Evidence-Based Learning Practices: The Lean LaunchPad Approach

Christina Pellicane, MBS
Executive Manager, NYC Regional Innovation Node
City University Of New York
Agenda

• Background
  – I-Corps Genesis and Vision
  – National Innovation Network

• Lean LaunchPad Methodology
  – Program Curriculum
  – What we used to believe vs What we now know
  – The Business Model Canvas

• Customer Discovery to validate
  – The Art of Interviewing

• Q&A
Commercialization Myth

- Basic & Applied Research
- Discovery/Invention/IP Creation
- Venture Formation & Growth

The “valley of death”
Commercialization Reality

- Basic & Applied Research
- Discovery/Invention/IP Creation
- Business Model & Team Formation
- Prototype Development
- Venture Formation & Growth

- Customer/market validation
- Engineering/prototypes
- Mentors and advisors
- Collaborative spaces
- Business leadership
- Legal counsel
- Capital

The “valley of death”
I-Corps Goals

• Transcending the “Ditch of Death”
  – Helping entrepreneurs succeed

• Aligns with NSF strategy
  – Increase the impact of basic research investments

• Increase network opportunities
  – National network of collaboration between government, public and academic sectors
New York City Regional Innovation Node

- NYCRIN led by **CUNY** with **NYU** & **Columbia**

- Network of 25+ leading universities in the **New York, New Jersey, Connecticut, & Pennsylvania**

- ~$4M to offer I-Corps trainings, regional activities & develop entrepreneurship best practices

"A collaborative Node providing innovation infrastructure, education, and research for the national entrepreneurship ecosystem"
NSF I-Corps Program

- Maximizes impact of NSF investments – accelerate readiness to **transition tech out of the lab**
- **$50,000 grants** to create prototypes & commercialization roadmaps
- 7-week ‘**bootcamp**’ that leverages best practices from startup community
- Emphasizes **team** reliance
- Creates a **national network**
  - Scientists, engineers, innovators, business leaders and entrepreneurs

* Eligibility: NSF grant within past 5 years
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Program Curriculum

• Lean Launchpad Methodology
  – Business-model discovery to address market risk
  – Leverages scientific method – form hypotheses, run experiments, iterate to search for repeatable & scalable business model
  – Learn how to secure substantial customer feedback before building & launching your product

• Flipped Classroom
  – Online lectures via Udacity
  – “Classroom” time spent reviewing progress
  – Interview ~15 customers & partners/week
  – Weekly teaching team office hours
What We Used to Believe
vs
What We Now Know

**Startups** are *not* small versions of big **companies**
What’s a **Company**?

A business organization which sells a product or service in exchange for revenue and profit.

What’s a **Startup**?

A *temporary* organization designed to *search* for a repeatable and scalable business model. A Startup aims to become a company.
# Business Models

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Customer Relationships</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who are our key partners?</td>
<td>What key activities do our value propositions require?</td>
<td>What value do we deliver to the customer?</td>
<td>What type of relationship does each of our customer segments expect to establish and maintain with them?</td>
<td>For whom are we creating value?</td>
</tr>
<tr>
<td>Who are our key suppliers?</td>
<td>What key resources do our value propositions require?</td>
<td>Which of our customer’s problems are we helping to solve?</td>
<td>Which ones have we established?</td>
<td>What are our most important customers?</td>
</tr>
<tr>
<td>When do we acquire from partners?</td>
<td>What activities do our partners perform?</td>
<td>What bundles of products and services are we offering to each customer segment?</td>
<td>How are they integrated with the cost of our business model?</td>
<td>How do we keep them?</td>
</tr>
<tr>
<td>Which key activities do our partners perform?</td>
<td>How much do we invest in customer relationships?</td>
<td>Which customer needs are we satisfying?</td>
<td>How costly are they?</td>
<td>How do we retain them?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Resources</th>
<th>Channels</th>
<th>Cost Structure</th>
<th>Revenue Streams</th>
</tr>
</thead>
<tbody>
<tr>
<td>What key resources do our value propositions require?</td>
<td>Through which channels do our customer segments want to be reached?</td>
<td>What is the most important cost element in our business model?</td>
<td>For what value are our customers truly willing to pay?</td>
</tr>
<tr>
<td>Our distribution channels</td>
<td>How are we reaching them now?</td>
<td>What key resources are most expensive?</td>
<td>For what do they currently pay?</td>
</tr>
<tr>
<td>Customer relationships</td>
<td>How are our channels integrated?</td>
<td>Which key resources are most expensive?</td>
<td>How are they currently paying?</td>
</tr>
<tr>
<td>Revenue streams</td>
<td>Which ones work best?</td>
<td>Which ones are most efficient?</td>
<td>How would they prefer to pay?</td>
</tr>
<tr>
<td>Value streams</td>
<td>How are we integrating them with customer relations?</td>
<td>Which ones are most efficient?</td>
<td>How much does each customer segment contribute to overall revenue?</td>
</tr>
</tbody>
</table>

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How do you turn guesses into facts?
Startups search!
**Search**

**Strategy**
Business Model Hypotheses

**Process**
Customer Development, Agile Development

**Organization**
Customer Development Team, Founder-driven

**Education**
Business Model Design, Customer Development, Startup team building, Entrepreneurial Finance, Agile Development, Marketing

**Instructional Strategies**
Experiential, constructivist, learner-centered, inquiry-based

**Execution**

**Operating Plan + Financial Model**

**Product Management**
Agile or Waterfall Development

**Functional Organization**
by Department

**Organizational Behavior, HR Mgmt, Accounting, Modeling, Strategy, Operations, Leadership, Marketing, Manufacturing**

**Case, Lecture, Small Group, Mentorship**
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• Q&A
Goal: Use Customer Discovery to turn hypotheses (guesses!) into facts

- Need a critical mass to draw a line and make conclusions
- Value of speed and insight
- How do you do it?
  - Interviewing properly
  - Interpreting your data
# The Art of Customer Interviews

**Good**
- Disarm the sales pitch mentality
- Insight Qs
- Open ended Qs
- Listen, then listen, then listen more
- Parrot back to confirm
- Further introductions
- Thank the interviewee

**Bad**
- Selling your product or service
- Talking about your tech
- Not listening
- “Learn nothing” Qs
- “False positive” Qs
- Biased Qs
- Interrupting
- Missed opportunities to dig deep
The Art of Customer Interviews

Good

• Disarm the sales pitch
• Insight Qs
• Open ended Qs
• Listen, then listen, then listen more
• Why - why - why - why
• Parrot back to confirm
• Further introductions
• Thank the interviewee

Bad

• Selling your product or service
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The Art of Customer Interviews

Role playing exercise
Interpreting your data

• This is a continuous **process**
• End meetings correctly
• Always look for the "unexpected answer" & surprises
• Beware of "false pivots"
• Change direction only based on **insightful data**, not gut feelings, rumors, etc.
• Remember, your discovery journey is looking for a **Product-Market fit**
Confirmation Bias
Customer Discovery Best Practices

• Apply the **scientific method** to customer discovery.
• Design a test for each hypothesis.
• Seek to determine if your hypothesis is true or false.
• Your hypotheses MUST be **falsifiable**. The inverse hypothesis cannot be ridiculous.
• Be **specific**. No “ands” or commas.
• At all costs, **avoid validation**!
• Meet people you do not already know or use people unfamiliar to your customers!
• People you don’t know do not have a relationship to protect. They will speak the truth… if you let them!
Customer Discovery Best Practices

- Facts are interesting
- Your goal is to uncover insights
- Avoid confirmation bias at every turn
- Don’t just scratch the surface
- Dive deep into your archetypes.
- Embrace the unexpected!
- Don’t fear picking the wrong markets.
- Look for hidden motivations.
- Increased depths of understanding always leads to insight.
Key Take Aways

• **Startups** are not smaller versions of big **companies**
• Search for the **value** your “customers” want
• Test your **assumptions**
  – Collect evidence and validate/invalidate guesses
• **Exercises** should be **designed** to foster specific skill sets
• Treat all conflicts, challenges, deficiencies as **learning lessons**
• Assess for **efficacy**, then **iterate**!
Questions?

Christina.Pellicane@cuny.edu

NYCRIN.org

NYC Regional Innovation Node group

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Facebook.com/NYCRIN
Resources

The Startup Owner’s Manual

By Steve Blank & Bob Dorf

Video [here](#)

Business Model Generation

By Alex Osterwalder & Yves Pigneur

Video [here](#)

Value Proposition Design

By Steve Blank & Bob Dorf

Video [here](#)

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I-Corps in the Classroom
Spring 2014 - 15 weeks

Cooper Union
34 freshmen undergrad MechE
13 mentors

Grove School of Engineering
32 competition finalists
14 mentors
I-Corps in the Classroom
Summer 2014 – Competitions

Penn Center for Innovation (PCI)
12 undergrads/graduates
4 mentors

Zahn Innovation Center
13 CCNY undergraduates
Social Impact competition finalists
I-Corps in the Classroom

Fall 2014 – 15 weeks

University of Pennsylvania
19 undergraduates & graduates
6 mentors
I-Corps in the Classroom

Spring 2015 - 15 weeks

Cooper Union
43 freshmen undergrad MechE
8 mentors
Assessment

• Critical & reflective thinking **exercises**
• **Intake and finale** survey tested:
  1. Familiarity with LLP and business models
  2. Grit, empathy, creative thinking (pre vs post)
  3. Skills confidence levels
• **Skills analysis** included:
  1. Teamwork
  2. Data analysis
  3. Communication
    1. Presentation delivery
    2. Talking to adults
  4. Networking
• Longitudinal interviews with team members
Assessment

How confident are you...
Assessment

A. Collaborating Effectively in a Team

Before:
- 3% Not at all
- 35% To little extent
- 51% To some extent
- 11% To a moderate extent

After:
- 2% Not at all
- 15% To little extent
- 52% To some extent
- 31% To a large extent

N=46
Assessment

B. Gaining Insight by Analyzing Data

Before
- 6% Not at all
- 20% To little extent
- 28% To some extent
- 27% To a moderate extent
- 18% To a large extent

After
- 6% Not at all
- 7% To little extent
- 48% To some extent
- 39% To a moderate extent

N=46
Assessment

C. Delivering Presentations

Before:
- 2% Not at all
- 20% To little extent
- 36% To some extent
- 23% To a moderate extent
- 19% To a large extent

After:
- 2% Not at all
- 16% To little extent
- 37% To some extent
- 45% To a moderate extent

N=46
Assessment

D. Communicating with Professionals

Before:
- Not at all: 5%
- To little extent: 27%
- To some extent: 32%
- To a moderate extent: 27%
- To a large extent: 9%

After:
- Not at all: 5%
- To little extent: 12%
- To some extent: 39%
- To a moderate extent: 40%
- To a large extent: 9%

N=46
Assessment

E. Growing and Utilizing your Network

Before
- Not at all: 19%
- To little extent: 35%
- To some extent: 35%
- To a moderate extent: 9%
- To a large extent: 2%

After
- Not at all: 6%
- To little extent: 13%
- To some extent: 25%
- To a moderate extent: 39%
- To a large extent: 17%

N=46
Key Take Aways

1. I-Corps + Soft Skills

- Enthusiasm & Attitude
- Problem Solving & Critical Thinking
- Networking
- Professionalism
- Teamwork
- Communication
Key Take Aways

1. I-Corps + Soft Skills
2. Ideation and team formation is framed around problems/needs
3. Exercises should be designed to foster specific skill sets
4. Treat all conflicts, challenges, deficiencies as learning lessons
5. Assess for efficacy, then iterate!