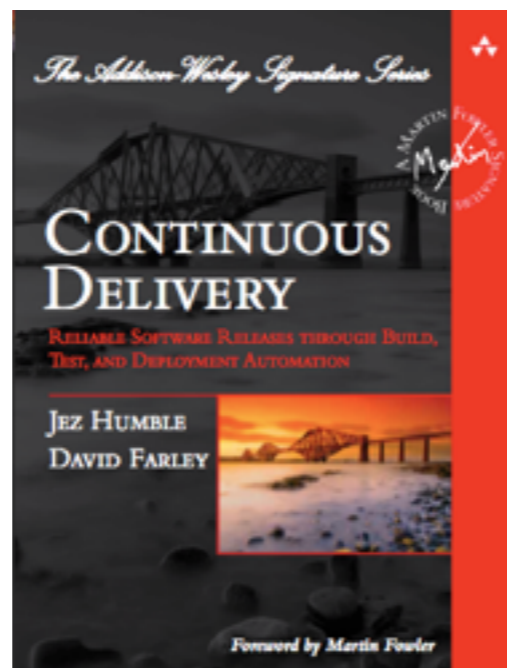




21st century software delivery

@jezhumble

#jfokus | 4 february 2015



takeaways

the project model is unsuitable for innovation

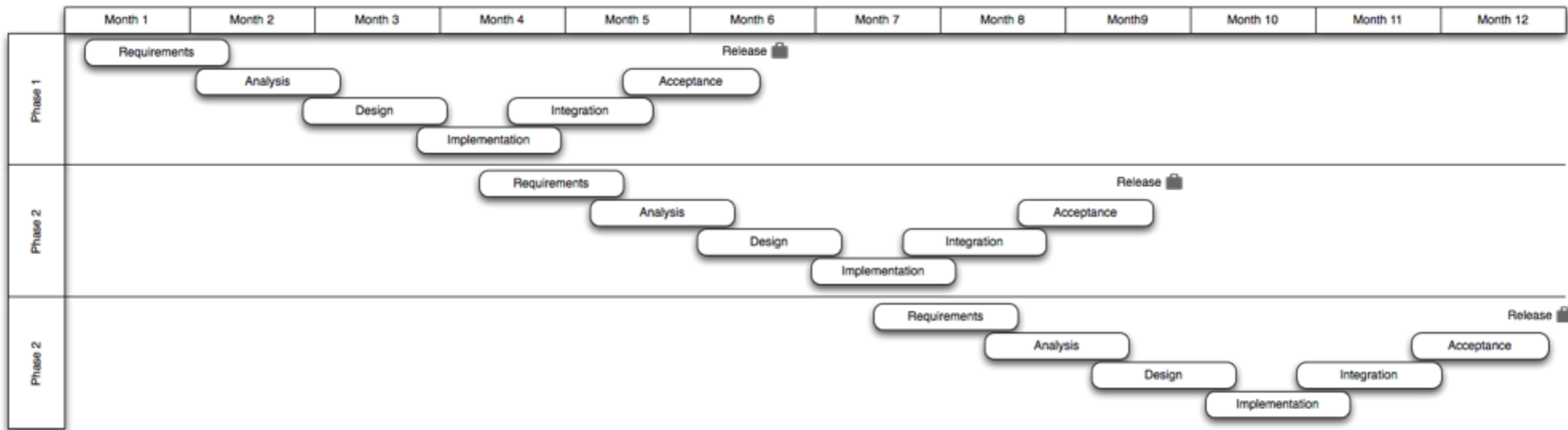
we need to address the whole value stream

the problems are process and culture

projects



methodology wars



Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Through this work we have come to value:

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck

Mike Beedle

Arie van Bennekum

Alistair Cockburn

Ward Cunningham

Martin Fowler

James Grenning

Jim Highsmith

Andrew Hunt

Ron Jeffries

Jon Kern

Brian Marick

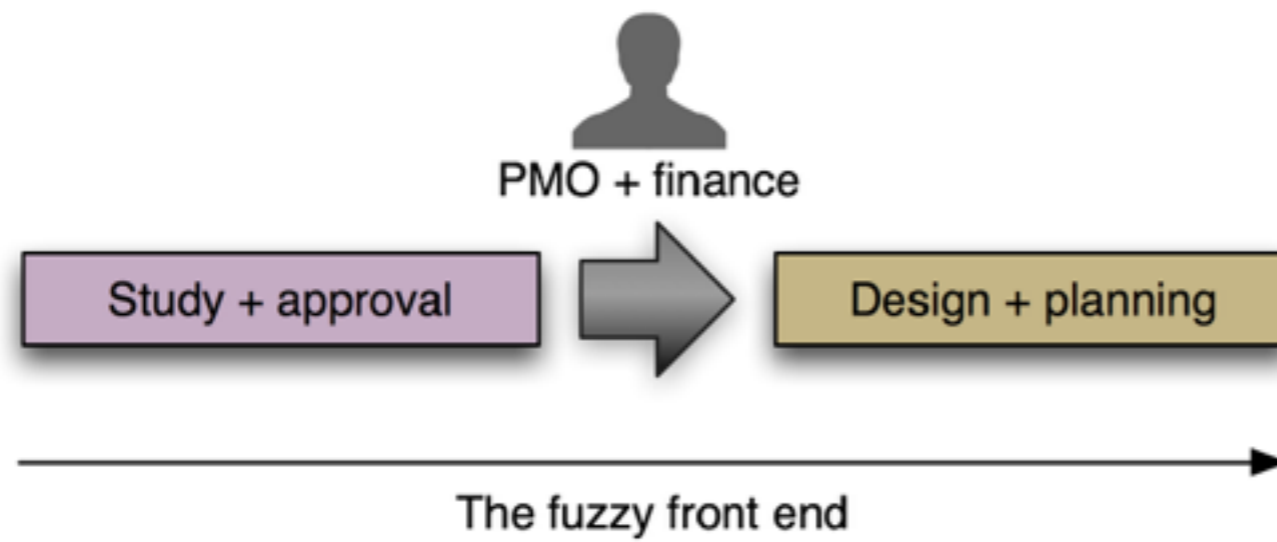
Robert C. Martin

Steve Mellor

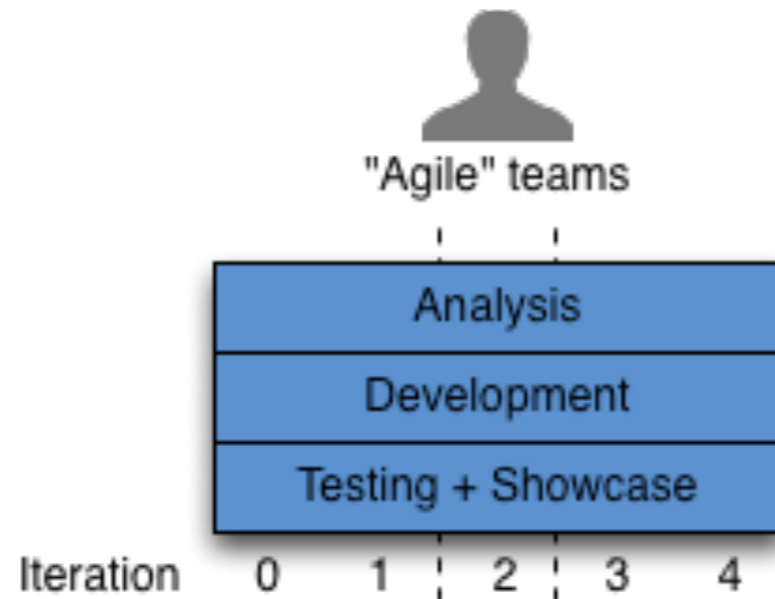
Ken Schwaber

Jeff Sutherland

Dave Thomas



water-



scrum-



fall

agile principles

our highest priority is to satisfy the customer through early and *continuous delivery of valuable software*

shareholder value

the directors of a public corporation have
a *fiduciary duty* to maximize profits

shareholder value

“shareholder value is the dumbest idea in the world ... [it is] a result, not a strategy ... Your main constituencies are your *employees, your customers and your products*” — Jack Welch

SpaceX

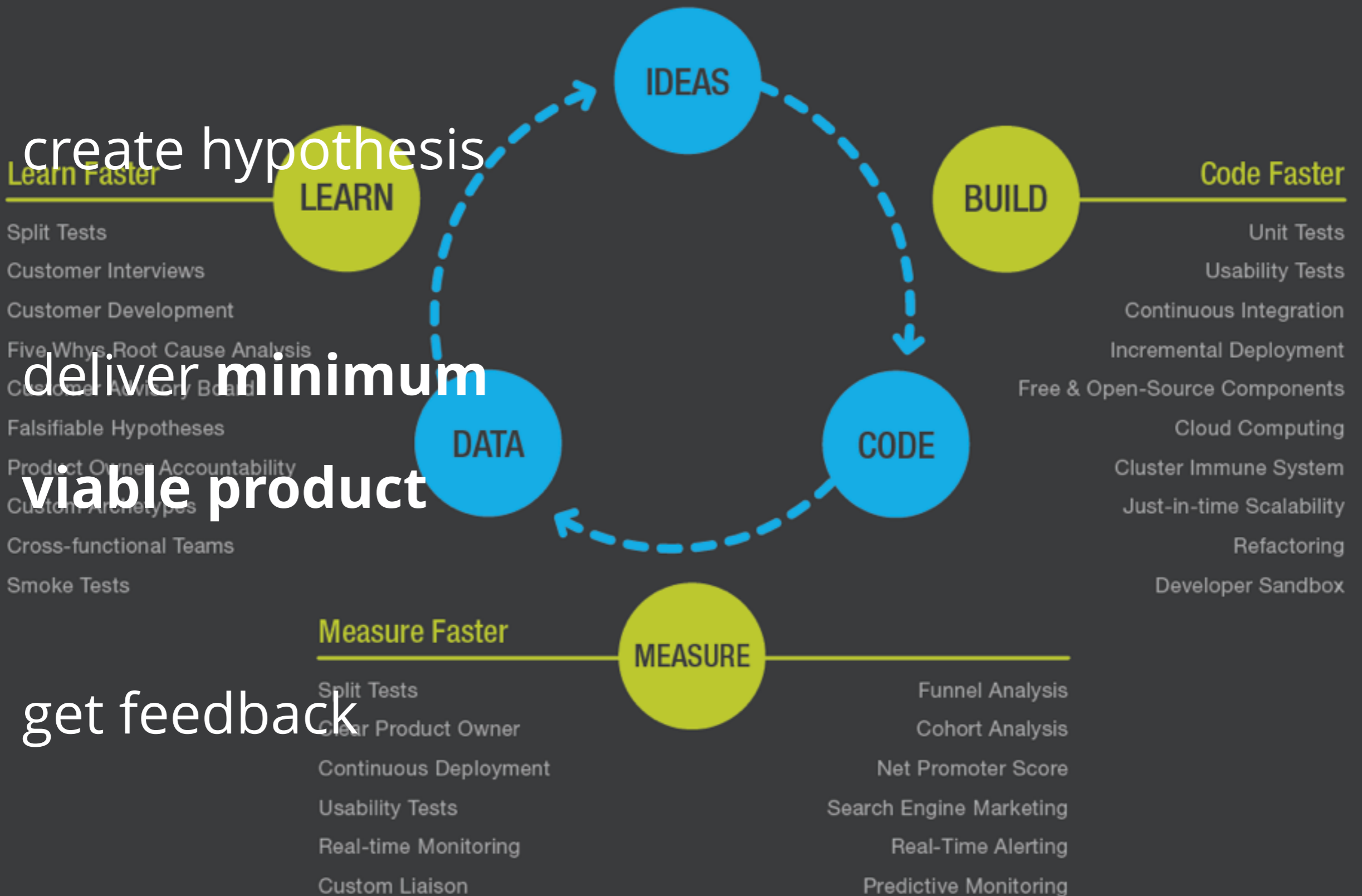
A photograph of a SpaceX Dragon capsule in space, attached to a service arm of the International Space Station. The capsule is white and cylindrical, with solar panels visible on the station's structure. The background is the black void of space.

“the company was founded in 2002 by Elon Musk to revolutionize space transportation and ultimately make it possible for people to live on other planets.”

Jack Andraka

His parents, he says, never really answered any of the questions they had. Go figure it out for yourself, they would say. "I got really into the scientific method of developing a hypothesis and testing it and getting a result and going back to do it again."

scientific method



the problem

- that sounds like a load of crap





http://www.flickr.com/photos/subtle_devices/849361922/





Apple I on display at the Smithsonian, taken by Ed Uthman

apple macintosh

“Instead of arguing about new software ideas, we actually tried them out by writing quick prototypes, keeping the ideas that worked best and discarding the others. We always had something running that represented our best thinking at the time.”

“The Macintosh Spirit” | http://www.folklore.org/StoryView.py?project=Macintosh&story=The_Macintosh_Spirit.txt

hypothesis-driven delivery

We believe that

[building this feature]

[for these people]

will achieve [this outcome].

We will know we are successful when we see
[this signal from the market].

Jeff Gothelf "Better product definition with Lean UX and Design"

<http://bit.ly/TyIT6A>

```
// Owner: frank
$server_config['new_config']['similar_items_when_unavailable'] = array(
    'description' => 'Shows similar items link on unavailable items in the cart.',
    'enabled' => '50' // now 50% of all visits will see this experiment.
);
```

Frank Harris and Nell Thomas, "Etsy's Product Development with Continuous Experimentation", <http://bit.ly/19Z5izl>

Support Tools

- Compass
- Knowledge Base
- Flags
- Shop Name Changes
- Bulk Admin Actions
- Meteor

Members

- Login History
- Name Changes
- Convo Unmute
- Feedback
- Compare

Items

- Cases
- Itemator
- Infringing Sellers
- Currency Rates
- Order Search
- Listing Freeze

Shipping

- Labels
- Providers
- Events
- Scores

Checkout

Audit Lookup

Billing

- Showcase
- Deadbeats

Forums

- Close/Reopen a Thread
- (Un)Delete a Post
- (Un)Delete a Post
- (Un)Delete a Post

Choose a different test...

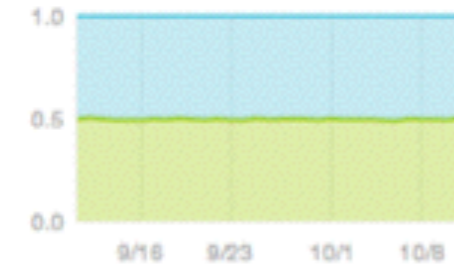
Home →

similar items when unavailable between 09/11/2012 to 10/11/2012 Filter How many days are needed?

Description: No description given

0.50 ● off
 0.50 ● on
 show filtered

0.15 cart_payment
 0.01 cart_review
 0.84 cart_view



Business Metrics Feature Funnel (beta) Listing Funnel (beta)

Show me visits - fraction of visits for adding an item to their cart (add) Add

cart payment - visits

CONTROL +0.40%



site - bounces

CONTROL -0.81%



site - page count

CONTROL +0.26%



added to cart - visits













CONTROL +0.34%



Frank Harris and Nell Thomas, "Etsy's Product Development with Continuous Experimentation", <http://bit.ly/19Z5izl>

Have an upcoming launch? [Add an Item](#)

[Active experiments](#) [Upcoming launches](#) [Recent 100% launches](#)

| Date | Name | Team | Notes |
|--------|---|------------------|--|
| Nov 7 | Gift Ideas browse pages   | Buyer Experience | This is a gift guide browse destination. Subsections will focus on recipient (for him, for her, for kids, etc.) and price (under \$25, under \$100, etc.). It will work just like all other browse pages. There will be NO HAND ... |
| Nov 7 | Etsy for iPhone (v2.1.1) | Mobile | Example — We submitted the app on Friday. We will be pushing it out when it's approved by Apple; our hope is that it's approved by Wednesday. There will be no coordination with PR or blog post. We may send ... |
| Nov 2 | Winter Holidays browse pages   | Buyer Experience | Example — These are browse pages for the Winter Holidays and will feature subsections for holiday decor, cards, etc. They'll be similar to our holiday merch hub from last year, but much deeper in terms of browsing opportunities. Those in UK ... |
| Nov 1 | Updated treatment of homepage browse links   | Buyer Experience | Example — Over a two week period we observed 4%-5% increases in browse landing page and subsection page views. There were also slight increases in add to cart and listings viewed events. Visits with a search and search events were down ... |
| Oct 24 | Next day availability of DC funds   | Payments | We plan to allow established sellers to be able to deposit their funds prior the next day after a sale. Non established sellers will still need to ship items to have available funds. |
| Oct 23 | Reduce one-time hold from 10 days to 5 days | Payments | Whenever a new seller signs up for direct checkout, a 10 day hold is placed on deposits. This also occurs anytime a bank account is updated. We have decided to reduce this standard hold period to 5 days. The main ... |
| Oct 23 | Etsy for iPhone (v2.1)   | Mobile | Example — Update: We have been approved by Apple and will be launching Tuesday, 10/23 at 8am ET. _____ Our target submit date to Apple is Wednesday 10/10. Depending on Apple's turnaround time, we expect the app to be ... |
| Oct 22 | Recipient Query Rewriting | Search & Destroy | Example — This didn't move metrics positively or negatively. However we decided to keep it because this is the first step towards using recipient in search, and encouraging users to properly associate their listing w/ a recipient. We will reevaluate how ... |
| Oct 19 | Parcel Insurance for Shipping Labels   | Seller Team | Example 1, Example 2 — Rampup started 10/9. Scheduled to finish 10/19. |
| Oct 18 | Search Ads respecting filters | Search & Destroy | This experiment didn't hurt inventory: https://splunk.etsycorp.com/en-us/search/learn/fashion/item?id=13624763753369&sr=1&srsltid=AQsi4b Also it looks like CTR might have improved. |

Frank Harris and Nell Thomas, "Etsy's Product Development with Continuous Experimentation", <http://bit.ly/19Z5izi>

**30 deploys per day
by 200+ people =
over 10,000
deploys in 2011.**

**This is continuous
delivery at Etsy.**

Frank Harris and Nell Thomas, "Etsy's Product Development with Continuous Experimentation", <http://bit.ly/I9Z5izl>

Amazon May Deployment Stats

(production hosts & environments only)

11.6 seconds

Mean time between deployments (weekday)

1,079

Max # of deployments in a single hour

10,000

Mean # of hosts simultaneously receiving a deployment

30,000

Max # of hosts simultaneously receiving a deployment

do less

“Evaluating well-designed and executed experiments that were designed to improve a key metric, **only about 1/3** were successful at improving the key metric!”

top predictors of it performance

peer-reviewed change approval process

version control everything

proactive monitoring

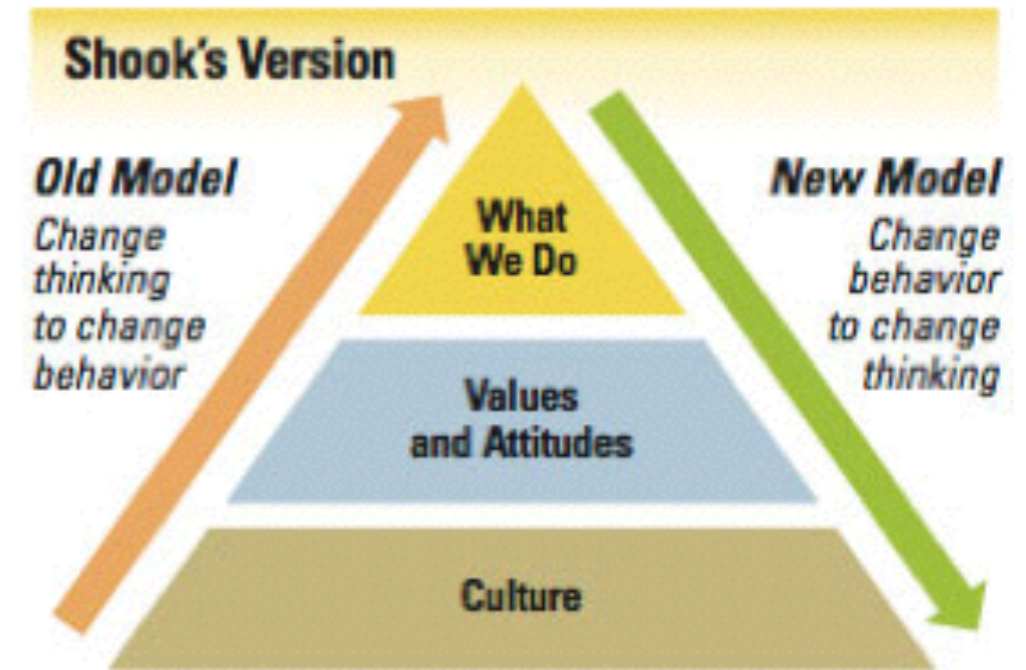
high trust organizational culture

win-win relationship between dev and ops



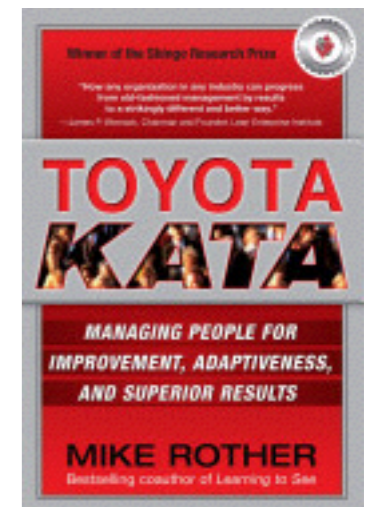
high trust culture

| Pathological (<i>power oriented</i>) | Bureaucratic (<i>rule oriented</i>) | Generative (<i>performance oriented</i>) |
|--|---------------------------------------|--|
| Low cooperation | Modest cooperation | High cooperation |
| Messengers shot | Messengers neglected | Messengers trained |
| Responsibilities shirked | Narrow responsibilities | Risks are shared |
| Bridging discouraged | Bridging tolerated | Bridging encouraged |
| Failure leads to scapegoating | Failure leads to justice | Failure leads to enquiry |
| Novelty crushed | Novelty leads to problems | Novelty implemented |



<http://www.thisamericanlife.org/radio-archives/episode/403/nummi>

<http://sloanreview.mit.edu/article/how-to-change-a-culture-lessons-from-nummi/>



"I think building this culture is the key to innovation. *Creativity must flow from everywhere.* Whether you are a summer intern or the CTO, *any good idea must be able to seek an objective test, preferably a test that exposes the idea to real customers. Everyone must be able to experiment, learn, and iterate.*"

Jack Andraka

“Make sure to be passionate about whatever it is you get into, because otherwise you won’t put the right amount of work into it.”

questions

@jezhumble | jez@chef.io

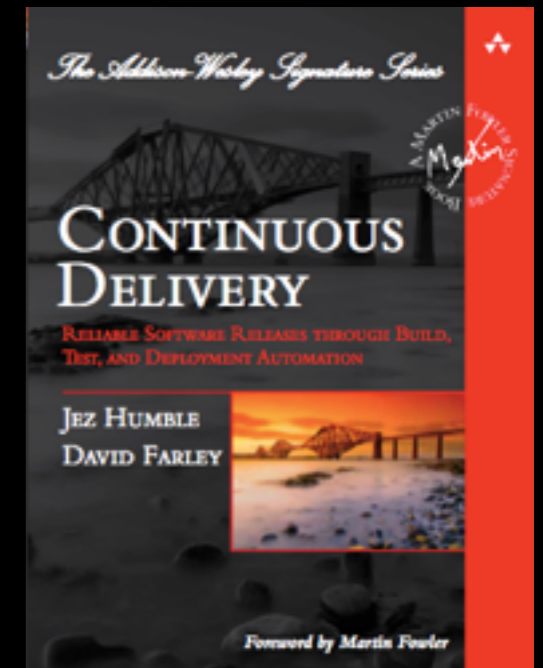
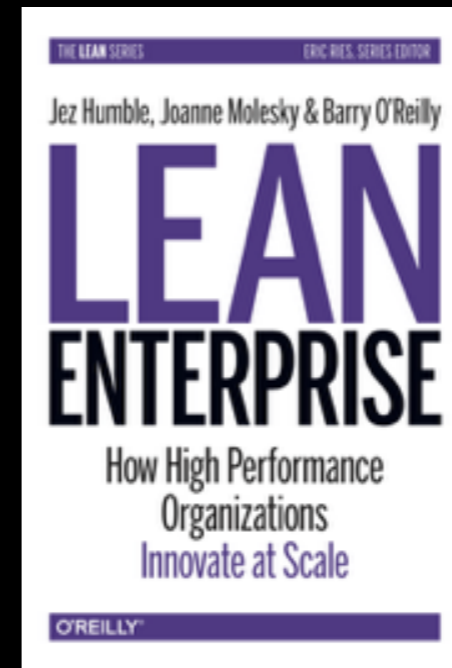
<http://chef.io/>

<http://continuousdelivery.com/>

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