TE 250: Week 3
Customer Development

Mark Karasek
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Teams

Everyone

Project Groups

+ Import

+ Group

Unassigned Students

(1)

Groups (10)

Better way of dealing with rain than an umbrella
4 students

Dhruv Rajgar
Madeline Ro
Kevin Sha
Rafik Zhu

Better way to store and reuse rain water
4 students

Vijay Rao A
Matthew Gilbert
Pranita Teo
Nicholas Wu

Helping students create a workable daily routine
4 students

Wyatt Huang
Yuto Kitae
Inaki Planas
Yuen Hei Yeu

Immediate foreign language translation
5 students

Sreyas Agar
David Aloush
Jason Gabriel

Learning as easy as a video game
5 students

Elek Gilmer
Hwayeon Lee
Quinn O’Rou
Krishna Ram
Carl Jacob S

Mentoring and networking tool
4 students

Manuel Bep
Hrishikesh K
Malik Thakkar

Protecting seniors from falls
4 students

Arash Arrou
Rocky Blake
Galinka Flores
Amitabh Mittal

Shoes with replaceable outsoles
4 students

Sri Abbineni
Vikram Batta
Aiden Chen
Myles Patel

Urban snow to drinking water
3 students

Markus Stefa
Mengxuan Qin
Spencer Steen

Vending machine for fresh cooked hot/cold meals
5 students

Mayan Bank
Madeline Fan
Dhruv Jhaveri
Shiham Monim

Vending machine for fresh cooked hot/cold meals
5 students

Matthew Moon
Anahitew To...
Teams
You OWN IT!
Technology versus problem identification focus
THE HALOID COMPANY
ROCHESTER, N. Y.
Problem

Difficult and/or expensive to make duplicate copies of a document particularly for double entry accounting.
Moral of the Story

- It is not about technology but
  - What problem are you solving
  - Who are you solving it for
  - What benefit is it providing that the customer is willing to pay for

- The Haloid Company
  - Failed based upon its technology
  - Most successful business service company in history
  - Business Model Matters

- Lean Methodology – Would have saved Haloid 30 years
- Other examples of successful business model reinvention?
Innovation Scorecard
The Facts

99.7% of all documented ideas fail.

75% of all VC backed ideas fail.

1. Why do they fail?
2. What can we do about it?
Why do they fail?
What can we do about it?
More startups **FAIL** from a lack of customers than from a failure of product development
#1, #2, #3, and #4 are all the result of building the wrong thing.

Drastically increase your chances of success!
IF YOU BUILD IT, THEY WILL COME.
Why It Matters...

Design

User experience
Traditional Approaches

**focus on reducing either technology risk or execution risk.**

Both are hugely important. Just not right now.
Three Questions for Any New Innovation

• What value are you delivering and to whom?
  • Value Proposition and Customer Segment
  • Product-Market Fit

• Is there a viable business model for delivering that value?
  • Business Model Canvas

• Is there an appropriate return on investment for the project?
  • Market size
  • Project plan

MUST ANSWER IN THIS ORDER
In The Past

• What value are you delivering to whom?
  – Value Proposition and Customer Segment
  – Product-Market Fit

• Is there a viable business model for delivering that value?
  – Entire business model canvas

• Is there an appropriate return on investment for the project?
  – Market size
  – Project plan

People assumed the previous two questions were correctly answered.
So what about *MY* technology?

**NOBODY CARES**

They only care about what it can do for *THEM*.
Your business idea needs to **solve a problem** your potential customer will **PAY** for.
weeks, instead of years
How can we avoid... 

BUILDING SOMETHING THAT NO ONE CARES ABOUT 

(... and find something they DO care about?)
Exercise

• Break up into small groups.
• Discuss the following question:
  • What are the attributes of an entrepreneur that you personally find most attractive?
Customer (Problem) Discovery
DO THE WORK!

- Schedule and meet with at least 20-30 customers over the next 12 weeks.
- Coaching Sessions: Meet individually or as a team 3x’s during the program.
- Keep an open mind and listen carefully to customer input/feedback.
- Log your interview notes and insights in the customer discovery worksheet provided in Canvas.
- Expect to “educate yourselves” rather than to “educate your listeners.”
- Get out of your comfort zone... Get out of your comfort zone.

Customer discovery is THE most important source of learning.
Customer discovery is THE most important source of learning.

**HOW DO I GET STARTED?**

Get ready to “Get out of the building”

*Especially pages 31–66!*
Customer discovery is THE most important source of learning.

HOW DO I GET STARTED?

Have a focus... **What do you want to know?**

1. Begin with a hypothesis

   “X (customer) will derive Y (benefit) from adopting my product or service”

2. Plan an interview to validate or invalidate your hypothesis
   - Right now, we are searching for **problems** (or “unmet needs”) that pair with our technology/solution.
   - Try out the “**Customer Interview Plan Template**” (Module 1 - Customer Interview Plan) to plan a problem interview.
Customer discovery is THE most important source of learning.

HOW DO I GET STARTED?

Have a focus...From whom?

1. Target specific PEOPLE (Name, Title, Industry)
   a. People buy products
2. First 5-6 interviews with “friendlies”
   a. Practice interview structure, dos and don'ts
   b. Seek ideas on next interviews
   c. Get the bugs out before talking to prime prospects
3. Competitors can be a good next step to learn how the industry works
4. End every interview by asking for referrals (try to get at least 3)

“Specificity wins in entrepreneurship, not broad generalizations”

-Bill Aulet
Customer discovery is THE most important source of learning.

HOW DO I GET STARTED?

Plan ahead! Interviews take time to arrange.

You can start documenting your scheduled appointments on the “Customer Discovery Interview Tracker Template” (Module 2 - Customer Discovery Interviews).
Customer discovery is THE most important source of learning.

HOW DO I GET STARTED?

**Building a healthy “pipeline”**

1. Start in “the middle” and work out
   a. Your place in “the system” that leads to your end user is “the middle”
      i. Work Process/Job
      ii. Supply chain - flow of goods, services or information
      iii. Value chain = quote to cash
   b. Within an organization targeting middle managers is a good place to start
Customer discovery is THE most important source of learning.

HOW DO I GET STARTED?

*Building a healthy “pipeline”*...working out from “the middle”

- Who do they work for?
  - Who checks their work? Who gives them permission?

- Who do they rely upon to get their work done?
  - Who provides them critical materials, information, service?

- Who works for them?
  - Who do they rely upon for information, input?

- Who receives their work?
  - Who provides them feedback (including payment)?
Customer discovery is THE most important source of learning.

**HOW DO I GET STARTED?**

*Building a healthy “pipeline”*. ...some practical tips

- Fortify your LinkedIn network now...
  - Invite new connections
  - Seek out user or trade groups to join within your industry
  - Start following companies in your industry

Search for *industry* association conferences

- In-person - unlikely still
- Online conferences have a growing presence
  - 10times
  - Eventbrite

- Get familiar with industry publications and relevant standards groups
Relax, it’s just a conversation.
Business Model Canvas (BMC)
“A STARTUP IS A TEMPORARY ORGANIZATION DESIGNED TO SEARCH FOR A REPEATABLE & SCALABLE BUSINESS MODEL.”
Your Business Model Is Your Destiny!

Feasibility
/can our startup build it?/

Desirability
/do the customers want this?/

Infrastructure
Key Activities
Key Resources
Key Partners

Product - Market
Customer Segments
Value Proposition
Channels
Customer Relationships

Viability
/can we build a sustainable business?/

Economics
Revenue Streams
Cost Structures
Business model canvas
Competition

Every good idea has competition. Period.

We are the only ones doing X...
Our solution is novel...
Our Company Competitive Analysis

Our Company

Our Competitors

Goodness

Badness
Petal Diagram

Current solutions

Tech substitutes

Adjacent market

Tech solutions

MyTech, Inc.
Petal Diagram: Competitive Landscape

Transportation
Petal Diagram: Competitive Landscape
Passenger Vehicles, Light Duty Luxury Pick Up Trucks

Customer Segment: Weekend Home Renovation Warrior
Value Proposition: “Haul stuff back from Home Depot”
Petal Diagram: Competitive Landscape
Passenger Vehicles, Light Duty Luxury Pick Up Trucks

Direct Competitors

Adjacent Solutions

Technology Substitute

Etc.
Petal Diagram: Competitive Landscape
Passenger Vehicles, Light Duty Luxury Pick Up Trucks

Value Proposition: “Haul stuff back from Home Depot”
Competition

One of your biggest competitors will be the status quo.
(also known as doing nothing)
The Petal Diagram drives your business model canvas.

- X/Y competitive graphs are appropriate in an existing market
- Mapping potential competitors in new or resegmented markets requires a different view
- The competitive diagram is how you develop your first hypotheses about who your customers are
Assignment #2 – Individual Assignment

Every team has a project. Every project proposes to solve a problem, but we haven't yet proven to ourselves that we have identified the best business solution to that problem.

The assignment is to identify multiple possible solutions to the problem:

• Current Solutions: How do people currently solve the problem? Hint: it may not appear to be a direct competitor to your solution. Example: Instead of an electric scooter, I could ride a bike, take a bus or walk.

• Preventative Solutions: How might someone prevent the problem from occurring in the first place?

• Competitive Solutions: How do your (potential) business competitors solve the problem? Name at least three.

• Alternative Solutions: What's another way you could solve the problem? Name at least three. Which is your favorite and why?

This is a case where the more solutions you can identify, the better.
Grainger Engineering | Innovation & Entrepreneurship Ecosystem

INTERNAL PARTNERS

- Research Park
- Siebel Center for Design
- Gies Business
- Housing
- Illinois Ventures
- Office of Technology Management
- RSOs
- NCSA National Center for Supercomputing Applications

EXTERNAL PARTNERS

- CHICAGO
  - GRAINGER ENGINEERING City Scholars & Startup City Scholars
  - Discovery Partners Institute
  - DPI
  - UChicago POLSKY
  - THINK CHICAGO
  - KEEN
    - Kern Entrepreneurial Network
  - National & Regional Networks

TECHNOLOGY ENTREPRENEUR CENTER

- Grainger Engineering
- Alchemy Technology Foundry
- ILEE Degree
- Courses & Certificates
- Innovation Living-Learning Community
- Silicon Valley Entrepreneurship Workshop
- Illinois Innovation Prize
- Cozad New Venture Challenge
- Office of the Associate Dean for Innovation & Entrepreneurship

This is not an exhaustive list of the entire ecosystem, but a general overview.
Breakout 2

• Get together with your team
• Introduce each team member and skills
• Decide who will be the convener
• Decide how, when, where you will meet outside of class
• Begin discussing the project
Grainger Engineering | Entrepreneurship Education Pathway for Students

EXPLORE & IDEATE
A great place to start! Take a peek under the hood of innovation & learn what an entrepreneurship mindset might mean for you.

COURSES
- TE 100 | Introduction to Innovation, Leadership, & Engineering Entrepreneurship
- TE 200 | Introduction to Innovation
- TE 230 | Design Thinking/Need Finding
- TE 333/TE 598 | Creativity, Innovation, Vision
- SE 361 | Emotional Intelligence Skills
- TE 398 | Innovation & Engineering Design
- TE 401 | Introduction to Design Thinking

UNDERGRAD CERTIFICATES
- Innovation
- Technology Commercialization

BS DUAL DEGREE
- Innovation, Leadership, & Engineering Entrepreneurship (ILEE)

PROGRAMS & EVENTS
- Chicago Entrepreneurship Workshop
- Entrepreneurship Advising
- Grainger Engineering City Scholars
- Grainger Engineering Student Startups
- Innovation Living-Learning Community (LLC)
- TEC Student Advisory Board
- ThinkChicago
- Silicon Valley Entrepreneurship Workshop
- SocialFuse
- HackIllinois
- TRUC Student-Run Event

DESIGN & EVALUATE
Ideas are developed here! Determine needs in the market & develop solutions that address real-world problems.

COURSES
- TE 230 | Design Thinking/Need Finding
- TE 250 | High Tech Ventures: From Idea to Enterprise
- TE 333/TE 598 | Creativity, Innovation, Vision
- TE 360/460 | Lectures in Engineering Entrepreneurship
- TE 398 | Innovation & Engineering Design
- TE 398 | Urban Entrepreneurship
- TE 401 | Augmented Listening Technology
- TE 401 | Design Thinking for Social Impact
- TE 401 | Design Thinking for Women’s Health
- TE 498 | UX Fundamentals

UNDERGRAD CERTIFICATES
- Innovation
- Technology Commercialization

BS DUAL DEGREE
- Innovation, Leadership, & Engineering Entrepreneurship (ILEE)

PROGRAMS & EVENTS
- Entrepreneurship Advising
- International Student Workshop
- Silicon Valley Entrepreneurship Workshop
- SocialFuse
- HackIllinois
- TRUC Student-Run Event

BUILD & LAUNCH
Startups take shape here! Dig deeper into the commercialization stage and make sure your startup is best prepared to hit the market.

COURSES
- TE 250 | High Tech Ventures: From Idea to Enterprise
- TE 298 | Communication for Tech Innovators
- TE 360/460 | Lectures in Engineering Entrepreneurship
- TE 398 | Successful Storytelling: Designing the Ultimate Pitch
- TE 401 | Developing Breakthrough Projects (Independent Study)
- TE 450 | Startups: Incorporation, Funding, Contracts, & Intellectual Property
- TE 461 | Technology Entrepreneurship
- TE 466 | High Tech Venture Marketing
- TE 498 | Alchemy Technology Foundry
- TE 498 | Hacking for Defense
- TE 565 | Technology, Innovation, & Strategy

UNDERGRAD CERTIFICATES
- Innovation
- Technology Commercialization

BS DUAL DEGREE
- Innovation, Leadership, & Engineering Entrepreneurship (ILEE)

PROGRAMS & EVENTS
- Cozo New Venture Challenge
- Intellectual Property Clinic
- Mottier Innovation Challenge
- 54 Startups Weekend

GROW & SCALE
Ventures level up here! Become the hero of your market as you position your venture to quickly reach more customers successfully.

COURSES
- SE 361 | Emotional Intelligence Skills
- TE 358 | Bootstraps to Venture Capital: Funding Your Startup
- TE 450 | Startups: Incorporation, Funding, Contracts, & Intellectual Property
- TE 466 | High Tech Venture Marketing
- TE 498 | Leading Sustainable Change
- TE 498 | Alchemy Technology Foundry
- TE 566 | Finance for Engineering Management
- TE 567 | Venture Funded Startups
- TE 565 | Technology, Innovation, & Strategy

GRAD CERTIFICATES
- Business Management for Engineers
- Strategic Technology Management

PROGRAMS & EVENTS
- Illinois I-Corps
- Illinois Innovation Prize

Technology Entrepreneur Center
Degree, Courses, Certificates, & Programs (unless otherwise noted)
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