

Department of Management public lecture

# The Lean Startup

Eric Ries

*Entrepreneur and Author*

Dr Linda Hickman

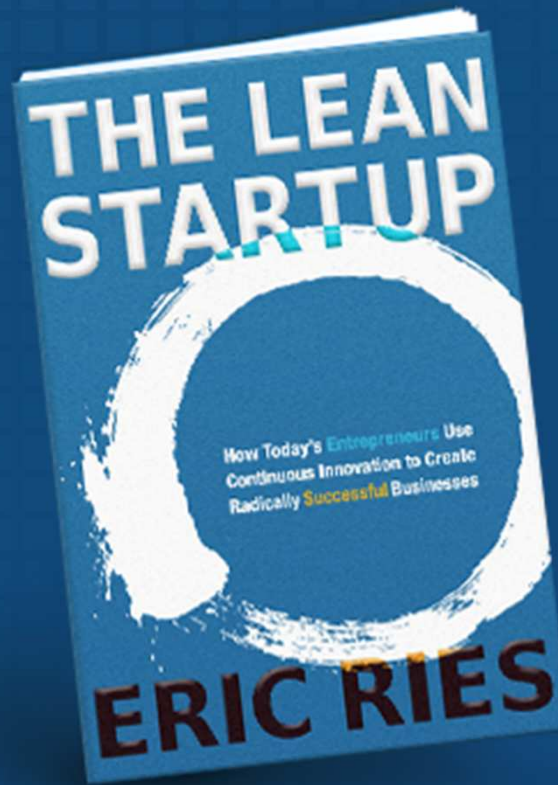
*Chair, LSE*



**LSE** events

Suggested hashtag for Twitter users: #lsestartup





# The Lean Startup

## #leanstartup

Eric Ries (@ericries)

<http://StartupLessonsLearned.com>

# Lean Startup Principles

Entrepreneurs are everywhere

Entrepreneurship is management

Validated Learning

Build – Measure - Learn

Innovation Accounting

# Lean Startup Principles

Entrepreneurs are everywhere

# What is a startup?

- A startup is a *human institution* designed to *deliver a new product or service* under conditions of *extreme uncertainty*.
- Nothing to do with size of company, sector of the economy, or industry

What is a startup?

STARTUP

=

*EXPERIMENT*

STOP  
WASTING  
PEOPLE'S  
TIME

# Most Startups Fail



# Most Startups Fail



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# Most Startups Fail



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# Who to Blame



Frederick Winslow Taylor  
(1856 – 1915)

- Father of *scientific management*
- Study work to find the best way
- Management by exception
- Standardize work into tasks
- Compensate workers based on performance

“In the past, the man was first. In the future, the system will be first.”  
(1911)

# Entrepreneurship is management

- Our goal is to create an institution, not just a product
- Traditional management practices fail
  - “general management” as taught to MBAs
- Need practices and principles geared to the startup context of *extreme uncertainty*
- Not just for “two guys in a garage”

# The Pivot



*"I'm not leaving you. I'm pivoting to another man."*

# The Pivot

- What do successful startups have in common?
  - They started out as digital cash for PDAs, but evolved into online payments for eBay.
  - They started building BASIC interpreters, but evolved into the world's largest operating systems monopoly.
  - They were shocked to discover their online games company was actually a photo-sharing site.
- Pivot: change directions but stay grounded in what we've learned.



# Speed Wins

If we can reduce the time between pivots

We can increase our odds of success

Before we run out of money

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# Achieving Failure

- If we're building something nobody wants, what does it matter if we accomplish it:

On time?

On budget?

*With high quality?*

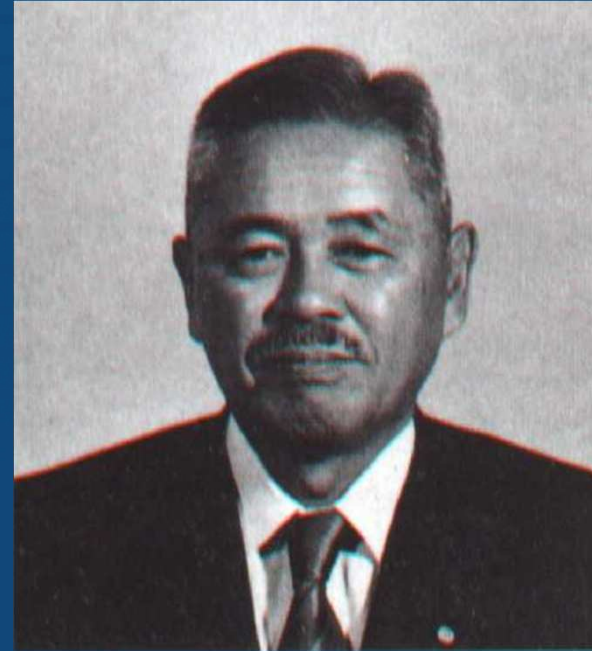
With beautiful design?

- Achieving Failure = successfully executing a bad plan

# The Lean Revolution



W. Edwards  
Deming  
(1900 – 1993)



Taiichi Ohno - 大  
野 耐  
(1912 – 1990)

“The customer is the most important part of the production line.” -Deming

STOP  
WASTING  
PEOPLE'S  
TIME

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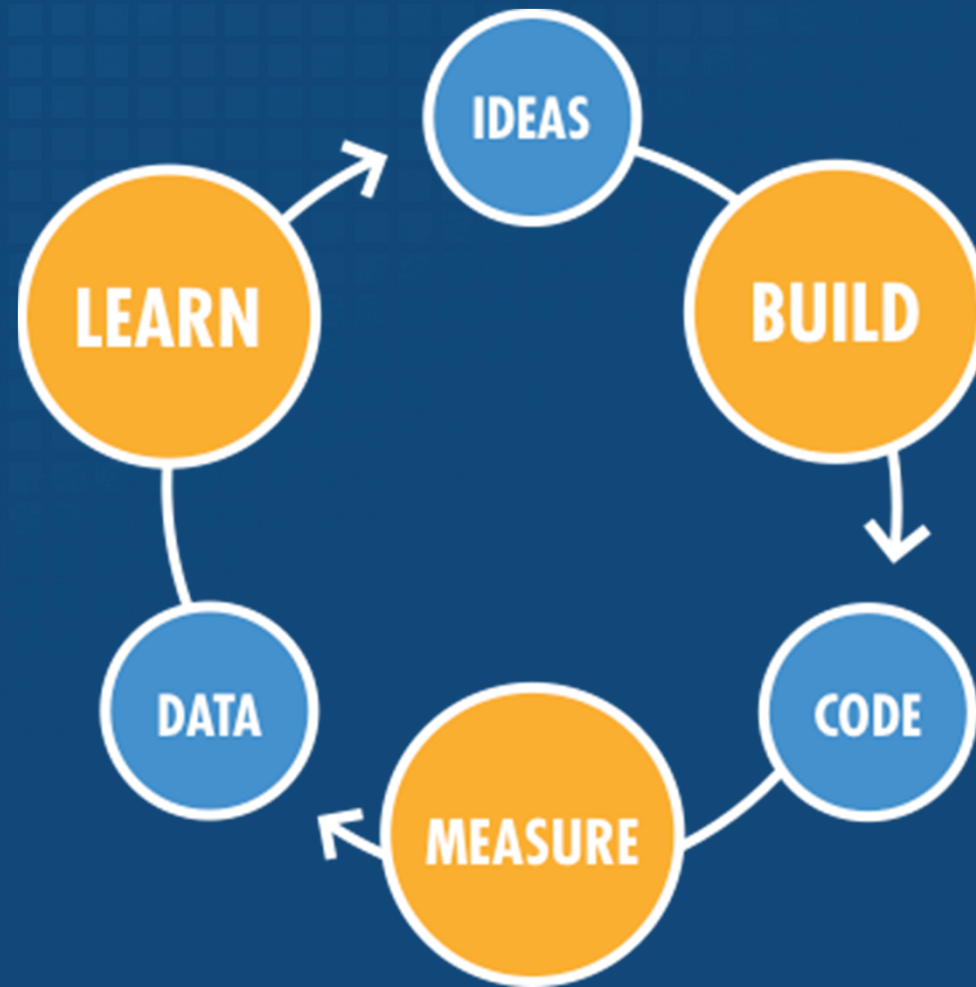
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Build – Measure - Learn

Minimize **TOTAL** time through the loop



# There's much more...





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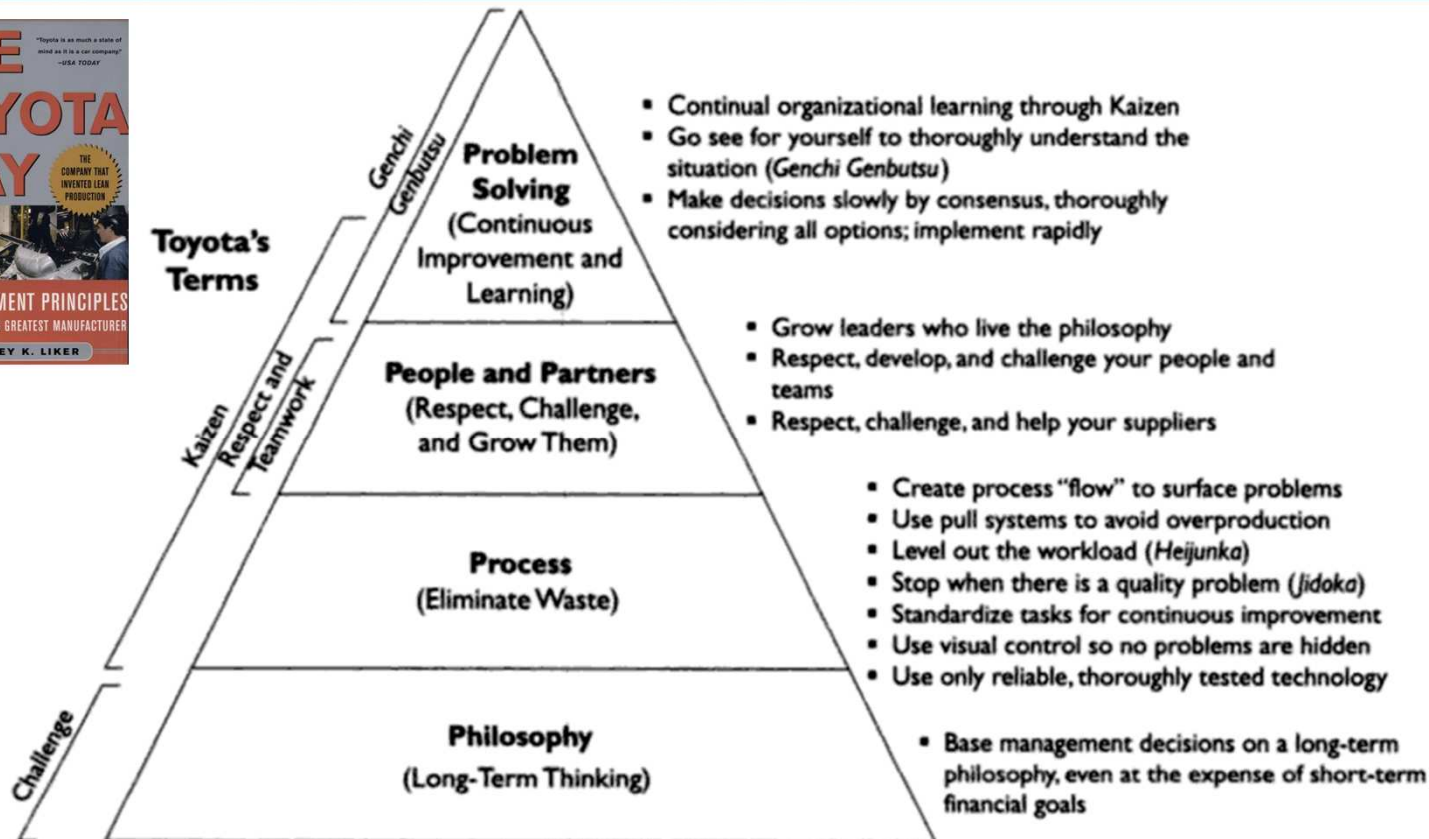
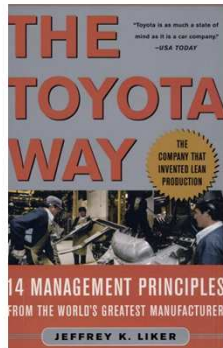
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# The Toyota Way



<http://bit.ly/thetoyotaway>

# The Startup Way



# Innovation Accounting

## The Three Learning Milestones

### 1. Establish the baseline

- Build a *Minimum Viable Product (MVP)*
- Measure how customers behave *right now*

### 2. Tune the engine

- Experiment to see if we can improve metrics from the baseline towards the ideal

### 3. Pivot or persevere

- When experiments reach diminishing returns, it's time to pivot.

STOP  
WASTING  
PEOPLE'S  
TIME

# Questions

How do we know when to pivot?

Vision or Strategy or Product?

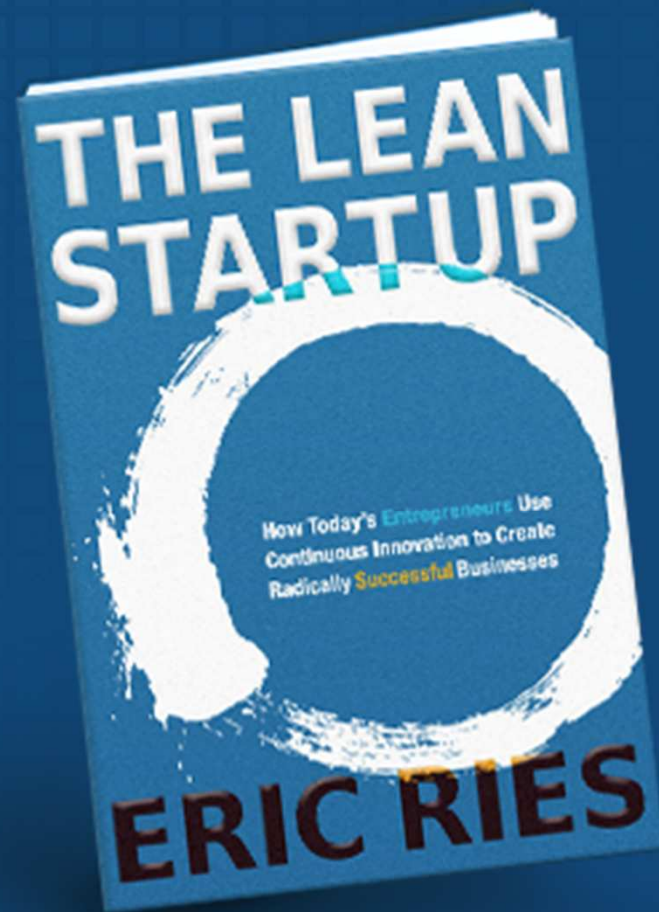
What should we measure?

How do products grow?

Are we creating value?

What's in the MVP?

Can we go faster?



<http://bit.ly/LeanStartupUK>

# Thanks!

- Buy the book @  
<http://theleanstartup.com/book>
- Blog: <http://StartupLessonsLearned.com>
- Get in touch (#leanstartup)
  - <http://twitter.com/ericries>
  - [eric@theleanstartup.com](mailto:eric@theleanstartup.com)
- Additional resources
  - <http://theleanstartup.com>
  - Lean Startup Wiki:  
<http://leanstartup.pbworks.com>





# Myth #1

## Myth

*Lean means cheap.* Lean startups try to spend as little money as possible.

## Truth

The Lean Startup method is not about cost,  
*it is about speed.*

## Myth #2

### Myth

The Lean Startup is only for *Web 2.0/internet/consumer* software companies.

### Truth

The Lean Startup applies to *all companies that face uncertainty* about what customers will want.

## Myth #3

### Myth

Lean Startups are small *bootstrapped* startups.

### Truth

Lean Startups are ambitious and are able to deploy *large amounts of capital*.

## Myth #4

### Myth

Lean Startups *replace vision with data*  
or customer feedback.

### Truth

Lean Startups are *driven by a compelling vision*,  
and are *rigorous about testing* each element of  
this vision

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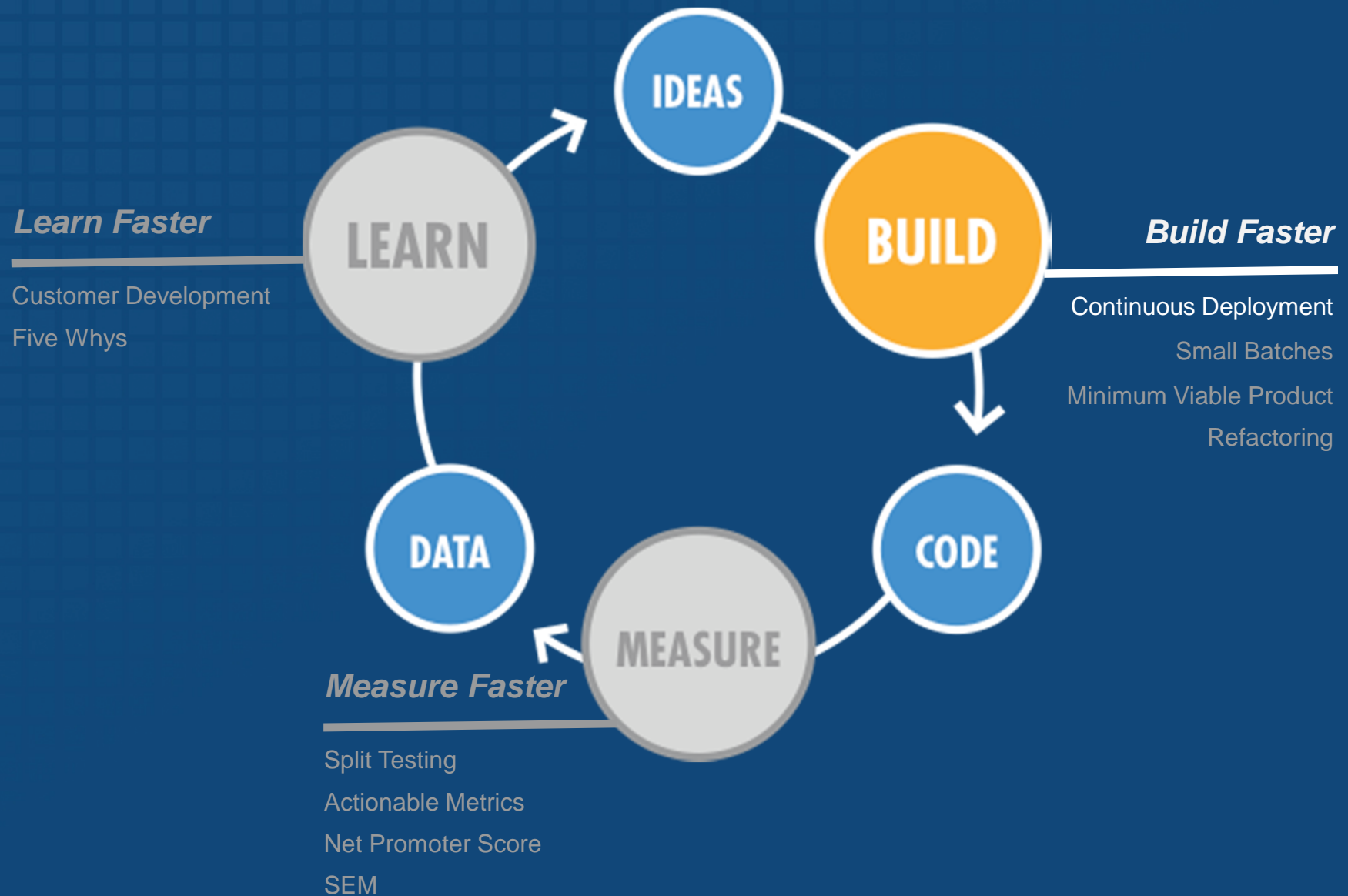
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# Minimum Viable Product

- Visionary customers can “fill in the gaps” on missing features, if the product solves a real problem
- Allows us to achieve a big vision in small increments without going in circles
- Requires a commitment to iteration
- MVP is only for BIG VISION products; unnecessary for minimal products.

# Continuous Deployment





# Continuous Deployment Principles

Have every problem once

Stop the line when anything fails

Fast response over prevention

# Continuous Deployment

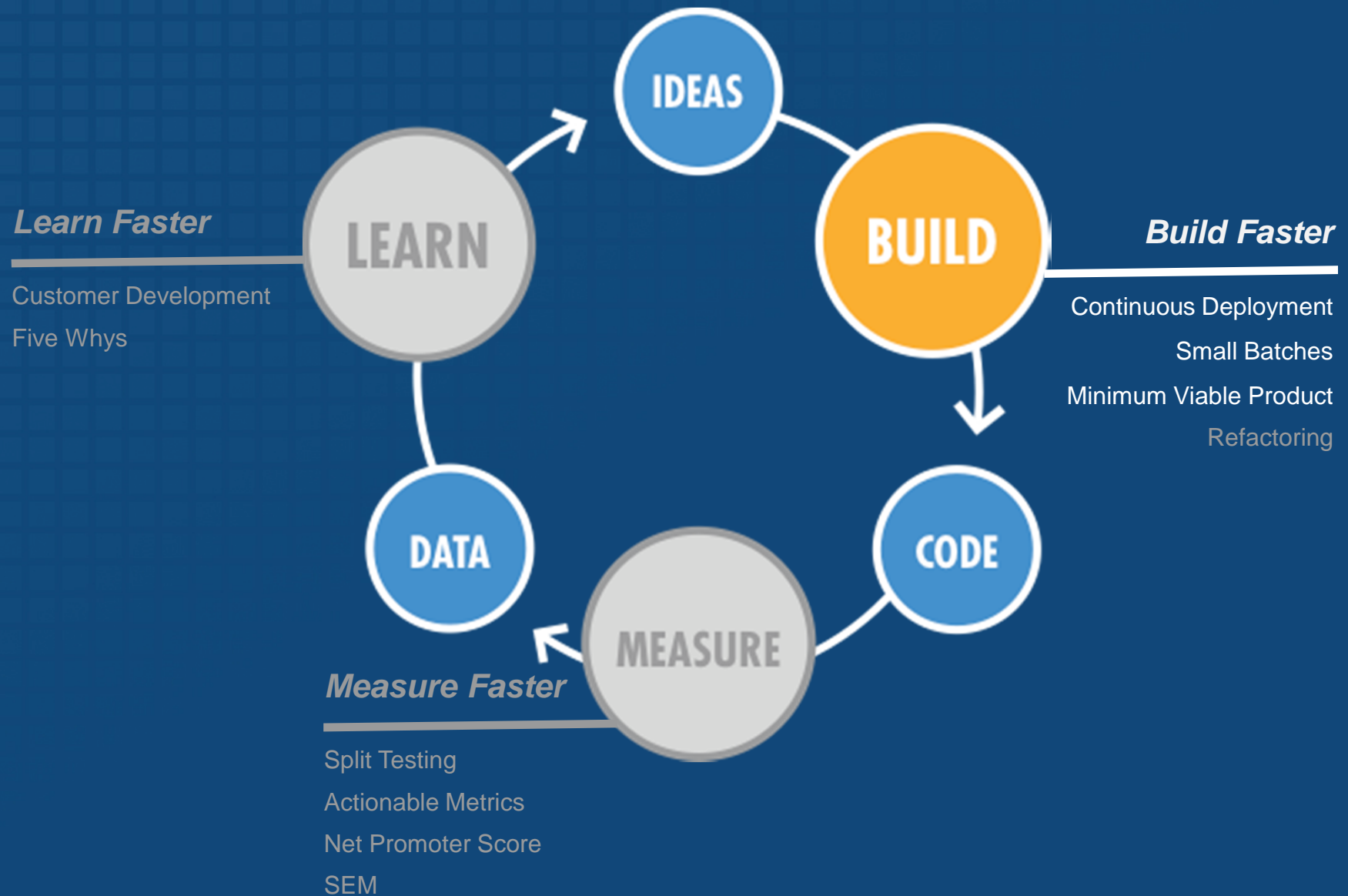
- Deploy new software quickly
  - At IMVU time from check-in to production = 20 minutes
- Tell a good change from a bad change (quickly)
- Revert a bad change quickly
  - And “shut down the line”
- Work in small batches
  - At IMVU, a large batch = 3 days worth of work
- Break large projects down into small batches

# Cluster Immune System

*What it looks like to ship one piece of code to production:*

- **Run tests locally (SimpleTest, Selenium)**
  - Everyone has a complete sandbox
- **Continuous Integration Server (BuildBot)**
  - All tests must pass or “shut down the line”
  - Automatic feedback if the team is going too fast
- **Incremental deploy**
  - Monitor cluster and business metrics in real-time
  - Reject changes that move metrics out-of-bounds
- **Alerting & Predictive monitoring (Nagios)**
  - Monitor all metrics that stakeholders care about
  - If any metric goes out-of-bounds, wake somebody up
  - Use historical trends to predict acceptable bounds
- **When customers see a failure**
  - Fix the problem for customers
  - Improve your defenses at each level

# Minimum Viable Product



# Why do we build products?

- Delight customers
- Get lots of them signed up
- Make a lot of money
- Realize a big vision; change the world
- Learn to predict the future

# Possible Approaches

- “Maximize chances of success”
  - build a great product with enough features that increase the odds that customers will want it
  - Problem: no feedback until the end, might be too late to adjust
- “Release early, release often”
  - Get as much feedback as possible, as soon as possible
  - Problem: run around in circles, chasing what customers think they want

# Minimum Viable Product

- The minimum set of features needed to learn from earlyvangelists – visionary early adopters
  - Avoid building products that nobody wants
  - Maximize the learning per dollar spent
- Probably much more minimum than you think!

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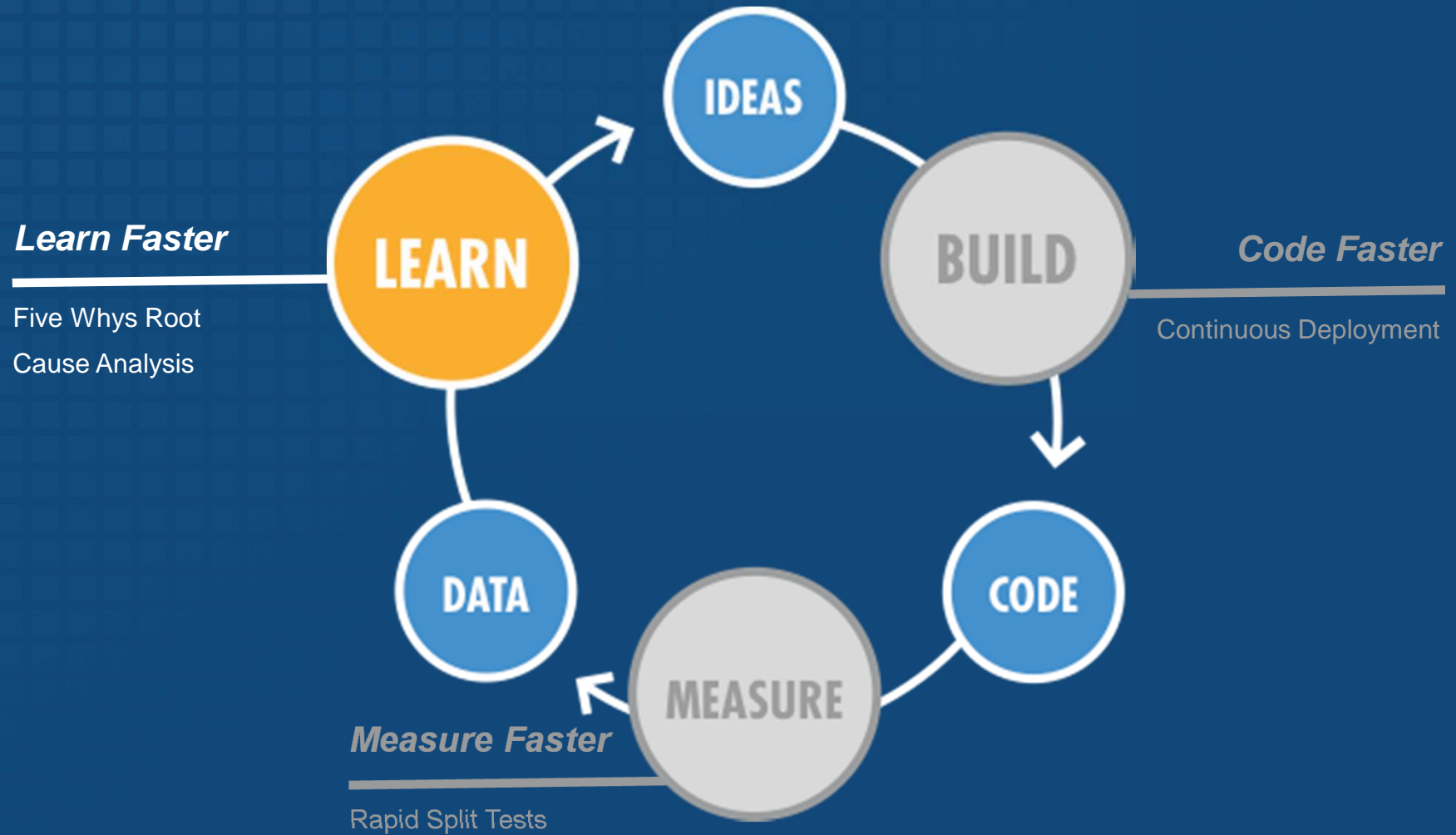
# Techniques

- Smoke testing with landing pages, AdWords
- SEM on five dollars a day
- In-product split testing
- Paper prototypes
- Customer discovery/validation
- Removing features (“cut and paste”)

# Fears

- False negative: “customers would have liked the full product, but the MVP sucks, so we abandoned the vision”
- Visionary complex: “but customers don’t know what they want!”
- Too busy to learn: “it would be faster to just build it right, all this measuring distracts from delighting customers”

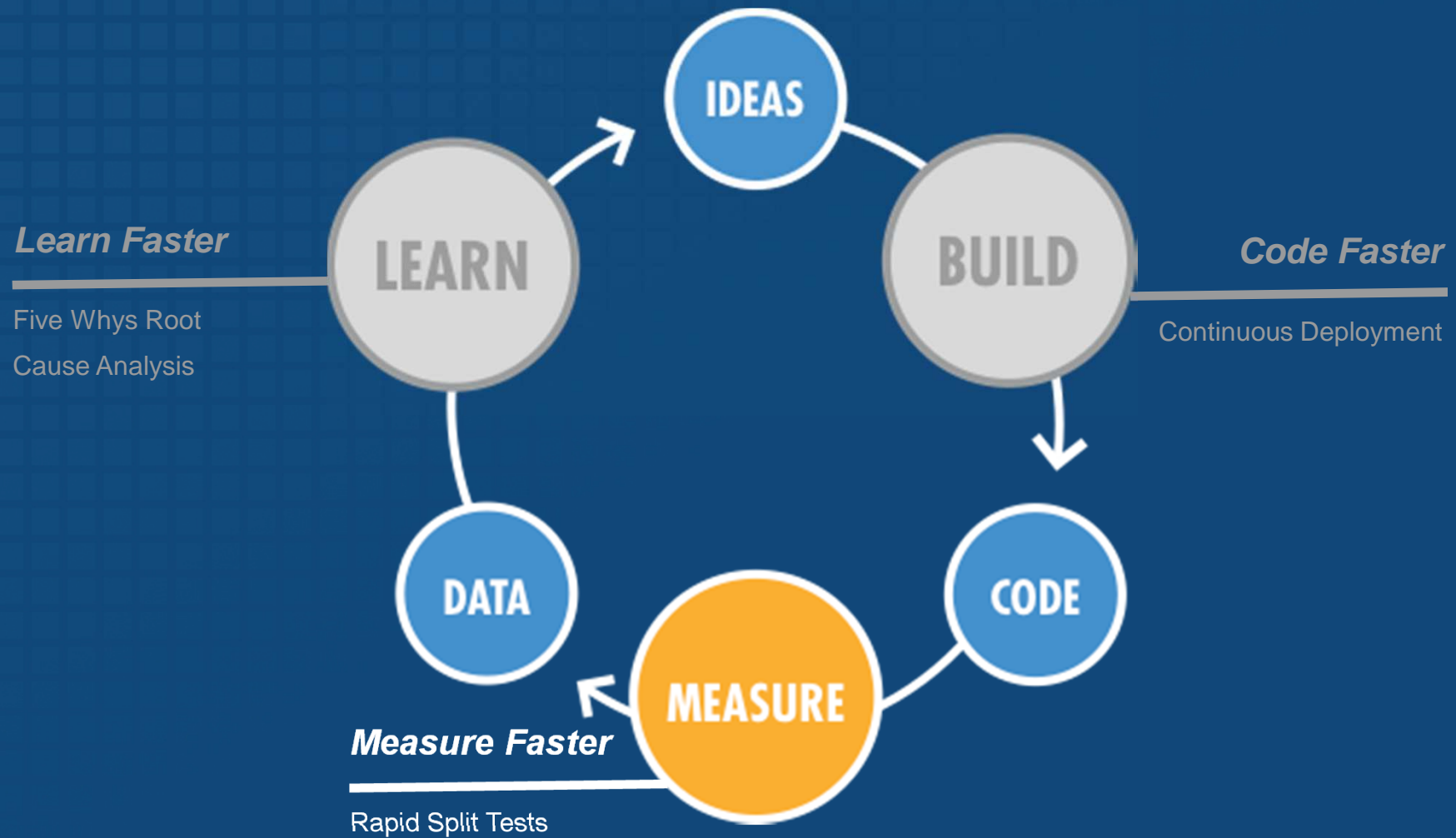
# Five Whys



# Five Whys Root Cause Analysis

- A technique for continuous improvement of company process.
- Ask “why” five times when something unexpected happens.
- Make proportional investments in prevention at all five levels of the hierarchy.
- Behind every supposed technical problem is usually a human problem. Fix the cause, not just the symptom.

# Rapid Split Tests



# Split-testing all the time

- A/B testing is key to validating your hypotheses
- Has to be simple enough for everyone to use and understand it
- Make creating a split-test no more than one line of code:

```
if( setup_experiment(...) == "control" ) {  
    // do it the old way  
} else {  
    // do it the new way  
}
```

# The AAA's of Metrics

- Actionable
- Accessible
- Auditable

# Measure the Macro

- Always look at cohort-based metrics over time
- Split-test the small, measure the large

	Control Group (A)	Experiment (B)
# Registered	1025	1099
Downloads	755 (73%)	733 (67%)
Active days 0-1	600 (58%)	650 (59%)
Active days 1-3	500 (48%)	545 (49%)
Active days 3-10	300 (29%)	330 (30%)
Active days 10-30	250 (24%)	290 (26%)
Total Revenue	\$3210.50	\$3450.10
RPU	\$3.13	\$3.14



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