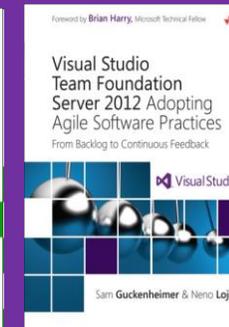




Build Measure Learn

Sam Guckenheimer, Microsoft



When you deliver, test and validate exactly what the customer specified, what happens?



Agenda

Roots of
Build
Measure
Learn

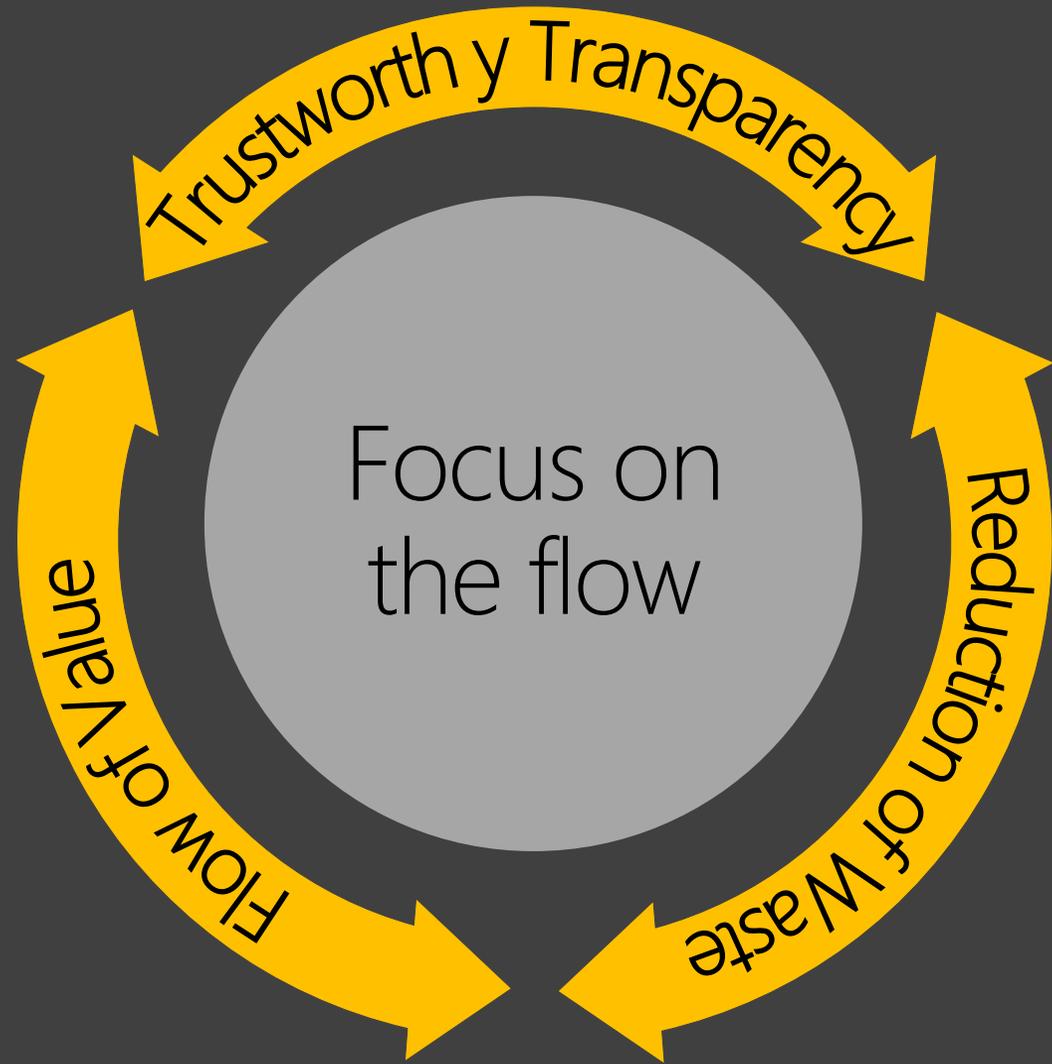


Inside the
Practice

State of the
Industry

ALM,
Reimagined

The Agile
Consensus:
The First
Decade of
21st Century



Agile Taught Us Better Product Develop- ment

Reduction of Waste

Flow of Value

Transparency, with practices
including

- Scrum

- Unit Testing

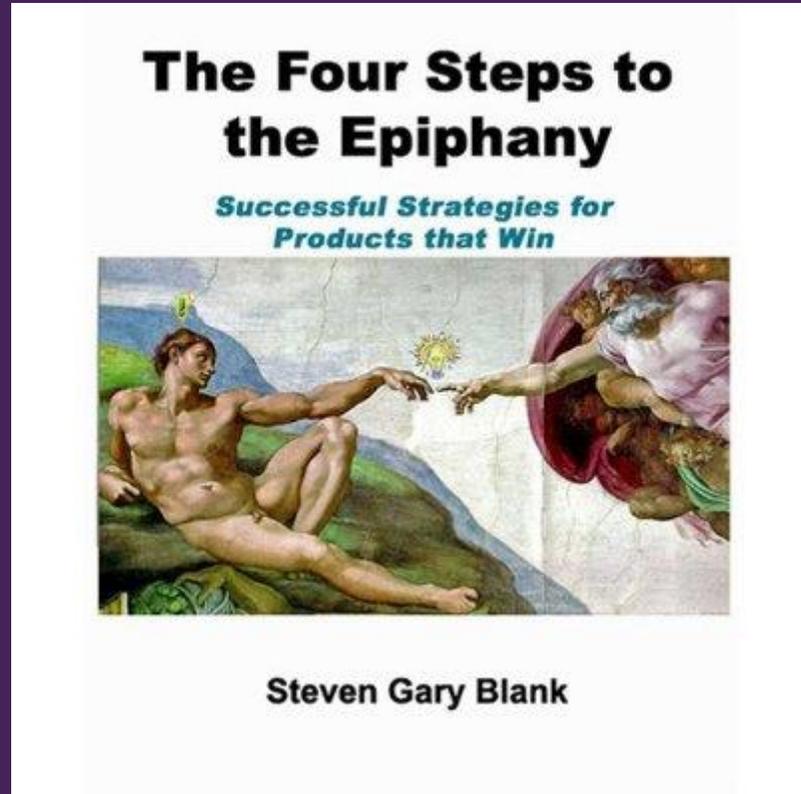
- Continuous Integration

- Small Batches

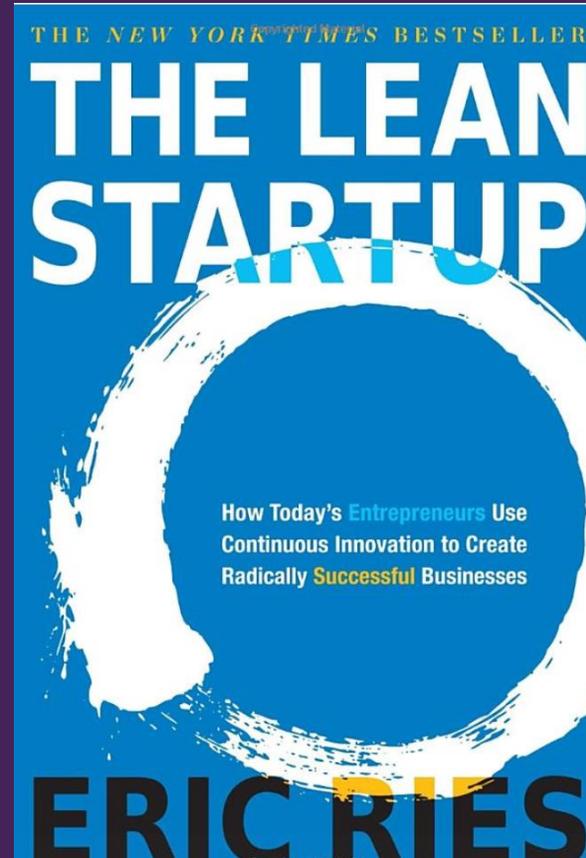
- Definition of Done

- Exploratory Testing...

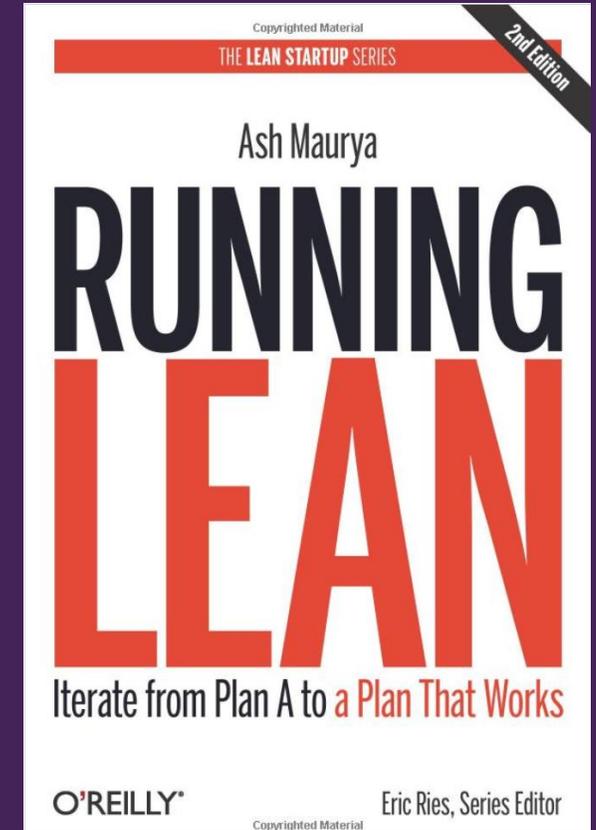
Product Development to *Customer Development*



2005



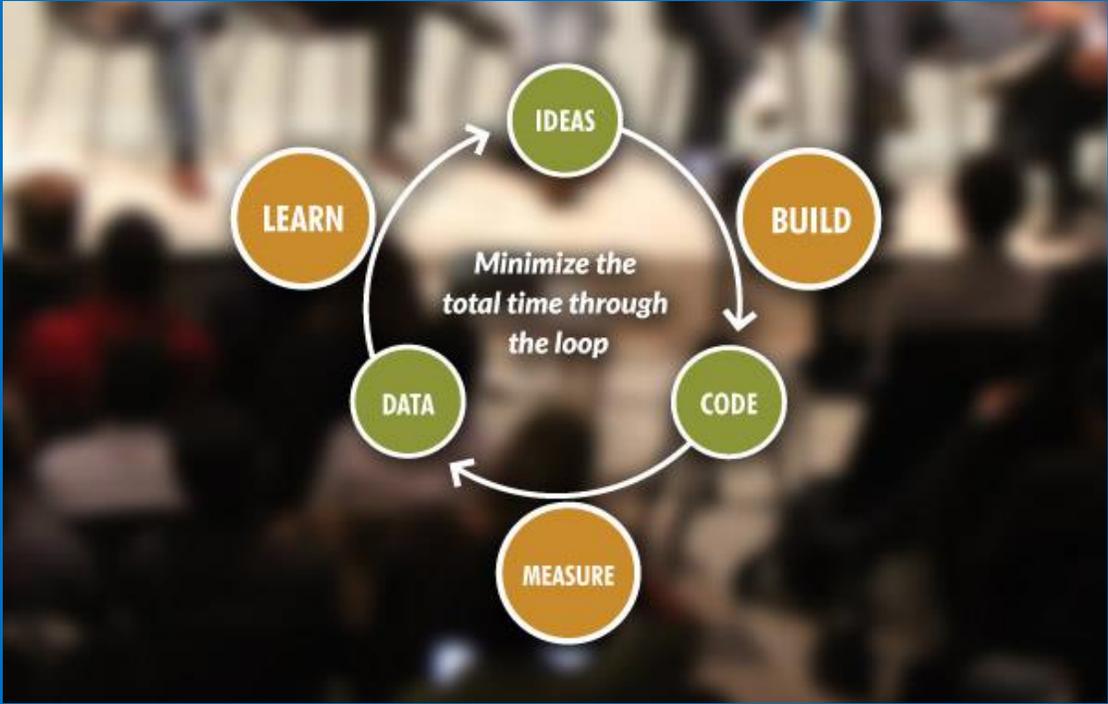
2011



2012

Customer Development Requires Build Measure Learn

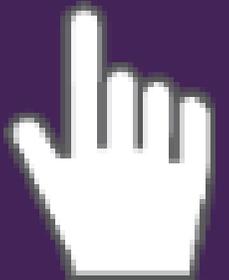
Lean Startups



Agenda

Roots of
Build
Measure
Learn

Inside the
Practice



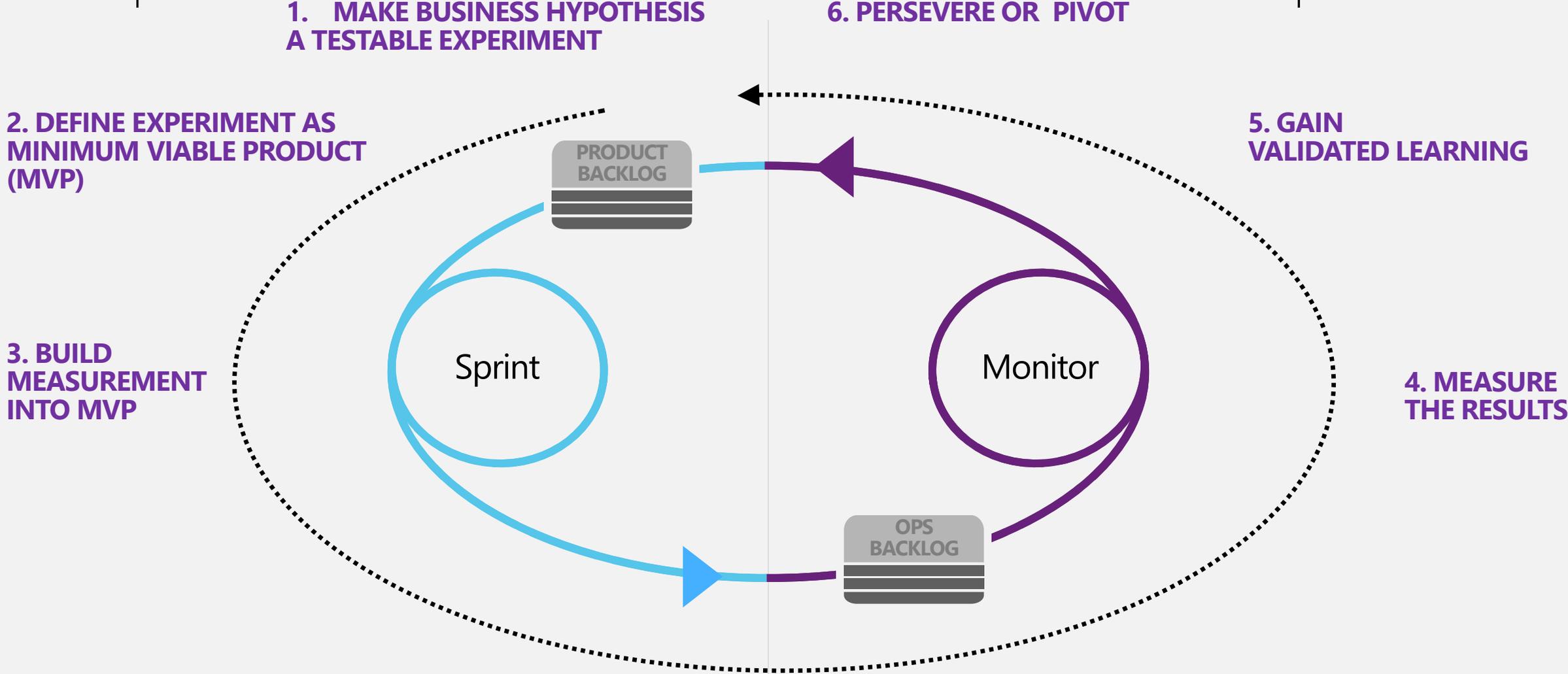
State of the
Industry

ALM,
Reimagined

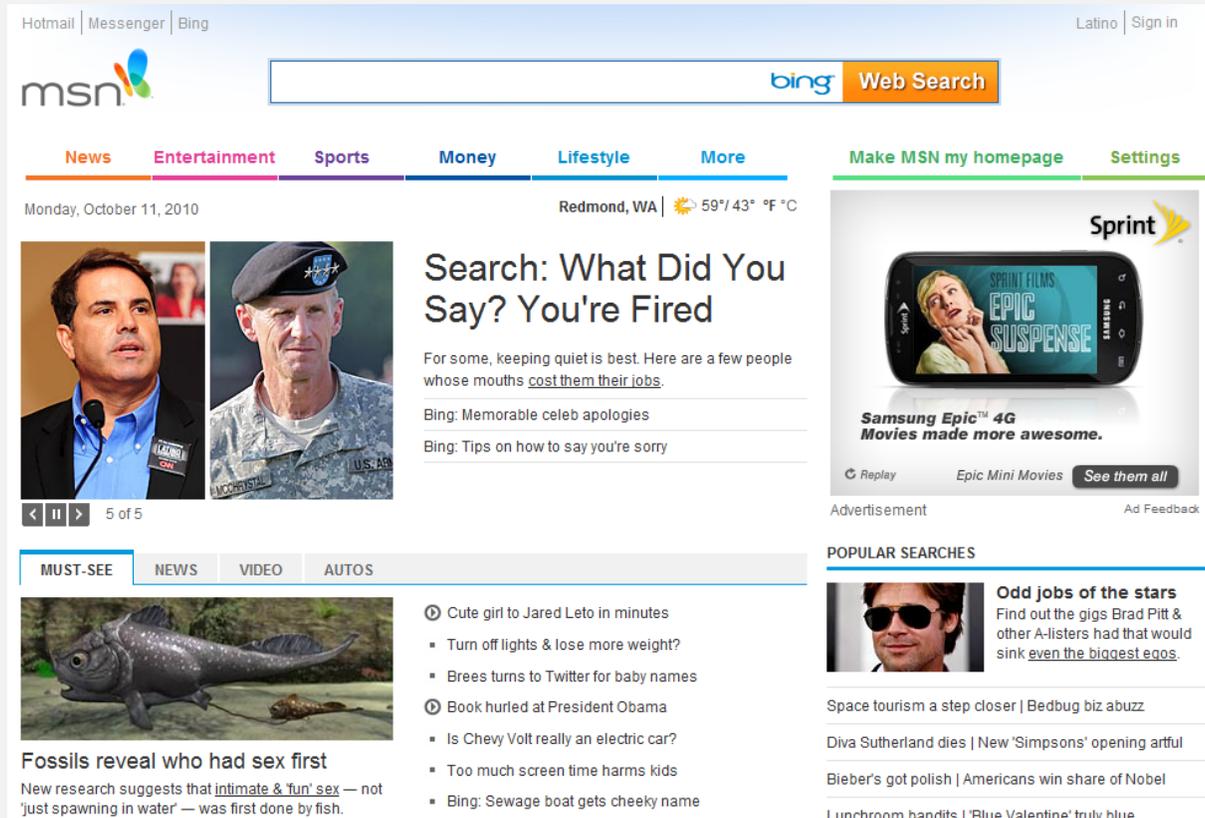
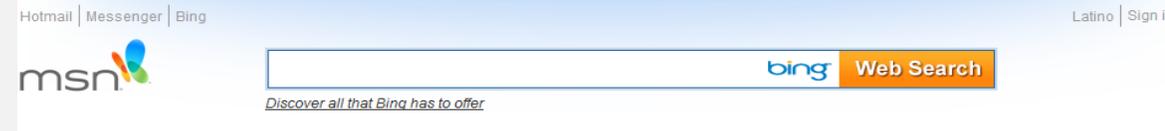
Build Measure Learn in One Slide

Develop

Operate



Business Hypotheses as Experiments



Could recent search history improve user engagement (and revenue per user visit)?

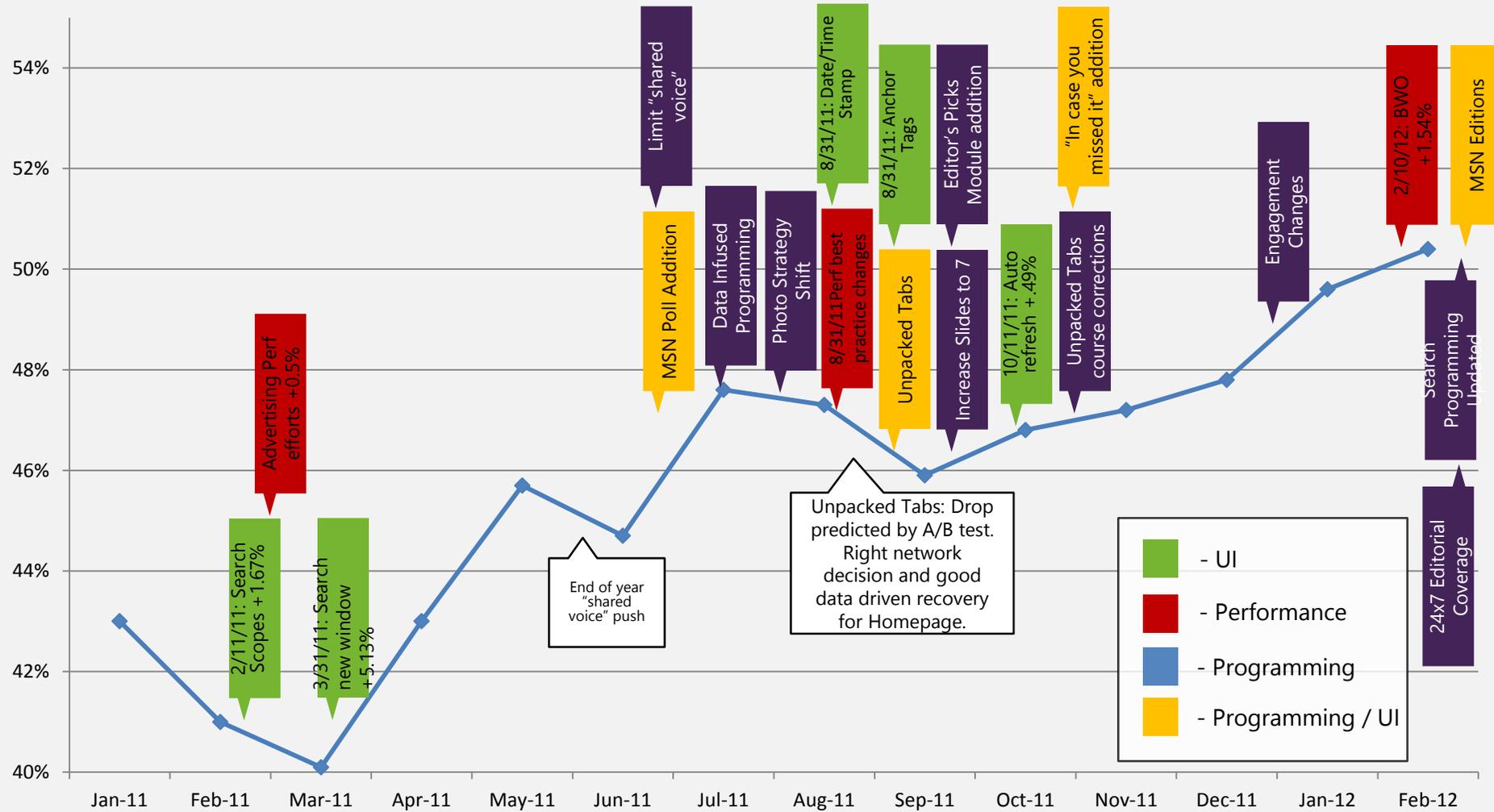
Persevere or Pivot

Name	T1		C		P Value	% Change	Signif.
	Total	Avg	Total	Avg			
Whole Page - Revenue per user (all)	445,623	0.063	444,823	0.063	0.513	0.14%	No
Search - Revenue per user (all)	283,672	0.04010	281,495	0.03987	0.007	0.73%	Yes
Page View - Revenue per user (all)	261,395	0.03695	262,095	0.03712	0.032	-0.31%	Yes
Page Views per user (non-zero)	82,901,880	11.755	83,123,835	11.791	0.032	-0.31%	Yes
Whole Page - Clicks per user (all)	32,381,376	4.592	32,464,748	4.605	0.109	-0.30%	No
Whole Page - Clicks per user (%)	3,675,630	52.1%	3,678,322	52.2%	0.029	-0.11%	Yes
Whole Page - CTR per experiment	32,462,260	39.1%	32,542,815	39.1%	0.885	-0.02%	No
Whole Page - CTR per user	32,381,376	34.7%	32,464,748	34.8%	0.372	-0.07%	No
Search Box (Top) - Clicks per user (all)	10,110,692	1.434	10,059,776	1.427	0.101	0.47%	No
Search Box (Top) - Clicks per user (%)	1,590,360	22.6%	1,583,952	22.5%	<0.001	0.37%	Yes
Search Box (Top) - CTR per experiment	10,134,763	12.2%	10,082,688	12.1%	0.003	0.75%	Yes
Search Box (Top) - CTR per user	10,110,692	9.6%	10,059,776	9.6%	0.005	0.40%	Yes
Search Modules - Clicks per user (all)	10,140,834	1.438	10,356,030	1.469	<0.001	-2.12%	Yes
EBS (Modules) - Clicks per user (all)	22,240,542	3.154	22,108,718	3.136	0.005	0.56%	Yes
Search Transfers - Clicks per user (all)	11,588,971	1.643	11,513,704	1.633	0.019	0.62%	Yes
Search Box (Bottom) - Clicks per user (all)	27,314	0.004	28,496	0.004	0.193	-4.18%	No
TBCB per user (>0, max 90)	37,954,696	5.114	38,238,584	5.114	0.993	0.00%	No
TACB per user (>0, max 90)	47,249,734	6.466	47,338,066	6.428	0.018	0.60%	Yes
TTOL per user (>0, max 120)	56,864,158	8.64	56,940,331	8.566	0.001	0.86%	Yes

No difference in revenue.
Decline in page views.
 Pivot?

Unexpected discovery:
 Increase in repeat visits.

Validated Learning: 12% Clickthrough Increase Through 57 Experiments



Note: Only displaying changes released to 100% that showed positive data. 57 total experiments during this timeframe.

Experiments as a Way of Life

Test of the Week:

Very Long vs. Short Landing Page – Which Increased Completed Forms by 36%? (Note: Buttons on Long Page Opened Identical Lead Gen Forms)

VERSION A [click to enlarge image](#)

vs.

VERSION B [click to enlarge image](#)

See exactly where time is spent in your business
Track your time. Track your team's time. Know EXACTLY what's REALLY going on.

"Time Doctor does everything we dreamed of and more!"
Heidi Heath/Canada
Founder/Inch Tech

Create an Account and See Where Time is Spent

Name:
Email:
Password:
Get Started

3 7 6 8 0 0 0 produced hours tracked

"...the most amazing, well thought out productivity tool that has yet been created."

Product Information	More Information	About Time Doctor
Pricing	Company Information	About Us
Download	Product Blog	Contact Us
Features	Service Status	Privacy Policy
FAQ	Blog	Terms of Service
		Support

See exactly where time is spent in your business
Track your time. Track your team's time. Know EXACTLY what's REALLY going on.

"Time Doctor does everything we dreamed of and more!"
Heidi Heath/Canada
Founder/Inch Tech

Create an Account and See Where Time is Spent

Name:
Email:
Password:
Get Started

3 7 6 3 1 2 4 produced hours tracked

Time tracking

Staying Productive at work is about getting more done in less time.

When you can accurately track your time you really know if a Time Doctor when you and your team do track their time as they should or what's expected.

Every time you get up a task, Time Doctor immediately tracks you to make sure it's tracked so you can track exactly what you're doing in what project or client. Time Doctor is the only time tracking software that makes sure that you really do track your time with accuracy, and they confirm if time tracked was really worked. This up to the second time tracking data, you can really get credit for the job you did your work.

Try Time Doctor Now

Avoid distractions

We all get distracted so much less efficient we are. Time Doctor guarantees you stay focused by making sure you work on what you're committed to working on.

When you start Time Doctor the software will monitor everything you do during your work session. When activities are available already it'll log and track, using recognizers or other personal web browsing or identical Time Doctor will give each site a badge to see how you are working.

With Time Doctor, you and your team will both be able to track on important tasks without getting into trouble with Facebook or Google breaks.

Try Time Doctor Now

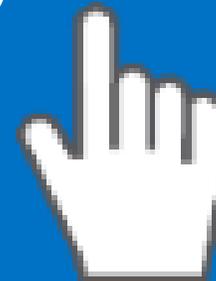
Webpage and Application Monitoring

Agenda

Roots of
Build
Measure
Learn

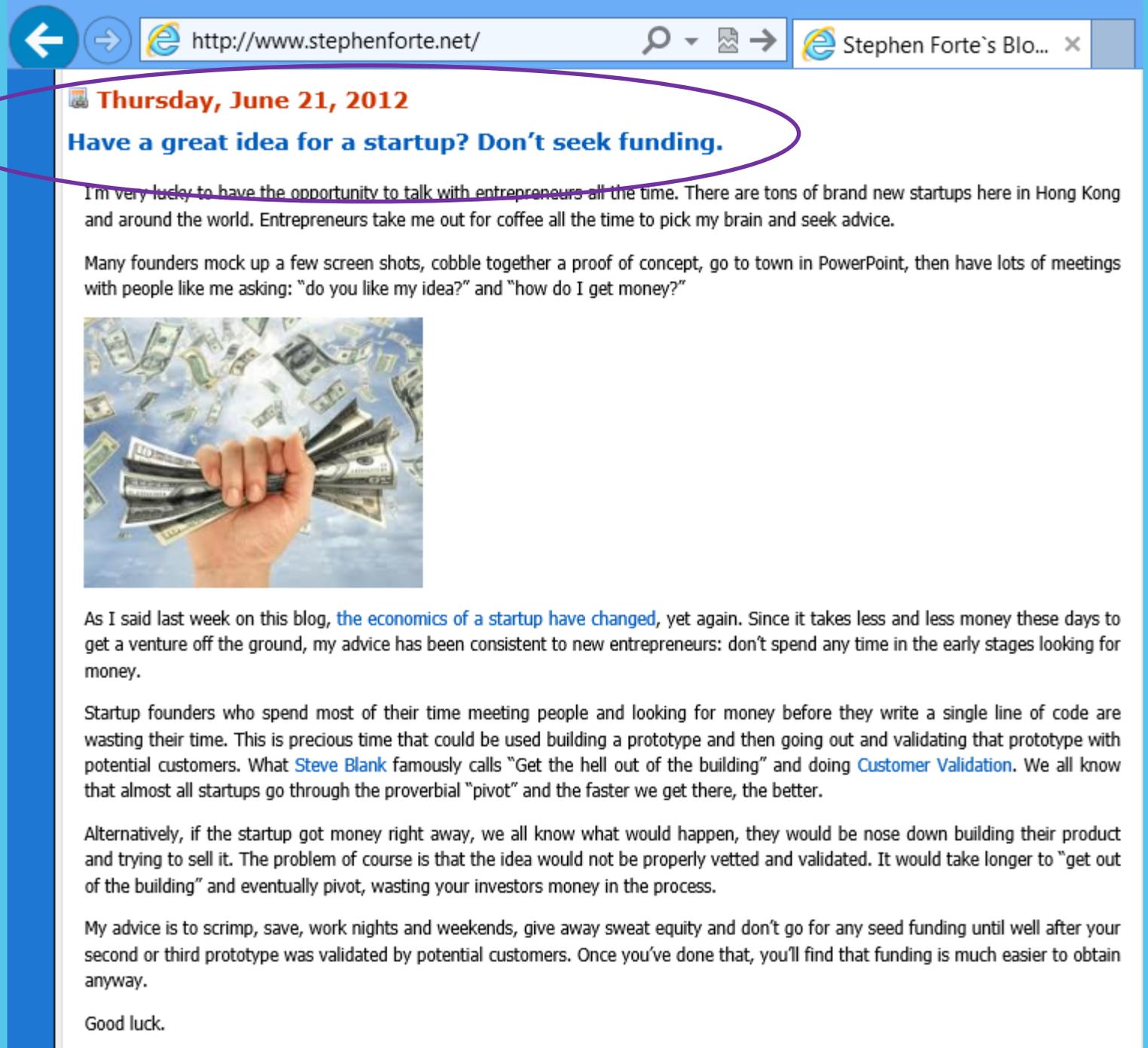
Inside the
Practice

State of the
Industry



ALM,
Reimagined

Funding Models Have Changed



← →  http://www.stephenforte.net/   → Stephen Forte's Blo... x

 **Thursday, June 21, 2012**

Have a great idea for a startup? Don't seek funding.

I'm very lucky to have the opportunity to talk with entrepreneurs all the time. There are tons of brand new startups here in Hong Kong and around the world. Entrepreneurs take me out for coffee all the time to pick my brain and seek advice.

Many founders mock up a few screen shots, cobble together a proof of concept, go to town in PowerPoint, then have lots of meetings with people like me asking: "do you like my idea?" and "how do I get money?"



As I said last week on this blog, [the economics of a startup have changed](#), yet again. Since it takes less and less money these days to get a venture off the ground, my advice has been consistent to new entrepreneurs: don't spend any time in the early stages looking for money.

Startup founders who spend most of their time meeting people and looking for money before they write a single line of code are wasting their time. This is precious time that could be used building a prototype and then going out and validating that prototype with potential customers. What [Steve Blank](#) famously calls "Get the hell out of the building" and doing [Customer Validation](#). We all know that almost all startups go through the proverbial "pivot" and the faster we get there, the better.

Alternatively, if the startup got money right away, we all know what would happen, they would be nose down building their product and trying to sell it. The problem of course is that the idea would not be properly vetted and validated. It would take longer to "get out of the building" and eventually pivot, wasting your investors money in the process.

My advice is to scrimp, save, work nights and weekends, give away sweat equity and don't go for any seed funding until well after your second or third prototype was validated by potential customers. Once you've done that, you'll find that funding is much easier to obtain anyway.

Good luck.

Enterprise Budgets Are Shifting Too

**By 2017 the CMO Will Spend
More on IT Than the CIO**



Laura McLellan
Vice President
Marketing Strategies
Gartner for Business Leaders
laura.mclellan@gartner.com

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Technologies Accelerate Business Practice Changes

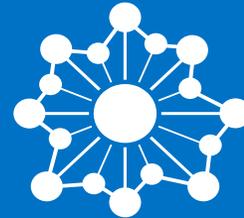
Connected
Devices



Continuous
Services



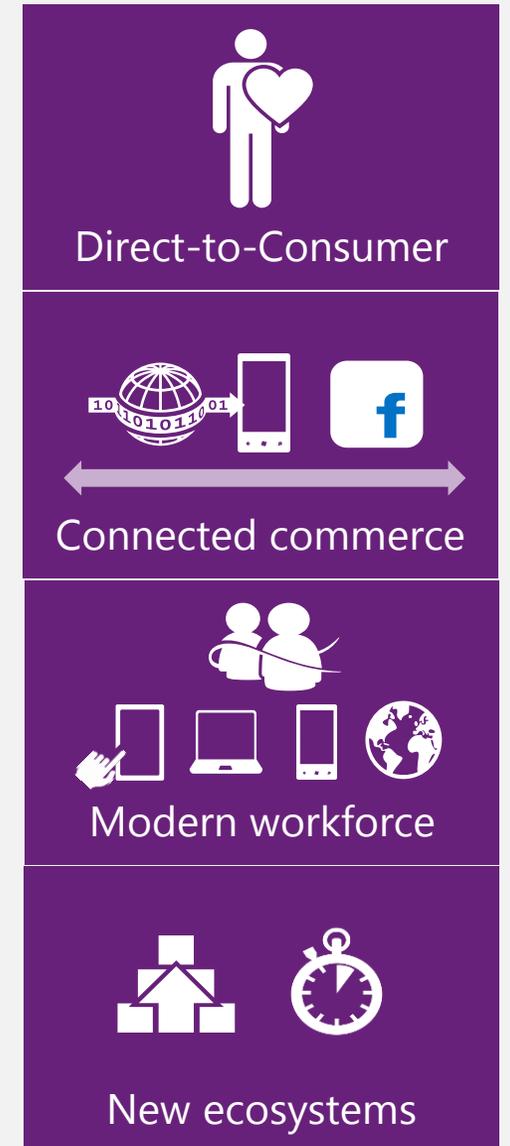
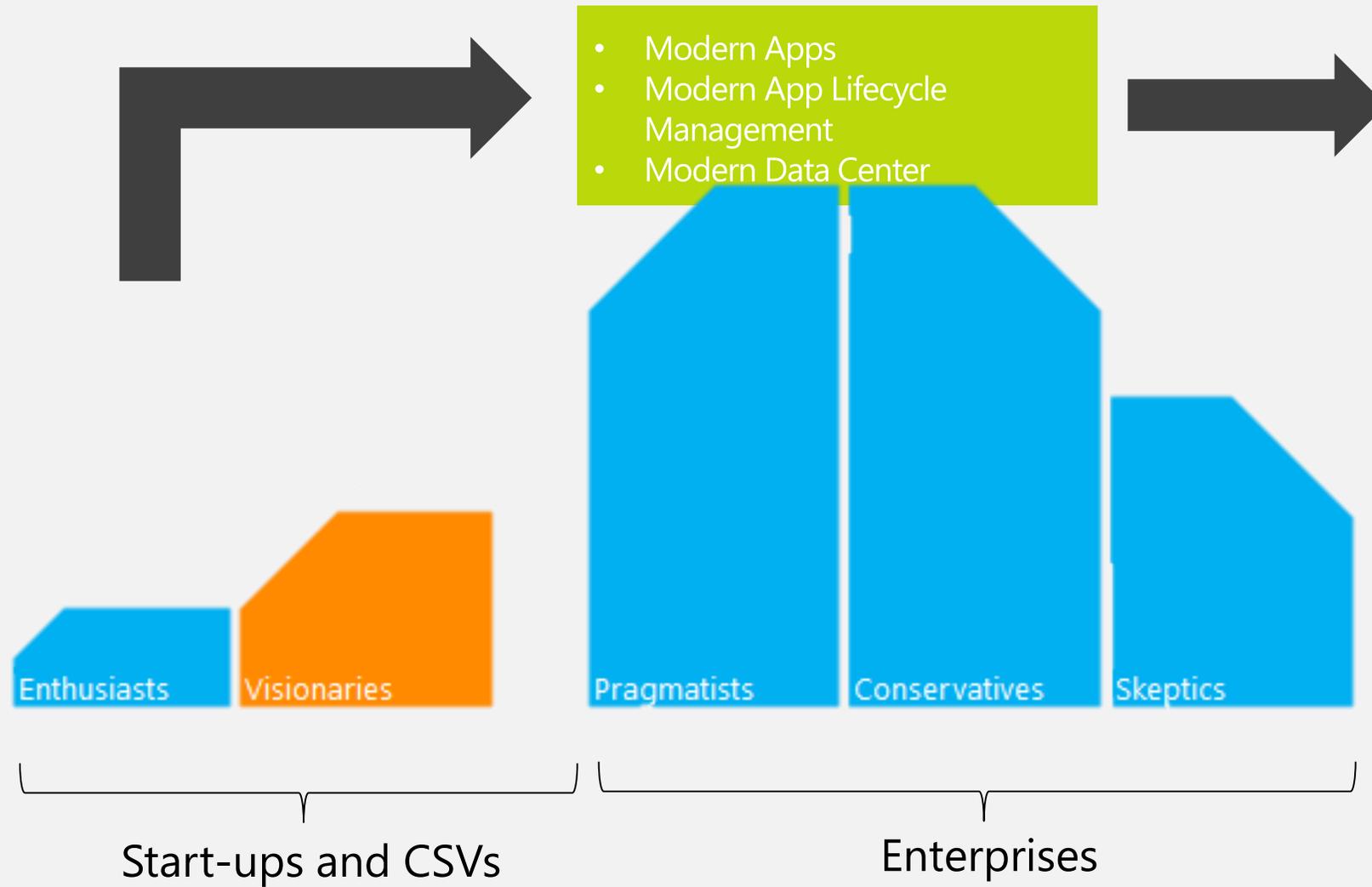
Big Data



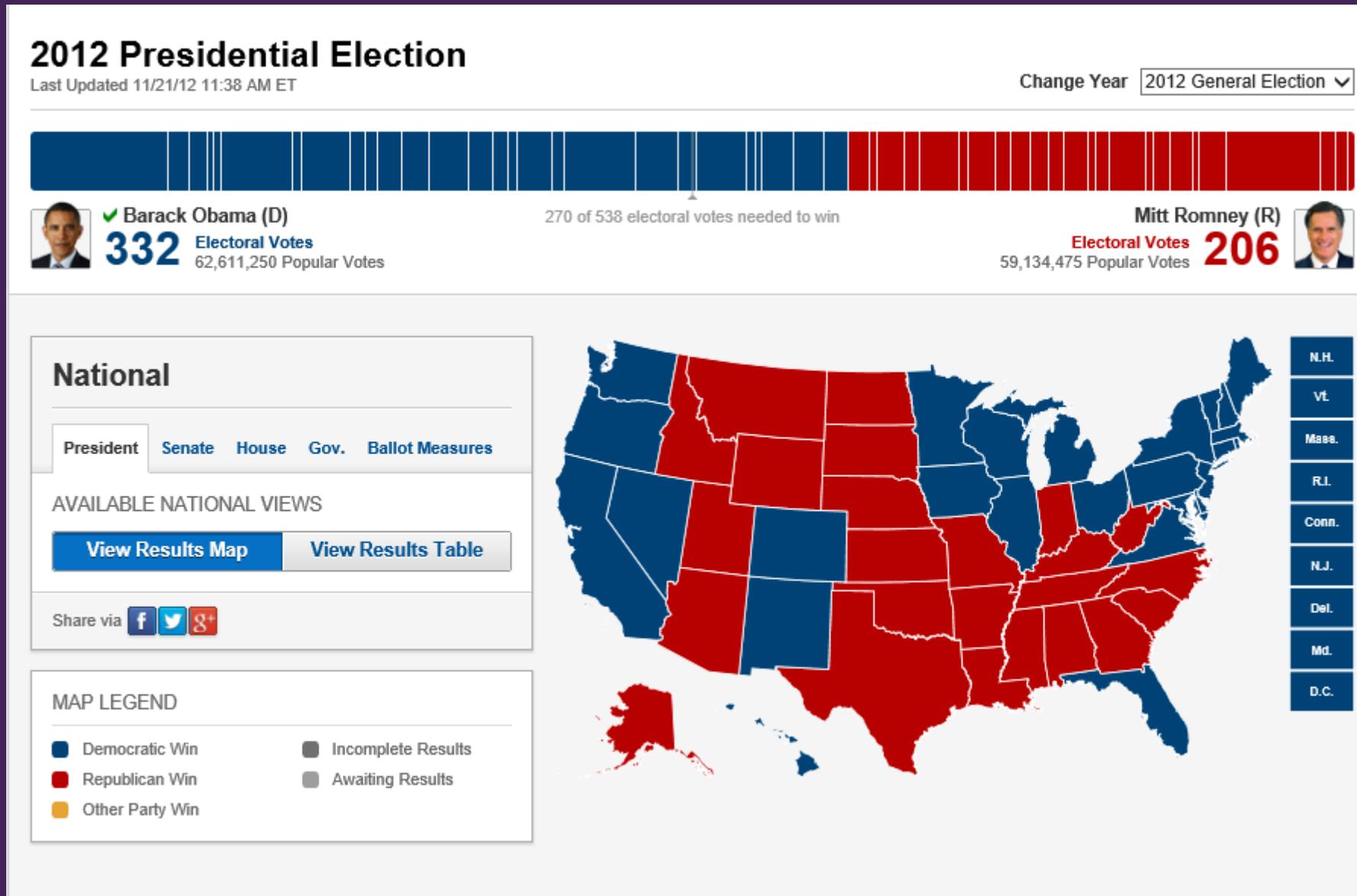
Public/hybrid
infrastructure



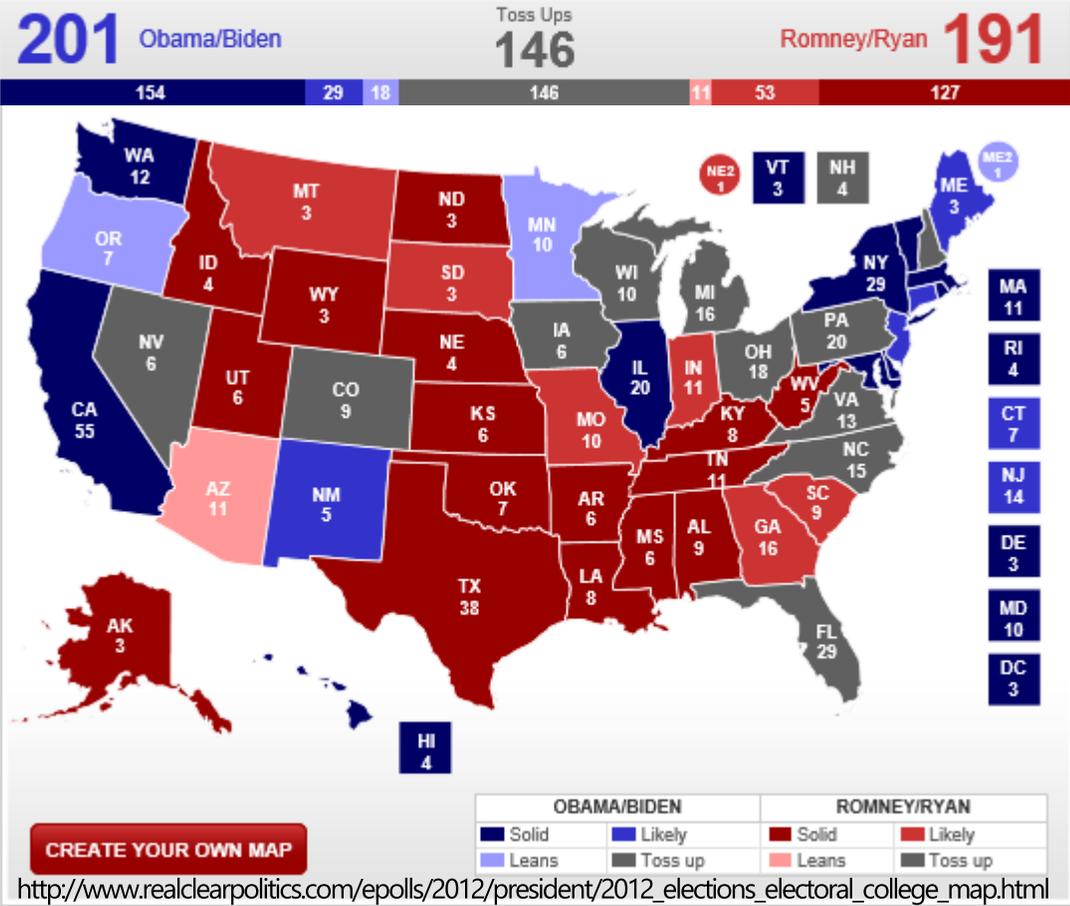
Learning From Early Adopters



A Current Example



November 6, 2012: One View of Reality



http://news.cnet.com/8301-17852_3-57547222-71/romney-victory-site-goes-live-by-mistake/

The Romney campaign's "killer" app, skips beta and pays the price

A system deployed to volunteers by Mitt Romney's presidential campaign may have done more harm to Romney's chances on Election Day.

Developed in just seven months on a lightning schedule following the Republican primary elections.

Some field volunteers couldn't even report to their posts, because the campaign hadn't told them they first needed to pick up poll watcher credentials from one of Romney's local "victory centers."

The system crashed repeatedly because of bandwidth constraints... the network connection to the campaign's data center went down... The ISP thought it was a denial of service attack and shut it down

This sort of failure is why there's a trend in application testing (particularly in the development of public-facing applications) away from focusing on testing application infrastructure performance and toward focusing on user experience.

<http://arstechnica.com/information-technology/2012/11/inside-team-romneys-whale-of-an-it-meltdown/>

The Other Reality



Copyrighted Material

*the signal and the
and the noise and
the noise and the
noise and the no
why most noise a
predictions fail t
but some don't n
and the noise an
the noise and the
nate silver noise
noise and the no*

Copyrighted Material

Five Thirty Eight Forecast

Updated 10:10 AM ET on Nov. 6

President
Nov. 6 Forecast

President
Now-cast

Senate
Nov. 6 Forecast

Barack Obama

Mitt Romney

313.0

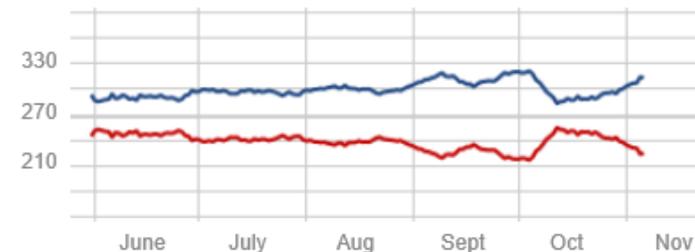
+14.0 since Oct. 30

**Electoral
vote**

225.0

-14.0 since Oct. 30

270 to win



90.9%

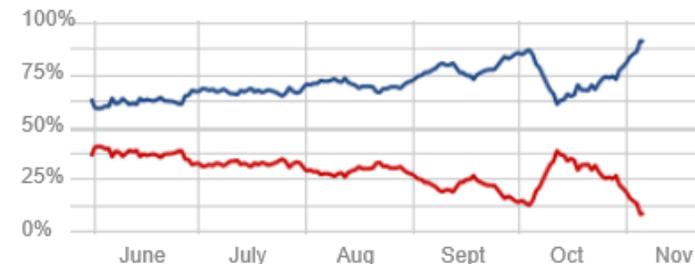
+13.5 since Oct. 30

**Chance of
Winning**

9.1%

-13.5 since Oct. 30

50%



Inside the Secret World of the Data Crunchers Who Helped Obama Win



<http://swampland.time.com/2012/11/07/inside-the-secret-world-of-quants-and-data-crunchers-who-helped-obama-win/print/>

Experiments as a Way of Life

Any time you received an email from the Obama campaign, **it had been tested on 18 smaller groups** and the response rates had been gauged.... The worst-performing letters did only 15 to 20 percent of what the best-performing emails could deliver. The genius of the campaign was that it learned to stop sending poor performers.

The digital team's Quick Donate brought the ease of Amazon's one-click purchases to political donations.

<http://www.theatlantic.com/technology/archive/2012/11/when-the-nerds-go-marching-in/265325/>

<http://nymag.com/news/intelligencer/obaa-emails-2012-8/>

<input type="checkbox"/>	5/10/11	☆ SUBJECT:	Fixing what's broken
<input type="checkbox"/>	6/15/11	☆ SUBJECT:	Dinner?
<input type="checkbox"/>	8/31/11	☆ SUBJECT:	Frustrated
<input type="checkbox"/>	9/14/11	☆ SUBJECT:	Let's meet
<input type="checkbox"/>	9/30/11	☆ SUBJECT:	Stronger for it
<input type="checkbox"/>	12/31/11	☆ SUBJECT:	Hey
<input type="checkbox"/>	3/27/12	☆ SUBJECT:	If you're ready
<input type="checkbox"/>	3/31	☆ SUBJECT:	Hey
<input type="checkbox"/>	4/30	☆ SUBJECT:	Last call
<input type="checkbox"/>	5/11	☆ SUBJECT:	My best friend
<input type="checkbox"/>	5/22	☆ SUBJECT:	Wow
<input type="checkbox"/>	5/31	☆ SUBJECT:	Not going to happen
<input type="checkbox"/>	5/31	☆ SUBJECT:	Hey
<input type="checkbox"/>	5/31	☆ SUBJECT:	Hey again
<input type="checkbox"/>	5/31	☆ SUBJECT:	Aloha
<input type="checkbox"/>	6/11	☆ SUBJECT:	I'm saving you a seat
<input type="checkbox"/>	6/11	☆ SUBJECT:	Meet me for dinner
<input type="checkbox"/>	6/15	☆ SUBJECT:	Rain check?
<input type="checkbox"/>	6/25	☆ SUBJECT:	I will never stop fighting
<input type="checkbox"/>	6/28	☆ SUBJECT:	Say you're with me
<input type="checkbox"/>	6/28	☆ SUBJECT:	Today
<input type="checkbox"/>	6/28	☆ SUBJECT:	Change is possible
<input type="checkbox"/>	6/30	☆ SUBJECT:	To be frank
<input type="checkbox"/>	6/30	☆ SUBJECT:	This is important
<input type="checkbox"/>	7/26	☆ SUBJECT:	Hey
<input type="checkbox"/>	7/26	☆ SUBJECT:	I don't get to tell you this enough
<input type="checkbox"/>	7/26	☆ SUBJECT:	How grateful I am
<input type="checkbox"/>	7/31	☆ SUBJECT:	So
<input type="checkbox"/>	7/31	☆ SUBJECT:	This is critical
<input type="checkbox"/>	8/2	☆ SUBJECT:	Are you in?
<input type="checkbox"/>	8/2	☆ SUBJECT:	Say you're with me
<input type="checkbox"/>	8/9	☆ SUBJECT:	This isn't going to stop

Build Measure Learn



<http://www.theatlantic.com/technology/archive/2012/11/when-the-nerds-go-marching-in/265325/>

http://www.huffingtonpost.com/2012/11/21/obama-campaign-polls-2012_n_2171242.html

The massive scope of its polling effort helped guide the Obama campaign in ways that would be impossible with conventional polling...three-day rolling-average tracking in each state

"We ran the election 66,000 times every night," said a senior official, describing the computer simulations the campaign ran to figure out Obama's odds of winning each swing state. "And every morning we got the spit-out — here are your chances of winning these states. And that is how we allocated resources."

Surveys used live interviewers, very large sample sizes and very short questionnaires, which focused on vote preference and strength of support, with no more than a handful of additional substantive questions.

Hired campaign staff engineers from Facebook, Twitter, Google, Microsoft, and technology startups.

How Team Obama's tech efficiency left Romney IT in dust



Obama campaign's tech team beat Romney by using opposite strategy— "insourcing."

Even taken with the software and Web hosting expenses, the Obama campaign spent a seventh of what the Romney campaign spent on digital ...

In the end, the deciding factor wasn't what the Obama campaign spent money on, but what it did with all that money. Insourcing gave the campaign a strategic flexibility that the Romney campaign lacked...

"This is the difference...between a well run professional machine and a gaggle of amateurs. ..I would be shocked if such a chasm exists next cycle between the parties— these aren't mistakes to be repeated if you want to do things like win elections."

- <http://arstechnica.com/information-technology/2012/11/how-team-obamas-tech-efficiency-left-romney-it-in-dust/>

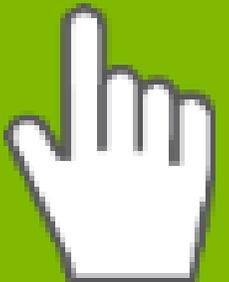
Agenda

Roots of
Build
Measure
Learn

Inside the
Practice

State of the
Industry

ALM,
Reimagined



Waves of Learning in ALM

First wave addressed technical debt

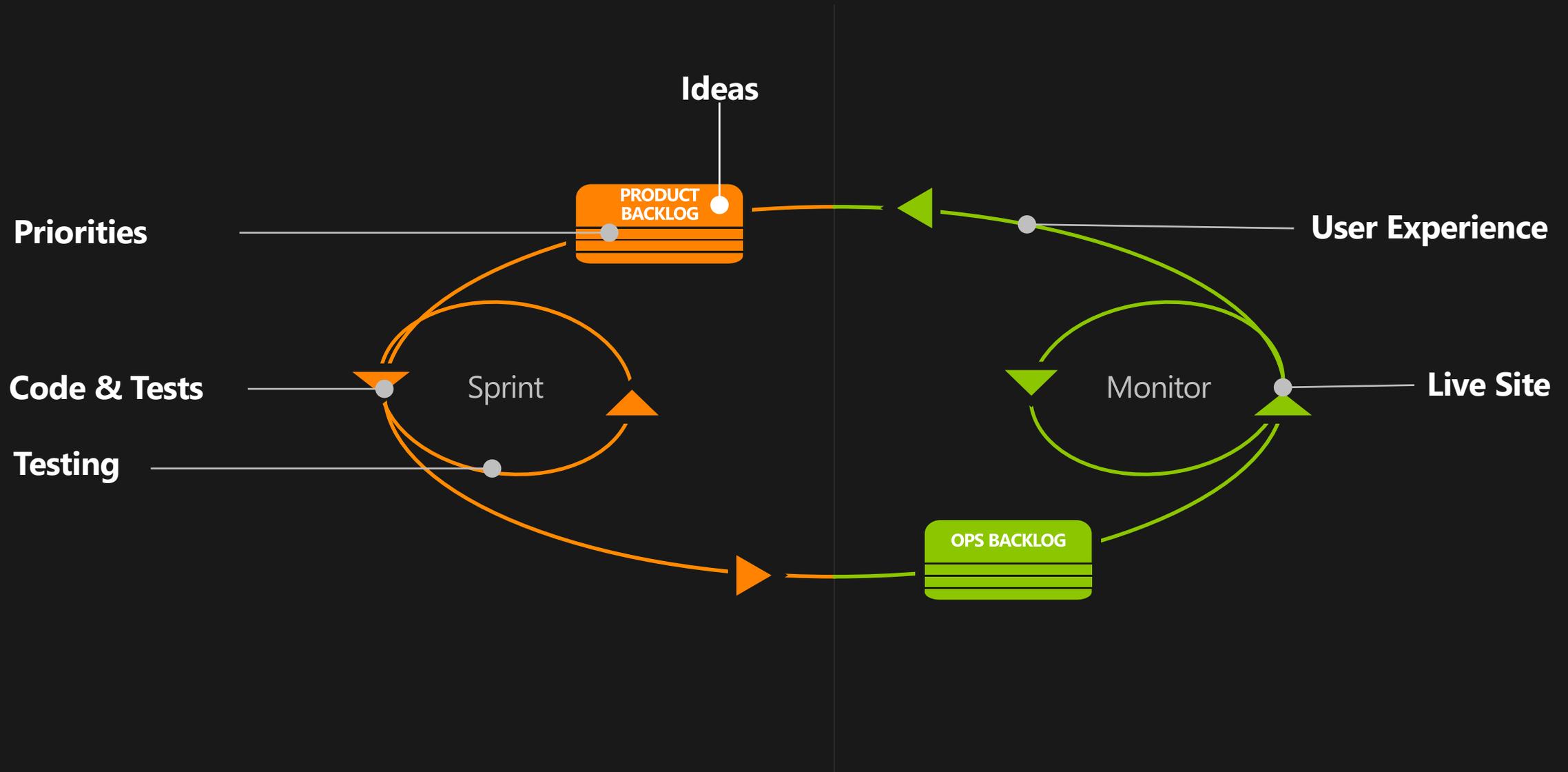
Second wave amplified flow of value

Third wave focused on cycle time

Now with short cycle time, we
can enable continuous feedback



Continuous Feedback



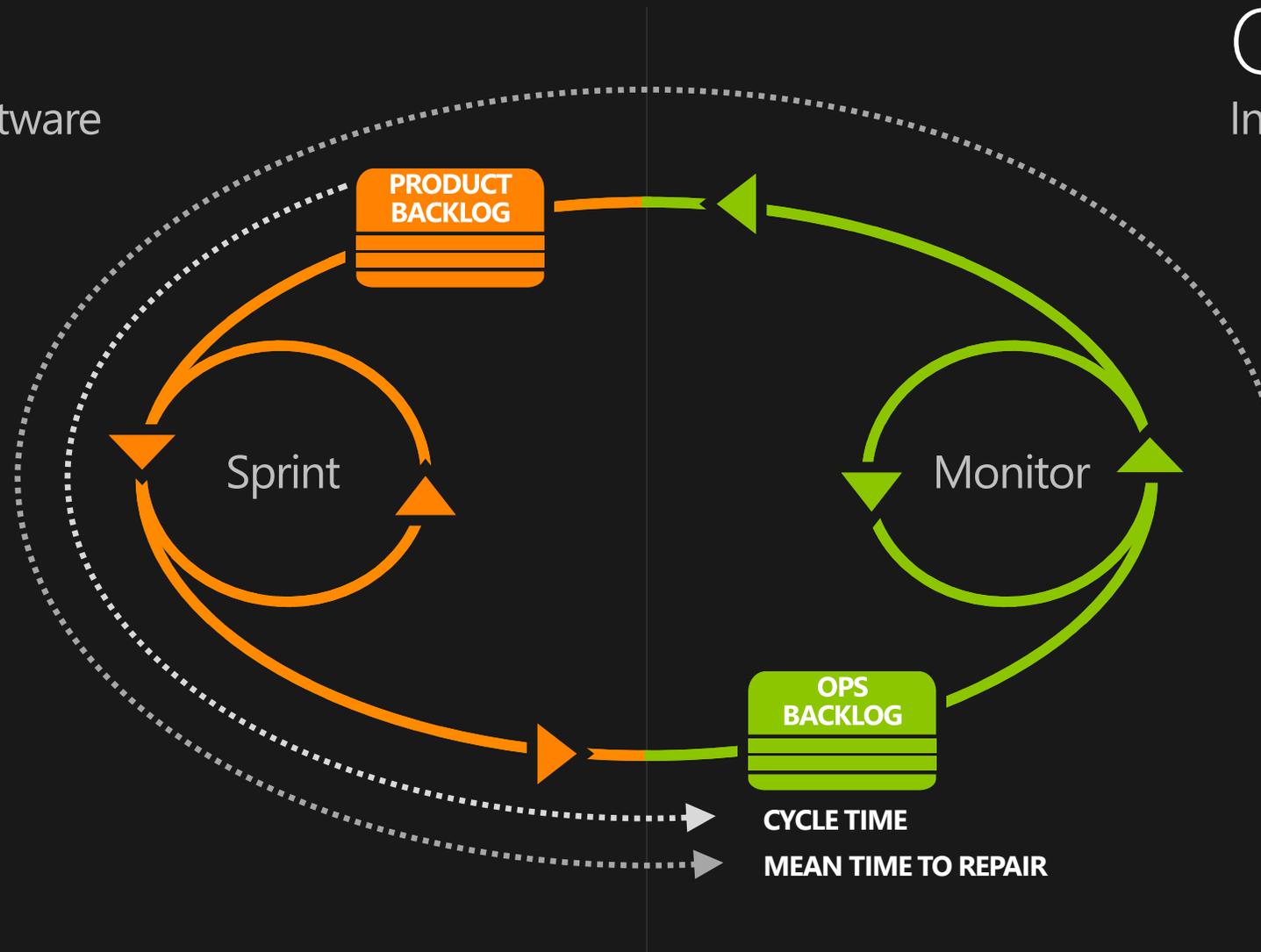
2 Metrics for Continuous Flow

Develop

Idea to working software

Operate

Incident to resolution



One More for Build Measure Learn

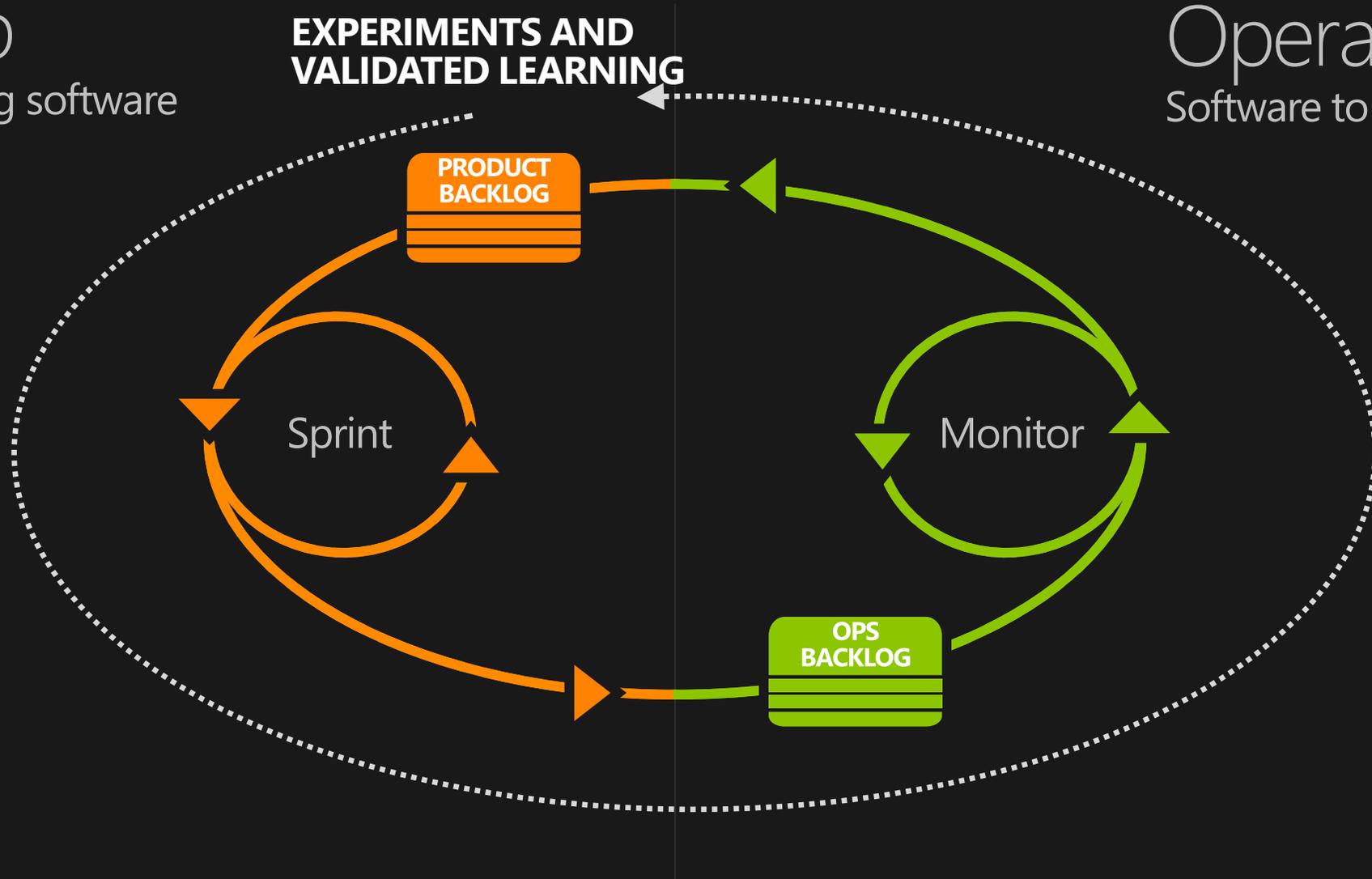
Develop

Idea to working software

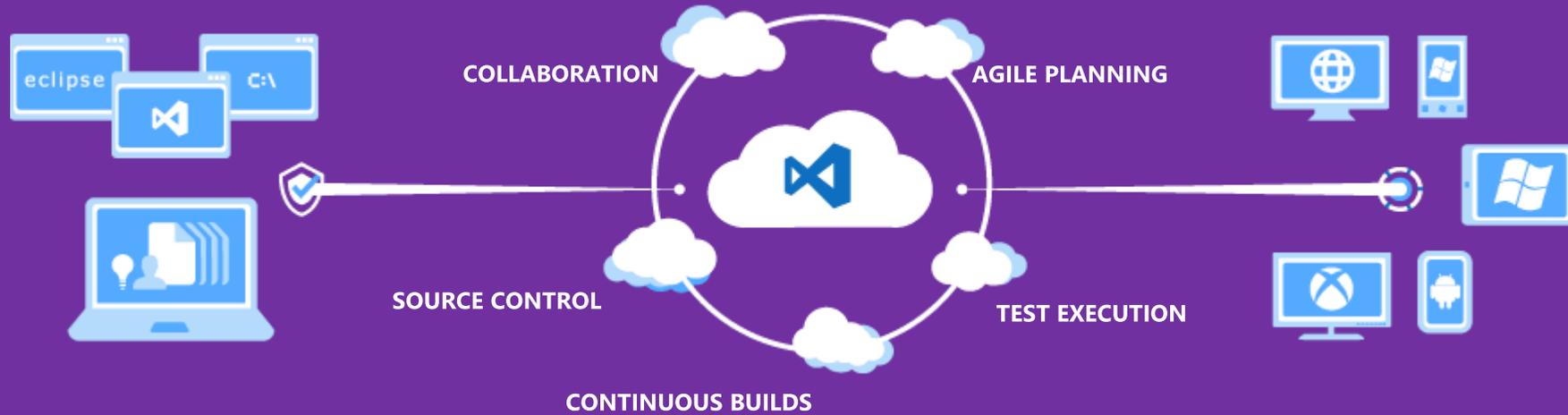
**EXPERIMENTS AND
VALIDATED LEARNING**

Operate

Software to validated learning



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tfs.visualstudio.com

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