



Lean Startup Approach

to Design Impact-Driven Education Projects

Learning Summit 2017– June 14, 2017 – 8:00 – 8:45 am



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Purdue University and
University of Minnesota

Agenda

Introduction of Facilitators, ASEE, and Summit Expectations 5 min

Implementing Innovations in Academia 10 min

- Importance/Role of Discovery in Implementing Educational Projects
- NSF Innovation Corps for Learning (I-Corps™ L)
 - History & Description
 - Current Initiatives

Lean Start-Up Approach 5 min

- Business Model Canvas
- Customer Discovery Process
- Agile Engineering – Iterate & Increment

Customer Segments (CS) and Value Proposition (VP) Exercise 20 min

- Identify an education innovation that you would like to see sustained and scaled
- Within that innovation identify one Value Proposition (VP) that you think is aligned with one Customer Segment (CS)

Summary and Feedback 5 min



Membership

- **12,000+** individual members (1,400 online)
- **460** colleges of engineering and engineering technology
- **90+** corporations, professional organizations, & government agencies

Dues

- **Community Colleges - \$350**
- International Institutions - \$1,500
- U.S. Institutions - \$3,500 - \$5,000
- **Individual - \$89 (online)**

Learning Summit Expectations

A working retreat for college teams to focus on improving and expanding learning at their institutions, **with the aim of helping colleges accelerate progress on these efforts...**

... each college team... to identify a specific project or initiative that will be its focus *during* the Summit. **(Ask some attendees to briefly describe their project)**



Key Features of I-Corps™ for Learning

Curriculum

- Business Model Canvas
- Customer Discovery
- Agile Engineering

Course Specific Outcomes

Assessment Instruments

Syllabus Iterations

Balanced Teaching Team

Diverse Participant Segments

Teams Composition

Team Name _____ Team # _____	TEAM DECISION		Go	No Go, But Continue	No Go
	TT REC	Go	No Go, But Continue	No Go	No Go
Evidence of Criteria in Team's BMC					
Teaching Team criteria for a 'Go' decision:	None (1)	Poor (2)	Adequate (3)	Outstanding (4)	
1. Value propositions align with customer segments					
2. Evidence of champion (decision-maker) from at least one customer segment					
3. Specific and concrete definition of scale					
4. Credible path towards scaling and sustaining identified					



Current Initiatives

Awareness Sessions	Introduction to I-Corps™ L	National Cohort
1-3 hours	2 weeks	7 weeks
Face-to-Face Online	Online Hybrid	Hybrid
<ul style="list-style-type: none"> • Introduction to core features of the Lean Startup Process • Focus on the importance of sustainable scalability at the early stages of concept development 	<ul style="list-style-type: none"> • Opportunity to develop 'proof-of-concept' evidence towards sustaining and scaling • Focus on Value Proposition + Customer Segment 'fit' 	<ul style="list-style-type: none"> • Opportunity to determine innovation readiness for sustainable scalability • Immersion in the Lean Startup Process
Frontiers in Education (FIE) October 2017, Indianapolis, IN	*ASEE Annual Conference June 25-28, Columbus, OH	? (traditionally Jul-Aug)

SMART START

DESIGNING IMPACT-DRIVEN PROJECTS

ABOUT THE COURSE

This no-cost, two-week course is designed for researchers and innovators who want to deepen the impact of a project, product, or program to improve STEM education at any level in both formal and informal settings. When you accept the challenge, you will:

- Identify the audience for your innovation and expand your research impact.
- Learning how to develop an effective proof-of-concept, saving time and resources.
- Awaken your inner entrepreneur.
- Become more aware of the needs of others and seek efficient ways to address them.
- Decide whether a rigorous, 8-week training like NSF I-Corps™ or I-Corps™ for Learning (I-Corps™ L) is right for you.

HOW TO APPLY

1. Check eligibility and application process on the website:

<https://www.asee.org/i-corps-l/events/smart-start>

2. Prepare an online application that addresses the following:

- Brief description of your STEM learning innovation.
- Summary of evidence supporting innovation (e.g. documented learning outcomes) and any proof of concept data (implementation results).
- List of (up to three) team members, including their connection with the innovation (e.g., principal investigator, graduate student researcher, etc.).
- Confirmation of team members' willingness to commit to the two-week course, including attending all meetings and conducting customer discovery interviews.

3. Submit an application at

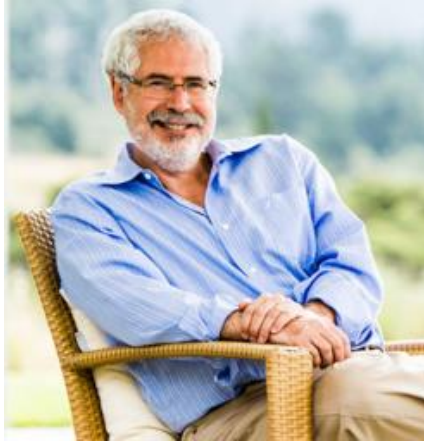
<https://www.surveymonkey.com/r/smartstartApp>

Two Parts to Innovation (including Educational)

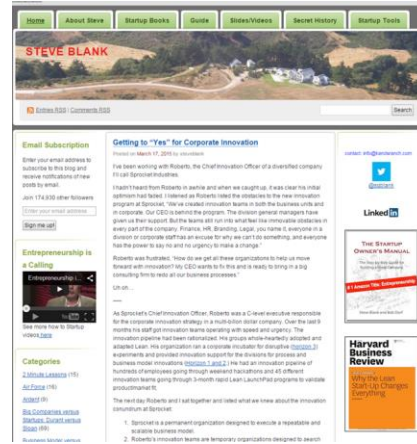
1. Advancing the science/technology
[research]
 2. Finding a repeatable business model
- **Current efforts focus on #1**
 - **Successful efforts require both**

Lean Startup

Three Steps to Taking an Idea to a Business



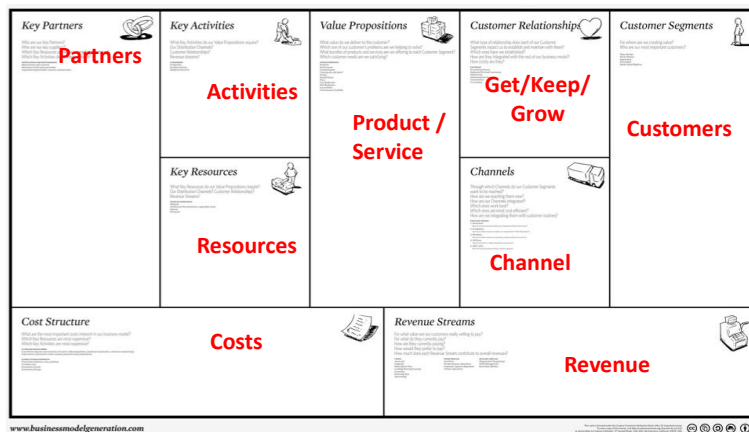
Steve Blank, Lean LaunchPad® Developer



www.steveblank.com

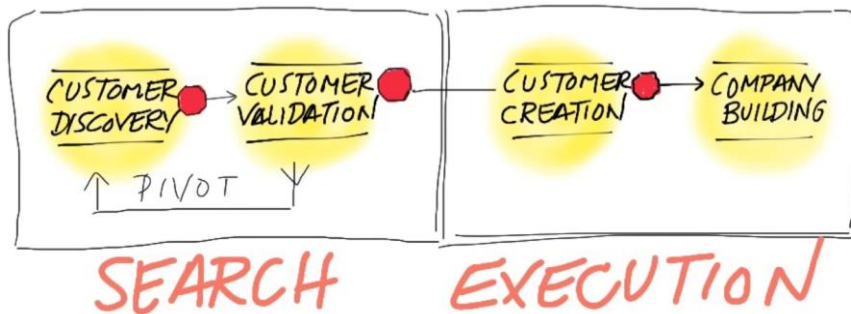
1. Frame Hypotheses

- Frame Hypotheses → Business Model Canvas



2. Test Hypotheses

- Frame Hypotheses → Business Model
- Test Hypotheses → Customer Development



3. Build Incrementally & Iteratively

- Frame Hypotheses → Business Model
- Test Hypotheses → Customer Development
- Build the product Iteratively & Incrementally → Agile Engineering

Activity: Choosing an Educational Innovation

- ▣ Individually,
 - ▣ Identify an educational innovation you would like to see sustained and/or scaled
 - ▣ Write 1-2 sentence(s) describing the innovation
- ▣ In small groups (2-3 people),
 - ▣ Share the innovations you identified and select one for the group
 - ▣ If needed, re-write 1-2 sentence(s) describing the innovation

Team 61

JUR Press

JUR is a journal for undergraduates, by undergraduates that engages students throughout the publication process, providing a place to publish their work as well as a single source for finding internships and research opportunities



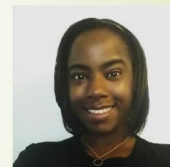
Jessica Egner
Entrepreneurial
Lead






Mark Brown
Principal
Investigator



Mark Combes
Mentor



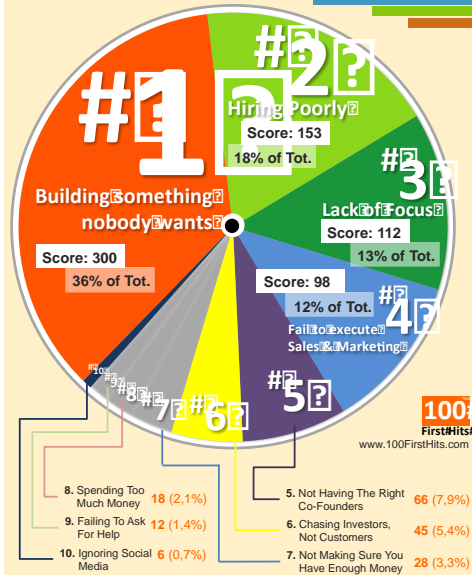
Melissa Edwards
Mentor

Interview Count			
101	99	1	1

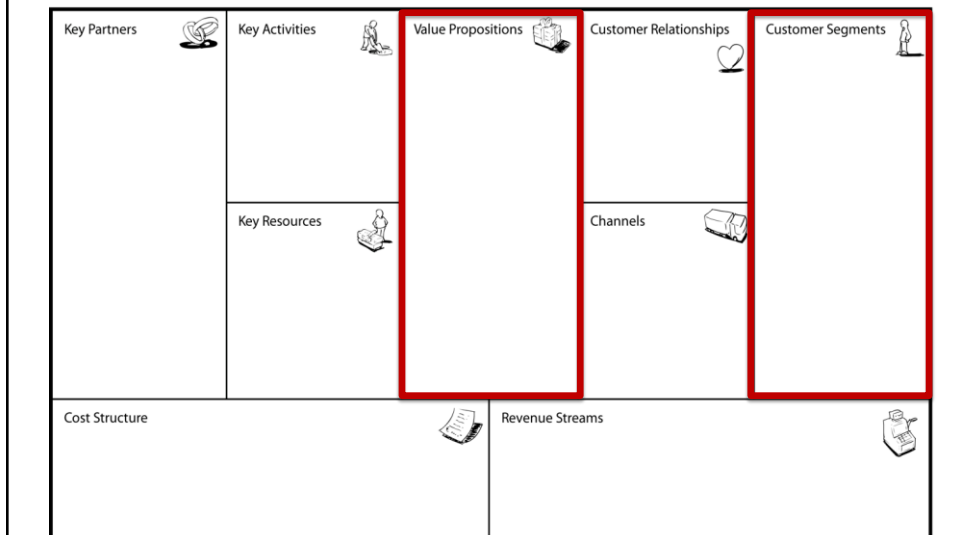
Mistake #1

**Building
Something
Nobody
Wants!**

TOP 10 ? STARTUP MISTAKES












That's why we start with *these*












Customer Segments

(Does Anyone Care?)

Key Partners 	Key Activities 	Value Propositions 	Customer Relationships 	Customer Segments  Who are your most important customers? What job do they want to get done?
	Key Resources 		Channels 	
Cost Structure 		Revenue Streams 		

Value Propositions

(Why Do They Care?)

Key Partners 	Key Activities 	Value Propositions  What customer problems are you helping to solve ? What customer needs are you satisfying?	Customer Relationships 	Customer Segments 
	Key Resources 		Channels 	
Cost Structure 		Revenue Streams 		

The Value Proposition

A **value proposition** is a promise of value to be delivered. It is a clear statement that:

- explains how your innovation solves customers' problems or improves their situation (**relevant**),
- delivers specific benefits (**descriptive, measurable**),
- tells the user or buyer why they should use it or buy from you and not from the competition (**unique**).

<http://conversionxl.com/value-proposition-examples-how-to-create/#>.

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Value Proposition Customer Segment Ad Lib

CS

{ _____
Customer Segment: Which people? Be specific!

VP

{ **would “pay”** to _____
Value Proposition: Solve this problem

in a way that

Verb (reduces, increases, etc.)

a specific Customer Pain or Gain
(unlike _____)
Extra Credit: How is it different than the competition?

Features vs. Value Propositions		
Features	Weak Value Propositions	Strong Value Propositions
Fun & Engaging	Faster, Cheaper, Better	Relevant, Significant & Testable Product Benefits
Field-specific skill building	Getting students involved in a Service Learning project	Increase number of females and minorities in Manufacturing Tech program

Customer Segments		
Not Customer Segments	Vague Customer Segments	Clear Customer Segments
Buildings, Organizations	Broad Groups of People	Very Specific Job Titles, Very Specific Archetypes/Personas
Colleges	Faculty	Newly Hired, STEM Faculty

Customer Segments (CS) and Value Propositions (VP) Alignment

What makes for a compelling value proposition?

- What problem are you solving/need are you serving?
- How?
- For whom?

Value Proposition Customer Segment Ad Lib

CS

{ _____
Customer Segment: Which people? Be specific!

VP

{ **would “pay”** to _____
Value Proposition: Solve this problem

in a way that

Verb (reduces, increases, etc.)

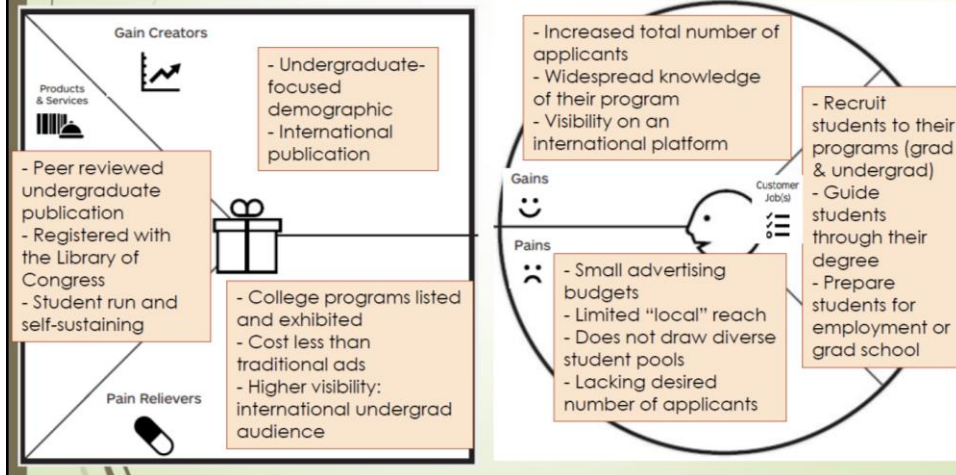
a specific Customer Pain or Gain
(unlike _____)
Extra Credit: How is it different than the competition?

61: JUR Press

The Value Proposition Canvas

VP: Increase number of good applicants for graduate/professional schools

CS: University Department Chairs/Directors (Admissions)



Acknowledgments

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We acknowledge the **League for Innovation in the Community College** for hosting.



Thank you!

An e-copy of this presentation will be posted to:
www.asee.org/i-corps-l

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