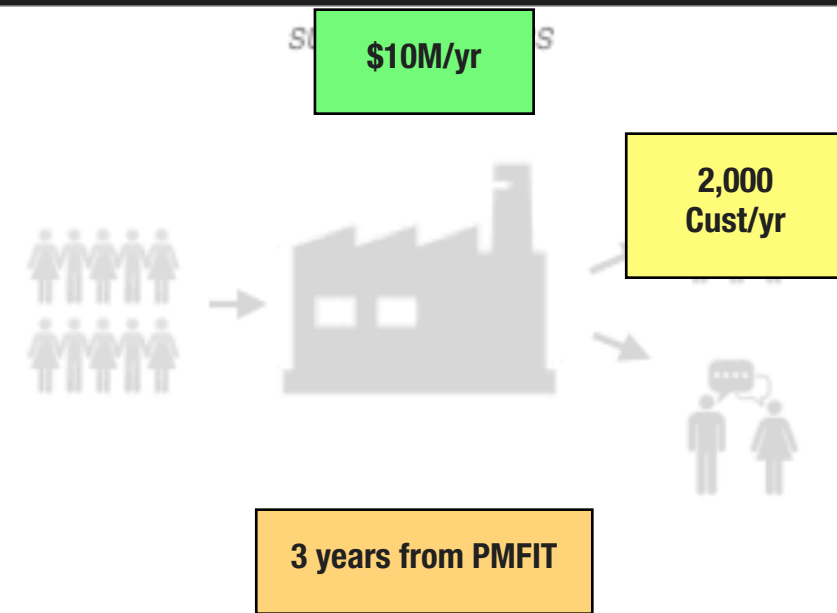
PRODUCT/MARKET FIT

Success Metrics



SCALE

Success Metrics



Build

Measure

Learn

Build

Measure

Learn

Build

Measure

Learn



Experiment

Title

Falsifiable Hypothesis

Due Date

Timebox
(start with no more than 2 week blocks)

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



8 weeks

\$1M/yr



200
Cust/yr

\$10M/yr



2,000
Cust/yr

3 years from PMFIT

Build

Measure

Learn



Setup Experiment

Build

Measure

Learn

Build

Measure

Learn

EXPERIMENT REPORT

Title: [TITLE]

Author:[NAME]

Created[DATE]

Background

What are you trying to learn or achieve?

B

Falsifiable Hypotheses

Declare your expected outcome.

Use this format:
[Specific Repeatable Action] will [Expected Measurable Outcome]

U

I



Details

How will you setup this experiment?

L

D

Results

Enter your qualitative/quantitative data.



Validated Learning



[VALIDATED or INVALIDATED]

Summarize your learning from the experiment.

Next Action

What's the next experiment?

EXPERIMENT REPORT

Title: [TITLE]

Author:[NAME]

Created[DATE]

Background

What are you trying to learn or achieve?

B

Falsifiable Hypotheses

Declare your expected outcome.

Use this format:
[Specific Repeatable Action] will [Expected Measurable Outcome]

U

I



Details

How will you setup this experiment?

L



List tasks here or
use optional task board

D

Results

Enter your qualitative/quantitative data.



Validated Learning



[VALIDATED or INVALIDATED]

Summarize your learning from the experiment.

Next Action

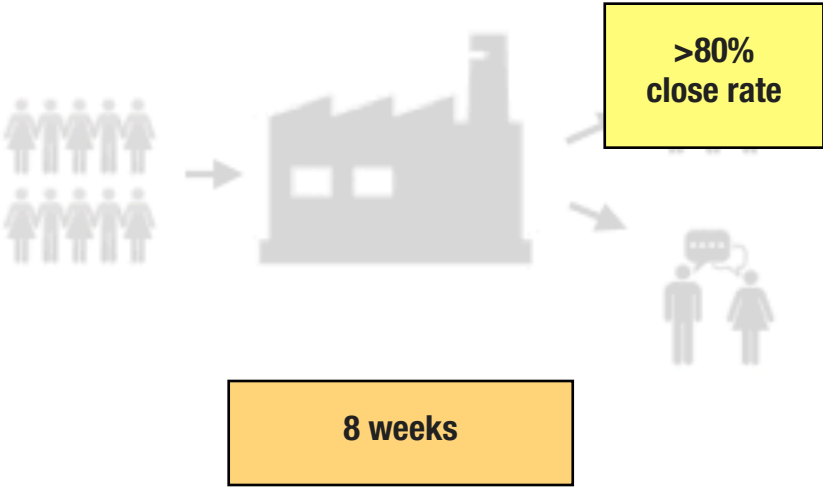
What's the next experiment?

PROBLEM/SOLUTION FIT

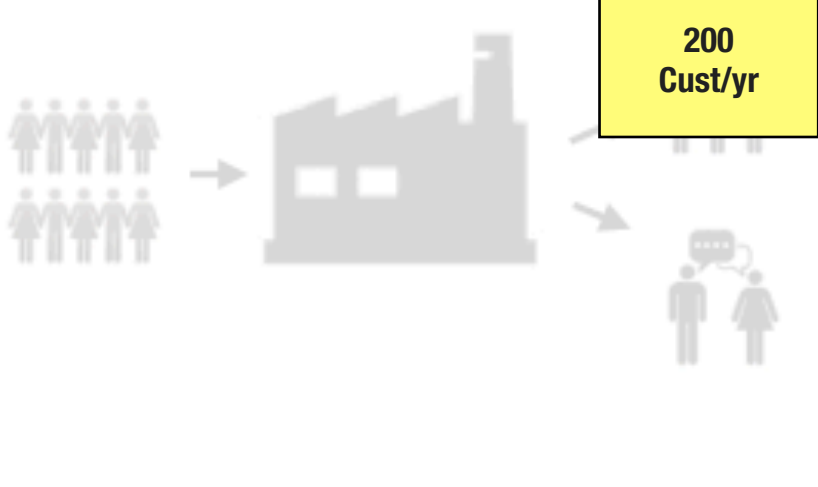
PRODUCT/MARKET FIT

SCALE

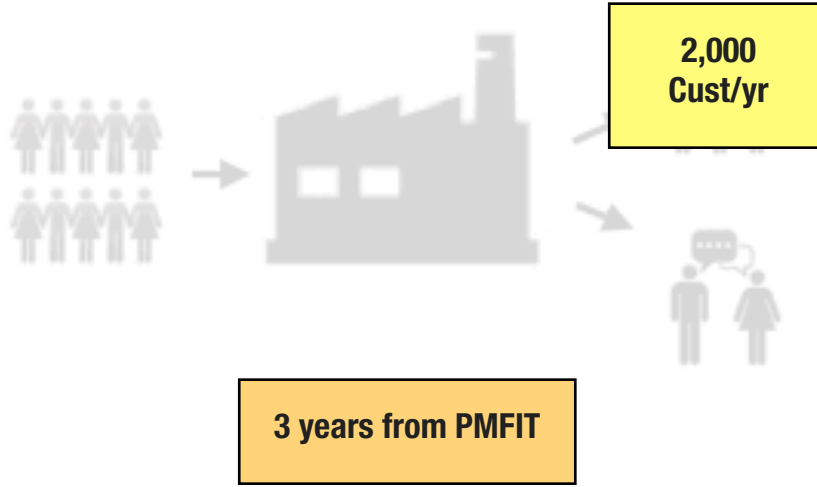
SUCCESS METRICS



Success Metrics



Success Metrics



Build

Measure

Learn

Build

Measure

Learn

Build

Measure

Learn



First customer interaction

EXPERIMENT REPORT

Title: [TITLE]

Author:[NAME]

Created[DATE]

Background

What are you trying to learn or achieve?

B

Falsifiable Hypotheses

Declare your expected outcome.

Use this format:
[Specific Repeatable Action] will [Expected Measurable Outcome]

U

I



Details

How will you setup this experiment?

L

D

Results

Enter your qualitative/quantitative data.



M E A S U R E

Validated Learning



[VALIDATED or INVALIDATED]

Summarize your learning from the experiment.

Next Action

What's the next experiment?

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



8 weeks

\$1M/yr



200
Cust/yr

\$10M/yr



2,000
Cust/yr

3 years from PMFIT

Build

Measure

Learn

Build

Measure

Learn

Build

Measure

Learn



Whichever is sooner:
Achieving falsifiable hypotheses
-or-
running out of time

PROBLEM/SOLUTION FIT

PRODUCT/MARKET FIT

SCALE

SUCCESS METRICS



>80%
close rate

8 weeks

S

\$1M/yr

S



200
Cust/yr

S

\$10M/yr

S



2,000
Cust/yr

3 years from PMFIT

Build

Measure

Learn



2 weeks



Build

Measure

Learn



Build

Measure

Learn



EXPERIMENT REPORT

Title: [TITLE]

Author: [NAME]

Created: [DATE]

Background

What are you trying to learn or achieve?

B

Falsifiable Hypotheses

Declare your expected outcome.

Use this format:

[Specific Repeatable Action] will [Expected Measurable Outcome]

U

I



Details

How will you setup this experiment?

L

D

Results

Enter your qualitative/quantitative data.



M E A S U R E

Validated Learning



[VALIDATED or INVALIDATED]

Summarize your learning from the experiment.

L E A R N

Next Action

What's the next experiment?

EXPERIMENT REPORT

Title: [TITLE]

Author: [NAME]

Created: [DATE]

Background

What are you trying to learn or achieve?

B

Falsifiable Hypotheses

Declare your expected outcome.

Use this format:

[Specific Repeatable Action] will [Expected Measurable Outcome]

U**I**

Details

How will you setup this experiment?

L**D**

Results

Enter your qualitative/quantitative data.

**M E A S U R E**

Validated Learning



Summarize your learning from the experiment.

Validated**L E A R N**

Next

What

What is next risk and
next experiment to run?



EXPERIMENT REPORT

Title: [TITLE]

Author:[NAME]

Created[DATE]

Background

What are you trying to learn or achieve?

B

Falsifiable Hypotheses

Declare your expected outcome.

Use this format:
[Specific Repeatable Action] will [Expected Measurable Outcome]

U

I

Details

How will you setup this experiment?

L

D

Results

Enter your qualitative/quantitative data.



M E A S U R E

Validated Learning



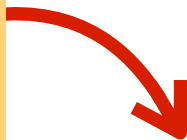
Summarize your learning from the experiment.

Invalidated

L E A R N

Why did the experiment fail?

- 5Whys Root Cause Analysis
- What is the next experiment?



EXERCISE 4

DESIGN YOUR NEXT EXPERIMENT

Communicate Progress

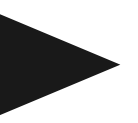
Establish a regular **reporting** cadence.

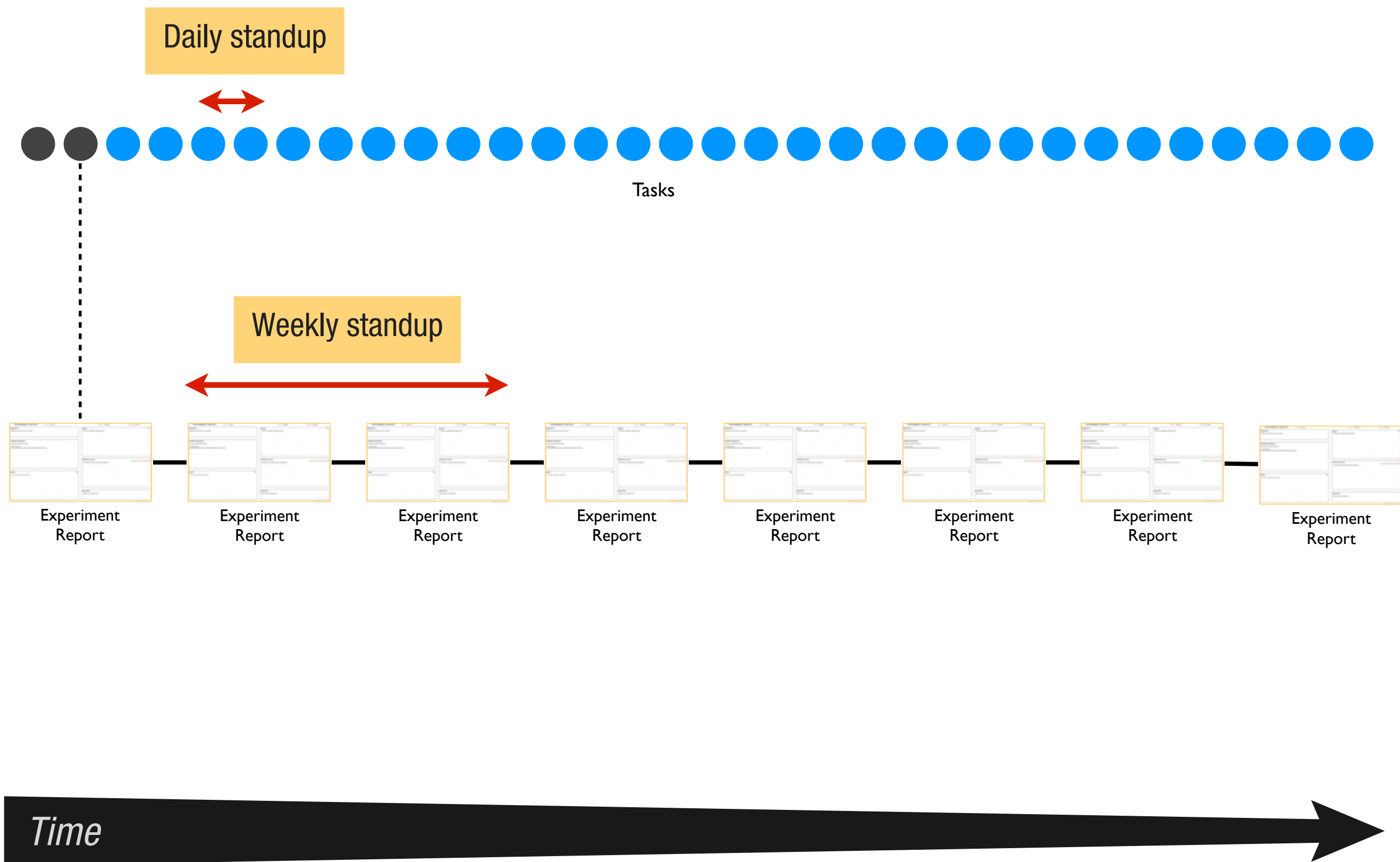
Daily standup

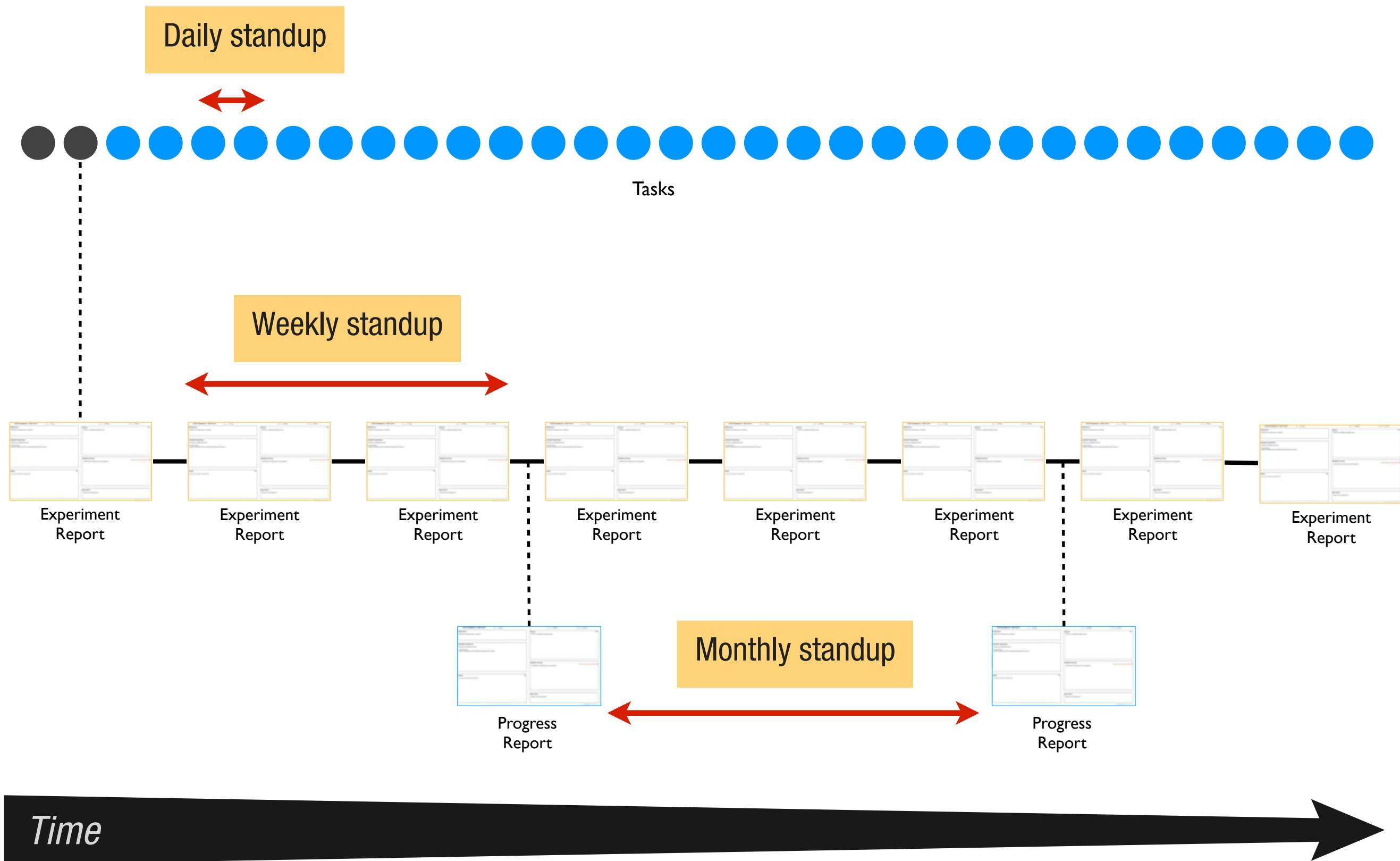


Tasks

Time







*“The mistake other people make is that they **simply copy** our tools and process and expect similar results.”*

- Jeffrey Liker, The Toyota Way

THANKS!

Get more content like this
delivered to your inbox:
<http://runlean.ly/mastery>

Ash Maurya | ashmaurya.com | spark59.com | @ashmaurya

*Life's too short to build something **nobody** wants.*