The ABC's of NSF I-Corps

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Agenda

• Background
  – I-Corps Genesis and Vision
  – NSF/National versus NYCRIN/Regional

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

• Q&A
Commercialization Myth

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

The “valley of death”
Bridging the Ditch

Resources Invested

Discovery | Development | Commercialization

- University
- Small Business
- Valley of Death
- "Ditch of Death"
- Industry
- Investors
- Foundations

Programs:
- NSF overall
- STC
- GOALI
- ERC
- AIR/PFI
- I/UCRC
- STTR
- SBIR

I-Corps
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

• Increase network opportunities
  – National network of collaboration between government, public and academic sectors

• Aligns with NSF strategy
  – Increase the impact of basic research investments
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
NYCRIN I-Corps Program

- I-Corps for non-NSF funded research
- Open to researchers and students from all universities in NY, NJ, CT & PA
- Same curriculum, program structure & instructors as NSF program
- Collaboration of CUNY, NYU & Columbia
Regional Programs

- **NYCRIN I-Corps** for non-NSF funded research (42 teams)
- **Regional programs** held with network institutions (69 teams)
- **Train the trainer** for other universities to learn to teach LLP
- **Annual Network Meeting** for entire region
- **Provide network connections**
- **GrOE program** for I-Corps graduates

169 teams! Over 650 participants!
Fact Sheet: President Obama Announces New Commitments from Investors, Companies, Universities, and Cities to Advance Inclusive Entrepreneurship at First-Ever White House Demo Day

WASHINGTON, DC – Today, President Obama will host the first-ever White House Demo Day focused on inclusive entrepreneurship, welcoming startup founders from diverse walks of life and from across the country to showcase their innovations. The President will announce new public- and private-sector commitments that promise to provide more Americans with the opportunity to pursue their bold, game-changing ideas.

America’s entrepreneurial economy is the envy of the world. But, we need to do more to make sure that we are tapping our full entrepreneurial potential – drawing on talented Americans from all backgrounds and locations.

Scaling up the National Science Foundation I-Corps program with eight new and expanded Federal agency partnerships, introducing hundreds of entrepreneurial scientist teams across the country to a rigorous process for moving their discoveries out of the lab and into the marketplace.

To maintain our lead as the best place on the planet to start and scale a great company, we must ensure that vibrant startup ecosystems emerge in every corner of America, and that all Americans have the opportunity to participate.
Scaling I-Corps

- National Science Foundation
- National Institutes of Health
- Department of Energy
- Department of Defense
- National Security Agency
- United States Department of Agriculture
- Department of Homeland Security
- Small Business Association

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• Q&A
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
What We Used to Believe
Startups are a Smaller Version of a Large Company
What We Now Know
Startups Search
Companies Execute
What We Used to Believe
Start With an Operating Plan and Financial Model
All I Need to Do is Make the Forecast
All I Need to Do is Execute the Plan
What We Now Know
“Everyone has a plan until they get punched in the mouth.” –Mike Tyson
All I Need to Do is Make the Forecast
No Business Plan survives first contact with customers
Planning comes before the plan
What problem are you solving?
Who cares?

Product – Market Fit
Business Models

1. What Do you do?

2. Who Are your customers?

3. Why Do your customers care?
Business Models

Key Partners
- Who are our key partners?
- Who are our key suppliers?
- Whom do we acquire from partners?

Key Activities
- What are our key Activities that require value propositions?
- How do our activities change the customer?

Value Propositions
- What value do we deliver to the customer?
- What bundle of products and services are we offering to each Customer Segment?

Customer Relationship
- What type of relationship does each of our Customer Segments expect to establish and maintain?
- Which factors influence the relationship?

Customer Segments
- For whom are we creating value?
- Whose needs are we meeting?

Key Resources
- What key resources do we need to deliver our products and services?
- What makes our resources unique?

Channels
- Through which channels do our Customer Segments want to be reached?
- How do we deliver value through channels?

Cost Structure
- What are the most important costs in our business model?
- What are the most important resources?

Revenue Streams
- For what value are our customers willing to pay?
- How much do we charge for each revenue stream?
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**
Resources

You’re holding a handbook for visionaries, game changers, and challengers striving to defy outmoded business models and design tomorrow’s enterprises. It’s a book for the...

Business Model Generation

By Alex Osterwalder & Yves Pigneur

How to create products and services customers want. Get started with...

Value Proposition Design

strategyzer.com/vpd

Written by
Alex Osterwalder
Yves Pigneur
Greg Bernarda
Alan Smith
Designed by
Trish Papadakos

Video here

By Alex Osterwalder & Yves Pigneur

Video here

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Questions?

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