Lean Product Management for Web 2.0 Products

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Lean Product Management

- **Lean**: iterating and improving quickly in a resource-efficient manner
- **Product Management**: role responsible for achieving product-market fit
- **Lean Product Management**: achieving product-market fit quickly in a resource-efficient manner

Will post slides to slideshare.net/dan_o
What’s So Great about “Lean”?

- What’s wrong with being not-so-lean?
- Startups are at risk until they’re profitable
- Funding cocoon only lasts so long
- Limited resources
- Tech markets move fast
- Time is the real enemy
- “Time is the scarcest resource and unless it is managed nothing else can be managed.”
  - Peter Drucker
My Background

Education

- BS, Electrical Engineering, Northwestern
- MS, Industrial Engineering, Virginia Tech
- MBA, Stanford
- UI design and web development

18 years of Product Management Experience

- Managed submarine design for 5 years
- 5 years at Intuit, led Quicken Product Management
- Led Product Management at Friendster
- PM consultant to startups: Box.net, YouSendIt, Epocrates
- CEO & Cofounder of YourVersion, startup building “Pandora for your real-time web content”
What’s the Formula for Product-Market Fit?

- A product that:
  - Meets customers’ needs
  - Is better than other alternatives
  - Is easy to use
  - Has a good value/price

- Simple, right?

- It’s easy to understand conceptually what we want to achieve

- HOW we achieve it is the hard part
Understanding Customer Needs
## Problem Space vs. Solution Space

<table>
<thead>
<tr>
<th>Problem Space</th>
<th>Solution Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A customer problem, need, or benefit that the product should address</td>
<td>• A specific implementation to address the need or product requirement</td>
</tr>
<tr>
<td>• A product requirement</td>
<td></td>
</tr>
</tbody>
</table>

**Example:**

<table>
<thead>
<tr>
<th>Ability to write in space (zero gravity)</th>
<th>NASA: space pen ($1 M R&amp;D cost)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Russians: pencil</td>
</tr>
<tr>
<td>Problem Space (user benefit)</td>
<td>Solution Space (product)</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Prepare my taxes</td>
<td>Pen and paper</td>
</tr>
<tr>
<td>File my taxes</td>
<td>TurboTax</td>
</tr>
<tr>
<td></td>
<td>TaxCut</td>
</tr>
</tbody>
</table>
Problem Space vs. Solution Space

Feature Level

**Problem Space** (user benefit)

- Make it easy to share a link with my friends
- Allow me to reuse my email contacts

**Solution Space** (feature)

Gmail importer

<table>
<thead>
<tr>
<th>Design</th>
<th>Preview with checkboxes</th>
<th>User can edit before import</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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How Do You Prioritize User Benefits and Product Features?

- Need a framework for prioritization
  - Which user benefits should you address?
  - Which product features to build (or improve)?
- Importance vs. Satisfaction
  - Importance of user need (problem space)
  - Satisfaction with how well a product meets the user’s need (solution space)
- Opportunity =
  High Importance need with low Satisfaction
High Importance + Low Satisfaction = Opportunity

- Opportunity
- Competitive Market
- Not Worth Going After

Importance of User Need

User Satisfaction with Current Alternatives

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Importance vs. Satisfaction
Ask Users to Rate for Each Feature

Recommended reading: “What Customers Want” by Anthony Ulwick
Kano Model: User Needs & Satisfaction

User Satisfaction

Delighter (wow)

Performance (more is better)

Need not met

Must Have

Need fully met

User Dissatisfaction

Needs & features migrate over time

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Olsen’s Hierarchy of Web User Needs (adapted from Maslow)

Customer’s Perspective

- How easy to use is it?
- Does the functionality meet my needs?
- Does the functionality work?
- Is the site fast enough?
- Is the site up when I want to use it?

What does it mean to us?

- Usability & Design
- Feature Set
- Absence of Bugs
- Page Load Time
- Uptime

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What is Your Value Proposition?

- Which user benefits are you providing?
- How are you better than competitors?

<table>
<thead>
<tr>
<th></th>
<th>Competitor A</th>
<th>Competitor B</th>
<th>You</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must Have Benefit 1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Performance Benefit 1</td>
<td>High</td>
<td>Low</td>
<td>Med</td>
</tr>
<tr>
<td>Performance Benefit 2</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Performance Benefit 3</td>
<td>Med</td>
<td>Med</td>
<td>High</td>
</tr>
<tr>
<td>Delighter Benefit 1</td>
<td>Y</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Delighter Benefit 2</td>
<td>-</td>
<td>-</td>
<td>Y</td>
</tr>
</tbody>
</table>
Prioritization and Scope

- Customer value is only half the equation
- How much engineering effort will it take?
- Need to consider value and effort (ROI)
- Ruthlessly prioritize: rank order
- Be deliberate about scope & keep it small
  - It’s easy to try to do too much
  - Strategy = deciding what you’re NOT doing
  - Break features down into smaller chunks
  - Smaller scope → faster iterations → better
UI Design and Ease of Use
Q: If two products equally deliver the exact same user benefits, which product is better?
A: The product that’s easier to use

“Ease of use” provides benefits
- Saves time
- Reduces cognitive load
- Reduces frustration

UI Design can be differentiator

Olsen’s Law: “The less user effort required, the higher the percentage of users who will do it”
The UI Design Iceberg

What most people see and react to

Visual Design

Interaction Design

Information Architecture

Conceptual Design

What good product people think about

Recommended reading: Jesse James Garrett’s “Elements of User Experience” chart, free at www.jjg.net
Elements of User Interface Design

Consists of Three Distinct Elements:

- **Information Architecture**
  - Structure and layout at both site and page level
  - How site is structured (sitemap)
  - How site information is organized (site layout)
  - How each page is organized (page layout)

- **Interaction Design**
  - How user and product interact with one another
  - User flows (e.g., navigation across multiple pages)
  - User input (e.g., controls and form design)

- **Visual Design**
  - “How it looks” vs. “What it is”, often called “chrome”
  - Fonts, colors, graphical elements
Learning from Customer Feedback
Iterating Your Product Vector Based on User Feedback in Solution Space

**Problem Space**
(your mental model)

- Help user book travel
- Help user plan travel

**Solution Space**
(what users can react to)

- Mockups / Code
- Customer Feedback

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Persevere or Pivot?

Product-Market Fit =
Getting enough data to validate that you’re climbing up the right mountain

Increasing Product-Market Fit

Pivot

Pivot
What Are You Getting Feedback & Learnings About?

Problem Space
(your mental model)

- Customer Understanding (needs & preferences)

Solution Space
(what users can react to)

- Feature Set
- UI Design
- Messaging

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What Can Solution Space Objects Can You Test with Customers?

- Range of solution space options:
  - Wireframe: low-fidelity graphics
  - Mockup: high-fidelity graphics
  - Prototype: interactive graphics or code
  - Alpha product: production code

- Graphics usually quicker/cheaper to change than code

- Goal is to gain learnings quickly
The Value of User Feedback Sessions

- Critical to talk with customers 1-on-1
- Gain better understanding of
  - Customer needs and problems
  - Issues with your feature set, UI, messaging
  - What alternatives customers are using, pros & cons of each, customer preferences
  - QA: use cases & bugs you haven’t seen
- Really a “user learning” session
- Make test as real for user as possible
“Ramen” User Feedback for Startups

- Anyone can do it!

- Ingredients:
  - Solution-space product/mockup to test
  - 1 customer (with laptop if testing code)
  - 1 desk
  - 1 person to conduct the session
  - Pen and paper
  - Optional note-taker and observers
Typical Format for Customer Session

- **5 - 10 min: Ask questions to understand user needs and solutions they currently use**
- **30 - 50 min: User feedback**
  - Show user product/mockup
  - Non-directed as much as possible
  - When necessary, direct user to attempt to perform a specific task
- **5 - 10 min: Wrap-up**
  - Answer any user questions that came up
  - Point out/explain features you want to highlight
  - Ask them if they would use the product
Dos & Don’ts of Conducting Usability

Do

- Explain to the user:
  - Their usability test will help improve the product
  - Not to worry about hurting your feelings
  - “Think Aloud Protocol”
- Ask user to attempt the task, then be a fly on the wall
- Ask non-leading, open-ended questions
- Take notes and review them afterwards for take-aways

Don’t

- Ask leading questions
- “Help” the user or explain the UI (e.g., “click over here”)
- Respond to user frustration or questions (until test is over)
- Get defensive
- Blame the user
Case Study on Product-Market Fit: MarketingReport.com
Product-Market Fit Case Study: MarketingReport.com

- My consulting client, CEO of TrustedID, had an idea for a new product
- Team: me, CEO, head of marketing, UI design consultant
- Goal:
  - Validate product-market fit quickly, cheaply without writing a single line of code
  - Determine if there was a business opportunity here
Product-Market Fit Case Study: Developing Product Concept

- Product Concept was “marketing report” that let consumers control the direct mail that they receive
- Concept was fuzzy with various components, so we broke it into 2 different “flavors”:
  - #1 “Marketing Shield”: Service to reduce/stop junk mail
  - #2 “Marketing Saver”: Opt in & receive money-saving offers
  - Each product concept consisted of several modules that each mapped to a specific user benefit
- Worked with UI designer to create paper mockups of pages for each flavor concept (5 pages each)
See Your Marketing Report & Score Today

Now available for the first time ever!
The Secret to Saving Hundreds of Dollars!
Every wonder about the secret to getting better offers and more money saving discounts? Now for the first time, you can see and correct information that can help you save hundreds of dollars per year: your Marketing Report and Marketing Score!

Enter your invitation code now

Code:  See Report

- Find out what advertisers know about you
- Receive valuable offers
- Save hundreds of dollars per year
- Safe, secure website
- Free Service

Haven't been invited? Request your invitation today.
Clustering Potential User Benefits to Create Product Concepts

“Shield” Concept
- Reduce Junk Mail
- Save Trees
- Find out what “they” know about you
- Marketing Report
  - Marketing Score
  - Marketing Profile

“Saver” Concept
- Money Saving Offers
- Compare Yourself to Others
- Social Networking

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Product-Market Fit Case Study: Recruiting People

- Telephone recruit of prospective customers
  - Wrote phone-screen questionnaire to create rough target customer segmentation
    - Wanted users who work full-time & use internet
    - Fit for opt-in concept: use coupons, Costco membership
    - Fit for anti-junk mail concept: use paper shredder, block caller ID

- Scheduled 3 groups of 2 or 3 people to discuss each product concept for 90 minutes

- Moderated each group through the paper mockups to hear their feedback
Product-Market Fit Case Study: Findings on Concepts & User Benefits

"Shield" Concept

- Reduce Junk Mail
- Save Trees

"Saver" Concept

- Find out what "they" know about you
- Marketing Report
- Marketing Score
- Marketing Profile
- Money Saving Offers
- Compare Yourself to Others
- Social Networking

Legend

- Strong appeal
- Somewhat positive
- Low appeal
Product-Market Fit Case Study: Learnings from Research

- Learned that “Shield” (anti-junk mail) concept was stronger than “Saver”
- People didn’t like many of the “Saver” concept components
- Learned users’ concerns / questions about “Shield” concept
- Refined “Shield” concept:
  - Removed irrelevant components
  - Improved messaging to address user concerns / questions
- Validated revised “Shield” concept with quick 2nd round of tests
  - No customer concerns
  - Clear willingness to pay
Junk mail causes identity theft. We stop it.

Tired of shredding those credit cards you never asked for, checks you never ordered and refinance offers that look too good to be true? Why not cut the junk mail off at the source. With JunkmailFreeze™, a free service from the people at Trusted ID, that's exactly what you can do. Learn More

✓ Reduce the risk of identity theft
✓ Stop the junk mail ID thieves want
✓ Spend less time shredding mail
✓ Help the environment. Save 43 trees!
✓ 100% free service

Stop your junk mail today!
Pick the categories you want to stop:
- [ ] Cash advance checks
- [ ] New credit card offers
- [ ] Pre-approved credit card offers

Over 50 additional categories on the next page!

Get Started

Pick categories    Register    Stop junk mail

In less than 3 minutes, you can stop your junk mail
Product-Market Fit Case Study: Summary

- 4 weeks from 1\textsuperscript{st} meeting to validated product concept
- Cost $1,500 to talk with 20 users ($75 each)
- 1 round of iteration on product concept
- Identified compelling concept that users are willing to pay $10/month for
- Trimmed away non-valuable pieces
- You can achieve similar results
Getting Quantitative: Optimization Using Metrics
Approaching Your Business as an Optimization Exercise

Given reality as it exists today, optimize our business results subject to our resource constraints.
Define the Equation of your Business
“Peeling the Onion”

Advertising Business Model:

Profit = Revenue - Cost

Unique Visitors \times \text{Ad Revenue per Visitor}

\begin{align*}
\text{Impressions/Visitor} & \times \text{Effective CPM / 1000} \\
\text{Visits/Visitor} & \times \text{Pageviews/Visit} \times \text{Impressions/PV}
\end{align*}

\begin{align*}
\text{New Visitors} + \text{Returning Visitors} \\
\text{Invited Visitors} + \text{Uninvited Visitors}
\end{align*}

\# \text{ of Users Sending Invites} \times \text{Invites Sent/User} \times \text{Invite Conversion Rate}
Equation of your Business Subscription Business Model

Profit = Revenue - Cost

- Paying Users x Revenue per Paying User
- New Paying Users + Repeat Paying Users
- Trial Users x Conv Rate
- Previous Paying Users x (1 – Cancellation Rate)
- (SEO Visitors + SEM Visitors + Viral Visitors) x Trial Conversion Rate
How to Track Your Metrics

- Track each metric as daily time series

<table>
<thead>
<tr>
<th>Date</th>
<th>Unique Visitors</th>
<th>Page views</th>
<th>Ad Revenue</th>
<th>New User Sign-ups</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/24/08</td>
<td>10,100</td>
<td>29,600</td>
<td>25</td>
<td>490</td>
<td></td>
</tr>
<tr>
<td>4/25/08</td>
<td>10,500</td>
<td>27,100</td>
<td>24</td>
<td>480</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Create ratios from primary metrics: \( X / Y \)
  - Example: How good is your registration page?
  - Okay: \# of registered users per day
  - Better: registration conversion rate = \\
    \# registered users / \# uniques to reg page
Sample Signup Page Yield Data

Daily Signup Page Yield vs. Time
New Registered Users divided by Unique Visitors to Signup Page

- Changed messaging
- Added questions to signup page
- Started requiring registration
Identifying the “Critical Few” Metrics

- What are the metrics for your business?
- Where is current value for each metric?
- How many resources to “move” each metric?
  - Developer-hours, time, money
- Which metrics have highest ROI opportunities?

---

**Metric A**
Good ROI

```
Return

Investment
```

**Metric B**
Bad ROI

```
Return

Investment
```

**Metric C**
Great ROI

```
Return

Investment
```
Metrics to Validate Product-Market Fit

- Survey results
  - Importance & Satisfaction
  - Net Promoter Score

- Survey.io
  - “How would you feel if you could no longer use Product X?”
    - Very disappointed, Somewhat disappointed, Not disappointed

- User behavior
  - Prospects sign up (high conversion rate)
  - They keep using it (high retention rate)
  - They use it often (high frequency of use)
Continuous Improvement
Adding Metrics and Optimization to your Product Process

Plan

- Business Objectives
- Product Objectives
- Prioritized Feature List

Design

- Scoping
- Requirements & Design
- Code
- Test
- Launch

Develop

- Metrics & User Feedback

Optimize

Site Level

Feature Level
Optimization through Iteration: Continuous Improvement

Measure the metric

Learning
  Gaining knowledge:
  • Market
  • Customer
  • Domain
  • Usability

Analyze the metric
  Identify top opportunities to improve
  Design & develop the enhancement

Launch the enhancement
Lean Product Management Cheat Sheet

- Clarify problem space by iterating in the solution space & getting user feedback
- Revise feature set, UI design, and messaging to improve product-market fit
- Ruthlessly prioritize based on ROI
- Define equation of your business
- Identify and track key metrics
- Launch, learn, and iterate
-“Pandora for your real-time web content”
-Aggregates latest news, blogs, twitter, etc. tailored to your specific interests
-Free iPhone App, browser tools

-Intimate, all-day workshop for startups on Product Management, Design, & Marketing
-Sat June 12th in Palo Alto