

The Lean Startup

#leanstartup

What does a successful startup need?

- A great idea
- Good timing
- A rocking team
- VC capital
- and lots of hard work (and time)

Right?

Forget about the million dollar idea

Just start something. Anything.

The background

- Eric Ries was a fairly unsuccessful serial entrepreneur.
- He was searching for a way to increase the success rate of his startups.
- Based on the principles of lean manufacturing from Japan (Toyota)

Traditional management

- Set exact targets based on experience and existing clients.
- Plan and execute accordingly.
 - ⇒ Successful execution of a plan that leads to nowhere.
- School:
 - Waterfall, maybe Agile

Traditional management

- Clearly does not work for startups.
 - “Let’s just do it” is adopted.
- ⇒ No management does not work either.



Enter the Lean Startup

What is a Startup?

“A startup is a temporary organization formed to search for a repeatable and scalable business model.” – Steve Blank

*“A human institution designed to create new products and services under conditions of extreme **uncertainty**. ”* – Eric Ries

What is “Lean Startup”?

- Elimination of waste in searching for a scalable business model, or significant business impact.
- Goal for lean startups: Learning!

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

Lean Startup Principles

Entrepreneurs are everywhere

Entrepreneurship is management

Validated Learning

Build – Measure - Learn

Innovation Accounting

First: a reality check

- Idea!
- Does your customer have the problem that you are trying to solve?
- Will they pay for it?
- Will they pay YOU for it?
- Can you build the solution for that problem?

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

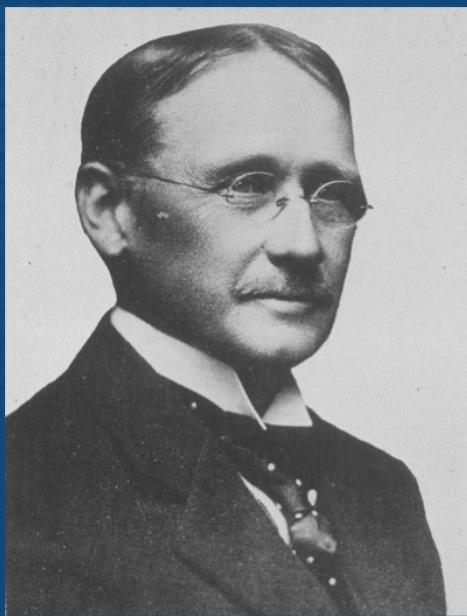


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Most Startups Fail



Who to Blame



- 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)

Frederick Winslow Taylor
(1856 – 1915)

Why do Startups Fail?

“The vast majority of startups fail NOT because they could not build a great product or technology, but because no one wanted the product!”

— Steve Blank

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Entrepreneurship is management

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

- Don’t give up too quickly.
- But don’t try to ride a dead horse either.
- Listen to customer feedback!
- And adding more services to the wrong idea is not the answer.



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

Speed Wins

- Your prototype should not take more than 90 days to build. Full time or part time.

Lean Startup Principles

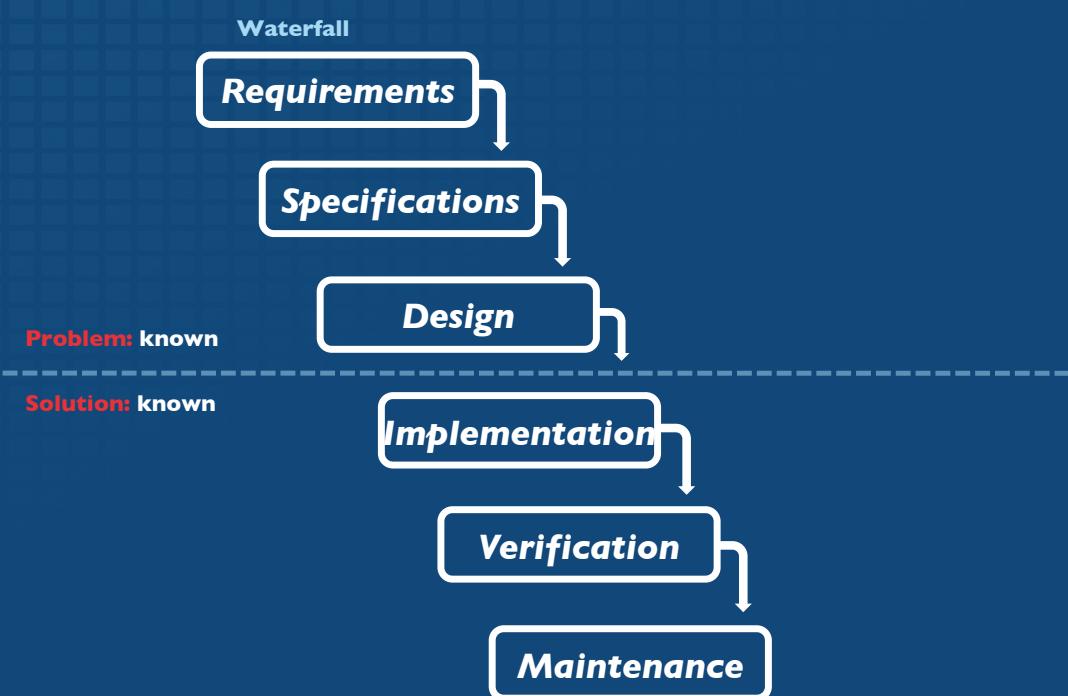
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Validated Learning

Traditional Product Development

Unit of Progress: Advance to Next Stage



Achieving Failure

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

On time?

On budget?

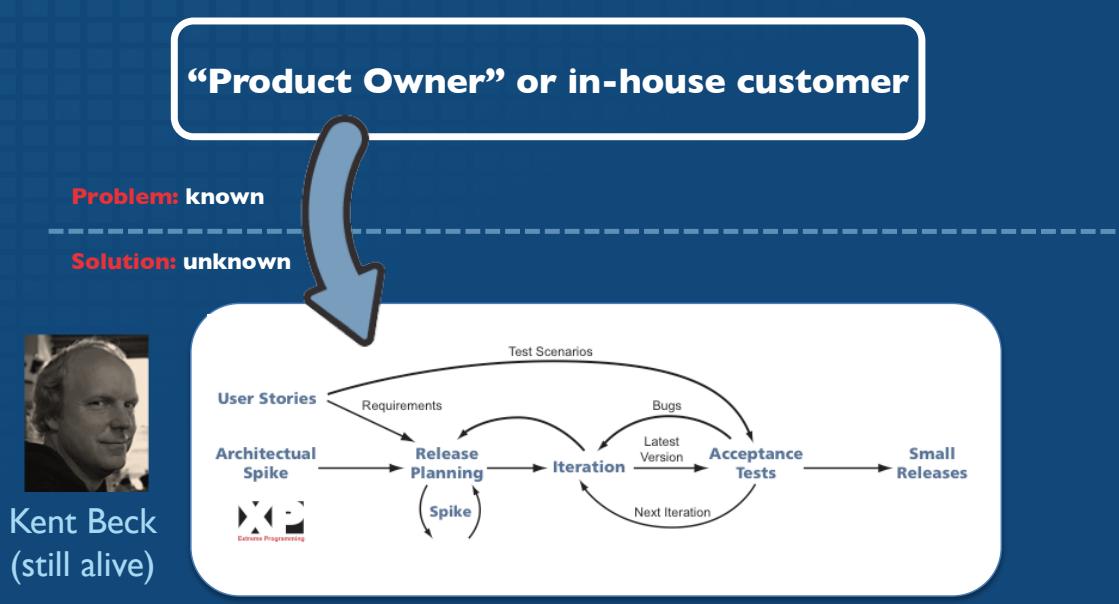
With high quality?

With beautiful design?

- Achieving Failure = successfully executing a bad plan

Agile Product Development

Unit of Progress: A line of Working Code



Lean Startup

Unit of Progress: **Validated Learning**



Steve
Blank
(still alive)

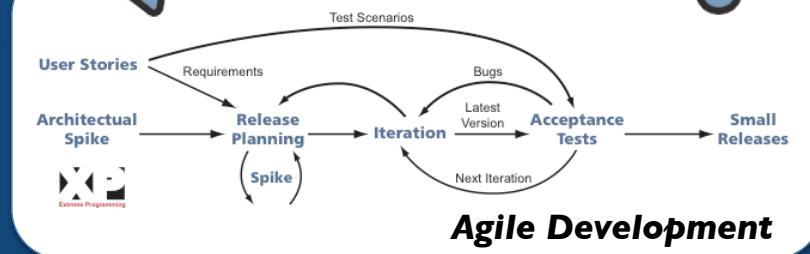
Problem: unknown
Solution: unknown



Customer Development

Hypotheses, Experiments,
Insights

Data, Feedback,
Insights



Agile Development

Lean Startup Principles

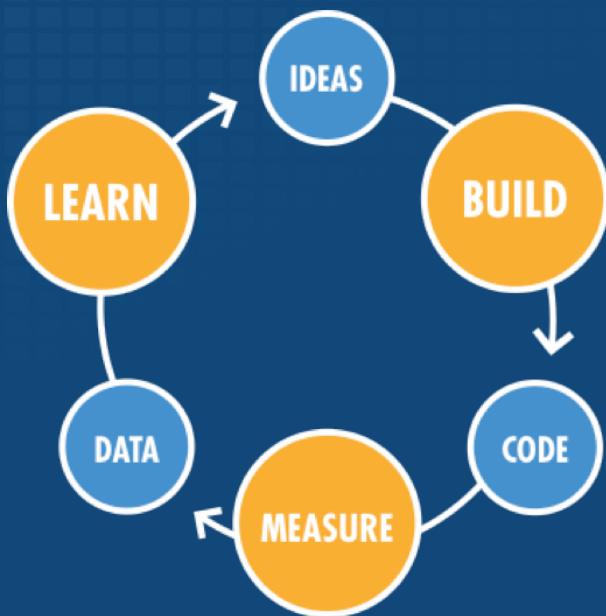
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Validated Learning

Build – Measure - Learn

Minimize *TOTAL* time through the loop



Minimum Viable Product

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

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.

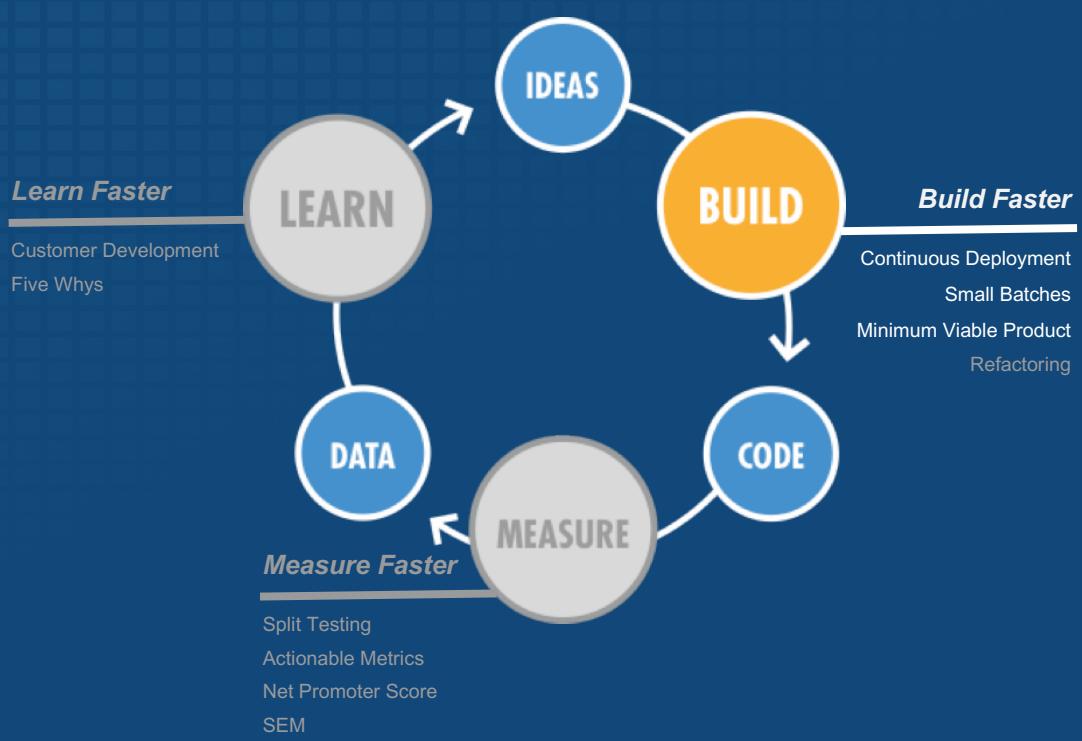
MVP (minimum viable product)

- Skimp on features not on quality.
- Remove any feature, process or effort that does not contribute to the “test”.

NOBODY is going to steal your idea

*And if they can execute your idea
quicker and better than you, you're in
trouble anyway.*

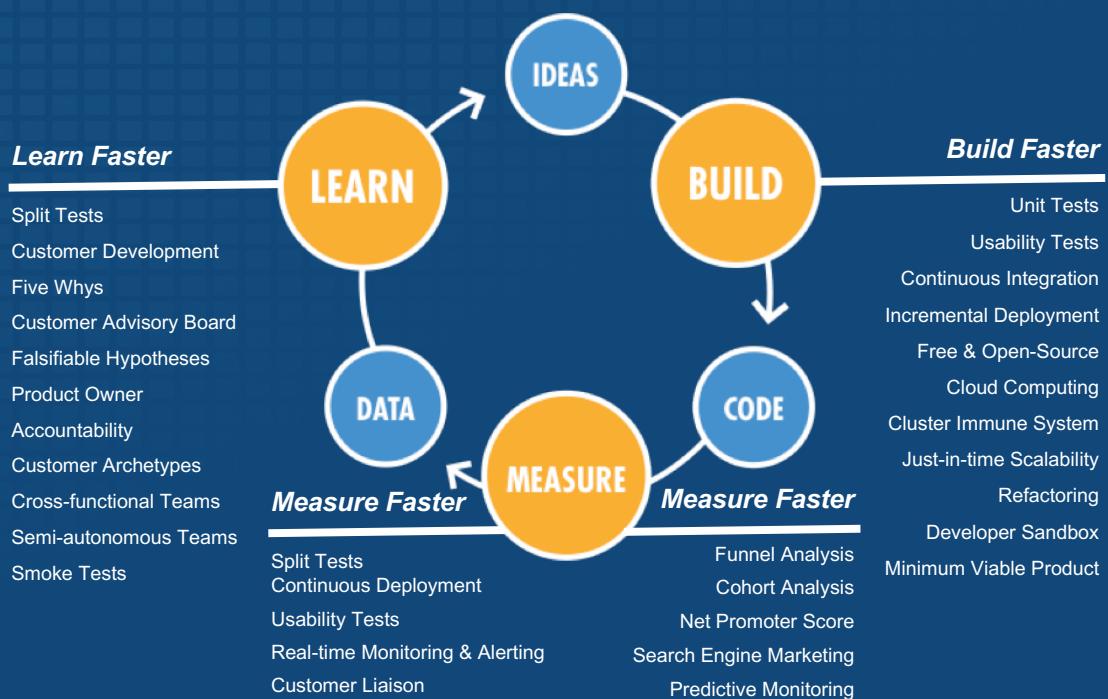
Minimum Viable Product



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.

There's much more...



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”

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Innovation Accounting

Quantitative learning

- You can always justify failure as part of the learning experience, but that's a bit cheap....
- Use experiments, not market research.

Test the Assumptions about User – Problem – Solution

- Who is the user/customer?
- What is their problem or unmet need?
- What is solution?

Innovation accounting

Traditional

- Time
- Budget
- Features
- Quality

Lean

- Actionable vs. vanity metrics
- Only measure things with a clear cause & effect.
- Split tests

Innovation Accounting The Three Learning Milestones

1. Establish the baseline

- Build a minimum viable product
- 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.

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?

What should we measure?

- Focus on the key metrics that matter – ignore vanity metrics.
 - Measure important customer behavior
 - Willingness to exchange “currency” (time, attention, \$\$\$)
 - What activities must we do to deliver customer value
 - Something else unique to your idea?
-
- Use metrics to eliminate gap between “say vs. do”, focus on metrics involving “do”.

Background What are you trying to achieve?	Results Enter your qualitative/ quantitative data
Hypothesis [Specific repeatable action] will [Expected measurable outcome]	Validated learning What did you learn?
Details How will you setup this experiment?	<input checked="" type="checkbox"/> Validated or not Next action What is your next experiment?

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

Why do we build products?

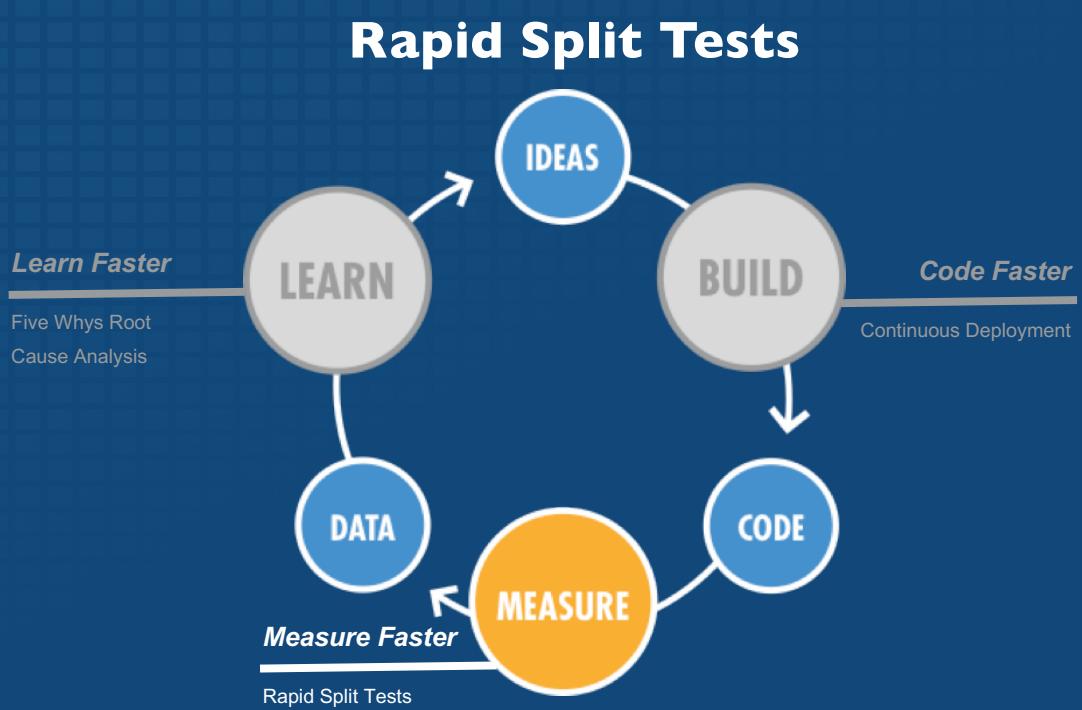
- Delight customers
- Get lots of them signed up
- Make a lot of money
- Realize a big vision; change the world
- Learn to predict the future

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

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”)



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

Example: A Simple API Sourcing

An online database for pharmaceutical ingredient suppliers.

Traditional

- **\$20k for a web agency**

Lean

- **\$30 for a Wordpress template**
- **\$25/month for an online db knack**

Just start somewhere

- Pain: project managers send out complicated Excel sheets that are always out of sync.
- Solution: build something that keeps them in sync.
- First idea: synced project management in Excel
- Better idea: generic synced spreadsheet!