A Technology Startup and Research Showcase
Agile Innovation System
Lean Startup Concepts

Dave Mawhinney
Serial Entrepreneur
October 2014
Agile Innovation System
Lean Startup Concepts
Agenda

1.) Introduction to Agile & Lean Startups - Dave Mawhinney


3.) Videos:
   “Customer Research for Entrepreneurs” Blattberg/Mawhinney
   “How We Validated Customer Need”, Rob Daley, 4Moms

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October 2014
That Lean Startup Crap is just for lightweight Web 2.0

Elaine Chen “#Leanstartup – Hardware Edition”
http://www.slideshare.net/chenelaine/lean-startup-hardware-edition-20563840

Mike Kuniavsky “Lean Hardware startups”
http://www.slideshare.net/mikek/lean-hardware-startups-elements-of-a-ubiquitous-computing-innovation-ecosystem
There is Nothing New Under the Sun!!
Kaizen!

Rapid, Continuous, Incremental, Improvement

Source:  http://en.wikipedia.org/wiki/Kaizen
Origins of Kaizen, Lean & Agile

In 1951, as part of the United States effort to rebuild Japanese industry, the Civil Communications Section’s (CCS) Economic and Scientific Section (ESS) developed the training film "Improvement in 4 Steps" (Kaizen eno Yon Dankai). This is the original introduction of "Kaizen" to Japan.

For the pioneering, introducing, and implementing Kaizen in Japan, the Emperor of Japan awarded the Second Order Medal of the Sacred Treasure to Dr. W. Edwards Deming in 1960.
2001: Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it. 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.
Why do most start-ups fail?

Will the dogs eat the dog food?

“A and C are a bit on the gritty side... B seems to have a bitter aftertaste... C has a good taste but a bit too mushy...”

They don’t talk to customers early and often enough!

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Another Evolution: MVP

???

????
Minimal Viable Product – Lean Startups

Customer Development is as important as Product Development

Product Development

- Concept/Bus. Plan
- Product Dev.
- Alpha/Beta Test
- Launch/1st Ship

Customer Development

- Customer Discovery
- Customer Validation
- Customer Creation
- Company Building

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Blank, Reis, Eisenmann
Customer Development meets Agile Product Development

The Lean Startup!
There is Nothing New Under the Sun!!

The Scientific Method

Theory
- create or modify the theory
- use the theory to make a prediction

Prediction
- design an experiment to test the prediction

Observation
- perform the experiment

Experiment
- perform the experiment
- create or modify the theory
Phases in the Embryonic Stage

2. Feasibility
   - Benchscale Model
   - Lab Tests
   - Private Information
   - Preliminary Business Analysis

3. Verification
   - Prototype Product Design
   - "Quiet" Field Exposure
   - "Quiet" Market Evaluations
   - "Quiet" Management Team

5. Commercialization
   - Full Scale Production
   - Explosive Market Development

4. Demonstration
   - Produce First Production Quantity
   - "Noisy" Customer Involvement
   - Replicate Formula for Success
   - "Seasoned" Management Team
   - Detailed Plan of Attack
If you enter a market that has an existing solution and your product is the same “price”, then you must be **THREE TIMES BETTER**.

Or, if you offer the same benefit, you must be **THREE TIMES CHEAPER**.

Why?

People are LAZY!!! The great HABIT FORCE is hard to break. So you must have a **GOODNESS FACTOR** to compel them to change!
The Goodness Factor

Don Jones
Robot Entrepreneur & VC
Quantitative Benefits

1. Saves Time

2. Saves/Makes Money

3. Hooks you up!

4. Fame/Recognition

5. Altruism/Doing Good
Lean Startup Tools

**IDEO-style Idea Generation.** IDEO has a [structured approach](http://platformsandnetworks.blogspot.com/2011/01/launching-tech-ventures-part-iii-tools.html) for applying ‘design thinking’ to new product development.


**Customer Discovery Interviews.** In *Four Steps to the Epiphany*, Steve Blank describes interview processes for assessing demand for a product idea.

**Focus Group Research.**

**Survey Research.**

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Business Model Generation

- Key activities
- Value proposition
- Customer segments
- Customer relationships
- Key partners
- Key resources
- Cost structure
- Revenue streams
- Channels
# The Business Model Canvas

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Offer</th>
<th>Customer Relationships</th>
<th>Customer Segments</th>
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Lean Startup Tools

**Persona Development.** A *persona* is a fictional character with demographic, psychographic, and behavior attributes of a representative product user. Many tech companies assess new features in terms of their fit with personas’ needs.

**Competitor Site Benchmarking.**

**Wireframing.** A wireframe is a skeletal depiction of a website showing key navigational concepts and page content. Many wireframing software tools are available, e.g., [Balsamiq](http://balsamiq.com).

**Prototype Development.**

**Usability Tests.** For $39, [UserTesting.com](http://www.usertesting.com) will videotape a representative consumer trying a product or feature.

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Source: Tom Eisenmann Tools
Ed, the Expense Tracker

“I started my own business three years ago. Now, I need a simple way to manage and track expenses that isn’t hard to learn, or more time-consuming than my current system. I already use QuickBooks, so this needs to integrate seamlessly into my existing workflow.

At tax time, I want to create year-end spending reports for my accountant (who charges by the hour). This would save me both time and money.”

Olivia, the Organizer

“My motto is, ‘a place for everything and everything in its place’. Organization gives me a sense of control and helps me manage the chaos in my life. The applications I use are structured, logical and efficient - like me.

I want NeatWorks to adapt to my style by mirroring the system I already have on my hard drive. I need to see my folders at a glance and find files quickly, and be able to organize all kinds of paper: from receipts and financial documents to articles and recipes.”
Wireframes and Prototypes
Lean Startup Tools

A/B Test of New Feature.

Conversion Funnel Analysis/Optimization.


Search Engine Marketing Campaign Design/Optimization.

Inbound Marketing Campaign Design/Delivery/Analysis. This book by Hubspot’s founders explains the logic for relying on blogs, Facebook, Twitter, etc. to drive traffic to a site.
A/B Testing

Visitors

A/B Test

Option ‘A’

18%

Goal page

Option ‘B’

12%

Origin?

Direct Mail
A/B Testing Tools

Free A/B Split Testing Tools

Landing page analyzer
Answer a series of questions to know how effective is your landing page on industry’s best practices. Run tool —

Test significance calculator
For given number of trials and conversion want to know if the results are statistically significant? Run tool —

A/B Ideafox
Get ideas for A/B, split and multivariate tests by reading case studies sorted by industry and problem type. Run tool —

Test duration calculator
Calculate the number of days you will need run your A/B split test in order to get reliable results. Run tool —
Lean Startup Tools

**Public Relations Strategy.** Startup CEOs disagree on whether a DIY approach to PR makes sense, and how long startups should wait before they invest money/time in PR.

**Site Redesign Based on User Experience Analysis.**

**Analysis of User Requests for Product Support.**

**Analysis of User Suggestions for New Features.** Dropbox has implemented a site feature for soliciting feature suggestions, called “Votebox.”

Source: Tom Eisenmann Tools  
Lean Startup Tools

*Product Roadmap/Feature Prioritization Process Design.* Startups who rely on agile development methods use project management tools such as [Pivotal Tracker](http://pivotaltracker.com).

*Design/Delivery of Sales Pitch for Early Adopters.*

*Sales Lead Prioritization Process.*

*Design/Delivery of Charter User Program.* Silicon Valley Product Group, a consulting firm that helps tech companies improve their product management capabilities, makes the case for a structured approach to working with beta customers.

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Source: Tom Eisenmann Tools
Net Promoter Score Analysis. NPS, a measure of product loyalty used by many tech companies, is obtained by asking customers: "How likely is it on a 0-10 scale that you’d recommend our product to a friend/colleague?" Respondents are categorized as Promoters (9-10 rating), Passives (7-8), or Detractors (0-6). NPS = Promoter % - Detractor %.

Lifetime Value of a Customer Analysis.
Lean Startup Reading List


Workshops

The Lean Startup Workshop

Agile Product Development Methodologies

Needs Driven Innovation

The Four Steps to the Epiphany
Successful Strategies for Products that Win

Steven Gary Blank

Agile Software Development with Scrum

Ken Schwaber & Mike Beedle

what customers want

Anthony W. Ulwick

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Workshops
Lean Startup Reading List


Getting to Plan B by John Mullins (London Business School) and Randy Komisar (Kleiner Perkins) explains why and how entrepreneurs should pivot.

Running Lean, by entrepreneur Ash Maurya, summarizes lean startup/customer development principles and does a great job of adapting Alex Osterwalder's business model generation process to web startups. Maurya's blog extends these ideas; he applies customer development processes to his current startup in this post, and discusses metrics in this one.
The Entrepreneur's Guide to Customer Development by Brant Cooper and Patrick Vlaskovits provides a clear summary of Blank's ideas and other lean startup concepts.

Reflections on lean principles from Bradford Cross.

The case against releasing early/often from Jason Cohen at OnStartups.com.

A 3-part post from Ooga Labs on startup management practices for "going fast."

Alistair Croll and Sean Power of Watching Websites on lean startup metrics to track.

Source: Tom Eisenmann Tools
Lean Startup Reading List

Mark Suster of GRP Partners on the wisdom (and ethics) of failing fast.

Michael Woloszynowicz on misperceptions about minimum viable products.

Introduction to lean startup principles by Abby Fichtner (@HackerChick), Microsoft's developer evangelist for startups. Tristan Kromer, co-founder of StartupSQUARE, develops a taxonomy of pivot types.

Design firm slicedbread on when continuous feature/fix releases are good and bad for users.

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Source: Tom Eisenmann Tools
Aardvark co-founder Max Ventilla on user-driven design.

A step-by-step example from Aymeric Guarat-Apelli of "smoke testing," i.e., assessing the viability of a new business concept by measuring consumer response to ads for a dummy site; Aymeric was inspired by this post by Tim Ferriss on how he used social media and A/B testing to build "Four Hour Workweek" into a best-seller.

Donald Reinertsen is a consultant and author of Principles of Product Development Flow. The book is dense and theoretical, but patient readers will learn a lot about the economic benefits of fast development cycles.

1.) Introduction to Agile & Lean Startups - Dave Mawhinney

2.) Video “The Lean Startup: Innovation Through Experimentation.”
   Eric Ries, Web 2.0 San Francisco 2010

3.) Videos:
   “Customer Research for Entrepreneurs” Blattberg/Mawhinney
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