

# TE 250: Week 3

## Customer Development

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# Teams

EveryoneProject Groups+ Group Set

+ Import+ Group⋮

Unassigned Students (1)

Search users

Yingan Wang+ -

Groups (10)

▼ Better way of dealing with rain than an u...4 students⋮

Dhruv Rajgar...⋮

Madeline Ro...⋮

Kevin Sha⋮

Rubin Zou⋮

▼ Better way to store and reuse rain water\_4 students⋮

Vijwal Rao A...⋮

Matthew Olbert⋮

Pranshu Tec...⋮

Nicholas Will...⋮

▼ Helping students create a workable daily...4 students⋮

Wyatt Huang⋮

Yuto Kibe⋮

Inaki Planas ...⋮

Yuen Hei Yeu...⋮

▼ Immediate foreign language translation\_5 students⋮

Elek Gilmer⋮

Hwayeon Lee⋮

Quinn O'Rou...⋮

Krishna Ram...⋮

Carl Jacob S...⋮

▼ Learning as easy as a video game\_5 students⋮

Sreyas Agar...⋮

David Aloush⋮

Joao Gabriel ...⋮

Matthew Moon⋮

Anushree Ti...⋮

▼ Mentoring and networking tool\_4 students⋮

Manuel Espl...⋮

Hrishikesh K...⋮

Jai Rajpal⋮

Mahir Thakkar⋮

▼ Protecting seniors from falls\_4 students⋮

Akash Aruna...⋮

Becky Blake⋮

Galilea Flores⋮

Anushri 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 Qiu⋮

Spencer Stee...⋮

▼ Vending machine for fresh cooked hot/col...5 students⋮


Mayan Barik⋮

Madeline Far...⋮

Dhruv Jhaveri⋮

Jae Young Lee⋮

Iffat Memon⋮





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.

10.-22.-28  
ASTORIA

Chester Carlson



\$25k -> \$250k

# 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.

79%

Drastically increase your chances of success!



# 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 are 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 are 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

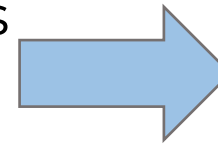
- Break up into small groups.
- Discuss the following question:
  - What are the attributes of an entrepreneur that you personally find most attractive?

# Customer (Problem) Discovery

# Customer discovery is THE most important source of learning.

## 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.

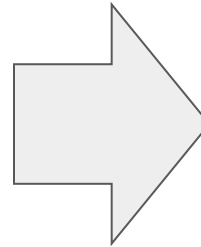


**Customer discovery is THE most important source of learning.**

## **HOW DO I GET STARTED?**

**Get ready** to *“Get out of the building”*

**READ  
THIS**  
(Thank you)



*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)



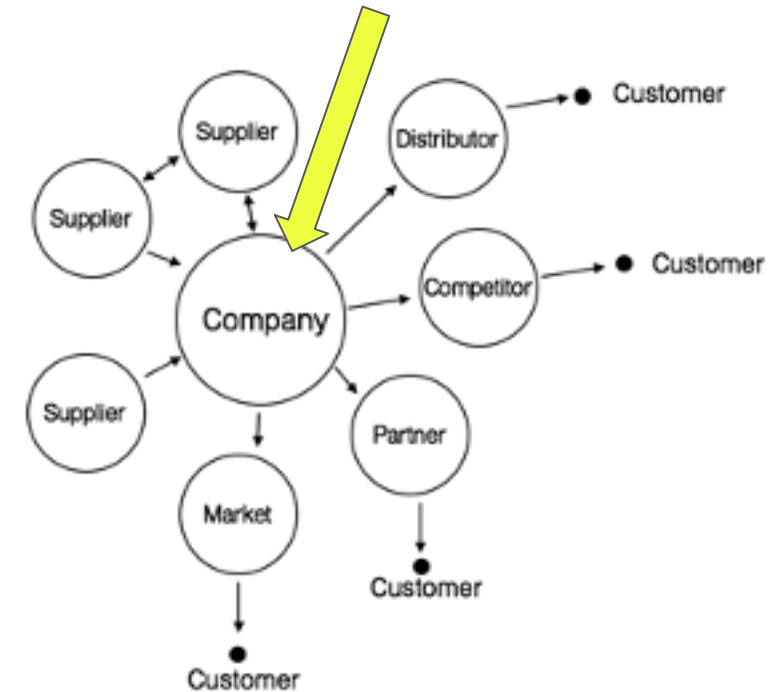
**YOU HAVE TO  
TO CREATE  
A SENSE  
OF URGENCY  
AND FOCUS  
IN EVERYTHING  
YOU DO**

# Customer discovery is THE most important source of learning.

## HOW DO I GET STARTED?

### *Building a healthy “pipeline”*

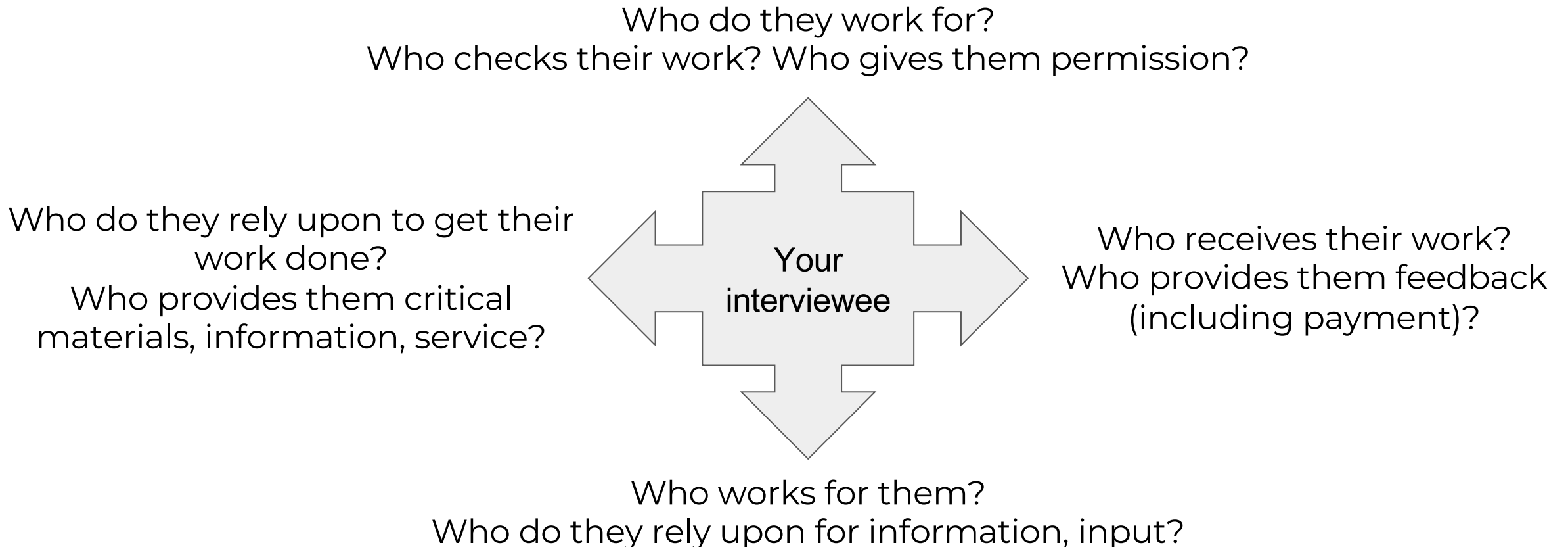
1. Start in “the middle” and work out
  - a. Your place in “the system” that leads to your end user is “the middle”
    - i. Work Process/Job
    - ii. Supply chain - flow of goods, services or information
    - iii. Value chain = quote to cash
  - b. Within an organization targeting middle managers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



# 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*.”**



Steve Blank

# Your Business Model Is Your Destiny!

fea·si·bil·i·ty

/can our startup build it?/

## Infrastructure

Key Activities  
Key Resources  
Key Partners

de·sir·a·bil·i·ty

/do the customers want this?/

## Product - Market

Customer Segments  
Value Proposition  
Channels  
Customer Relationships

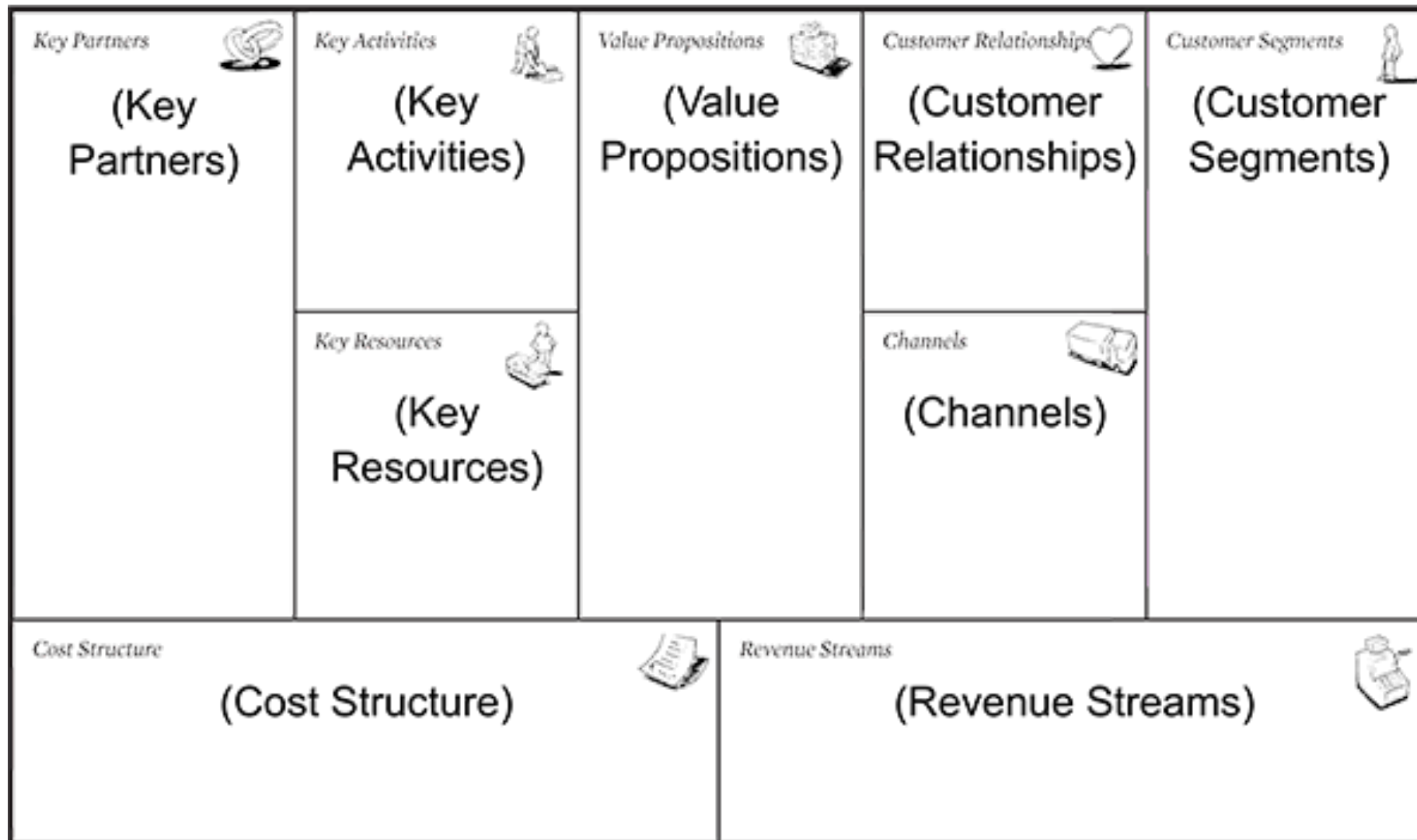
vi·a·bil·i·ty

/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

Goodness

Our Company



Our Competitors

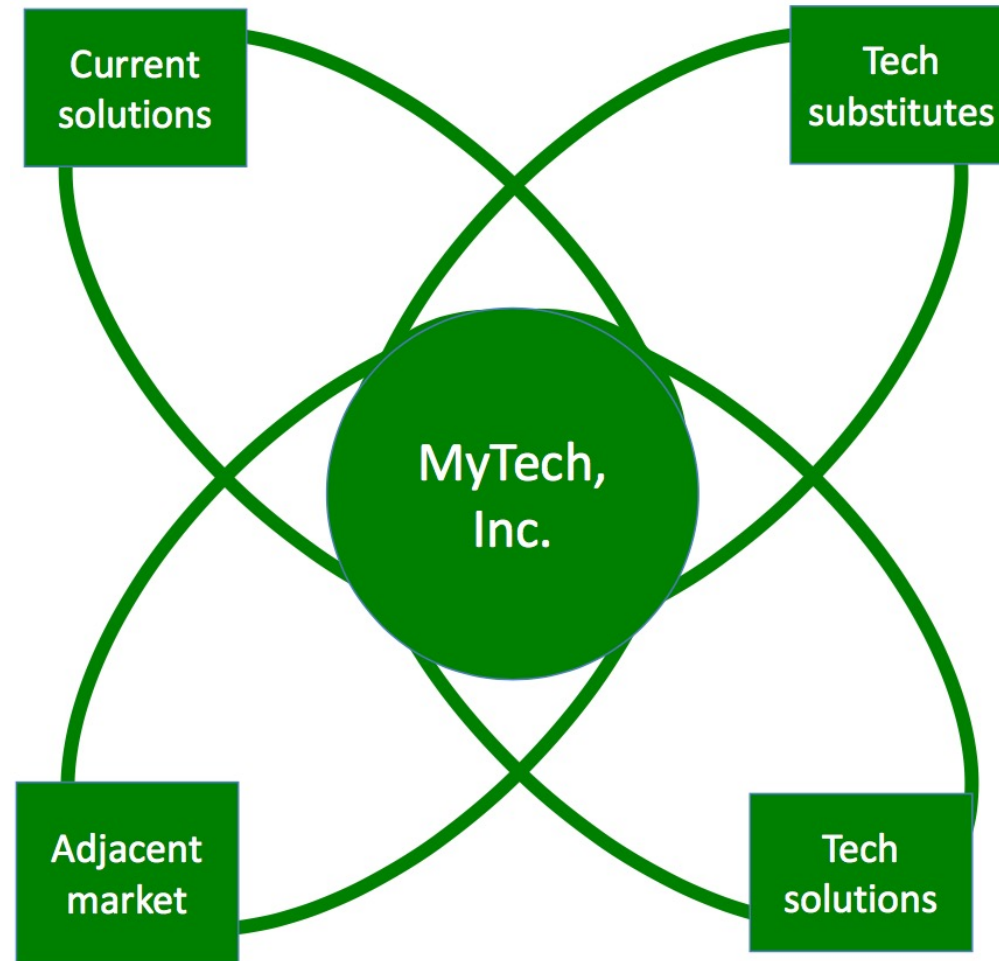


Badness

Goodness

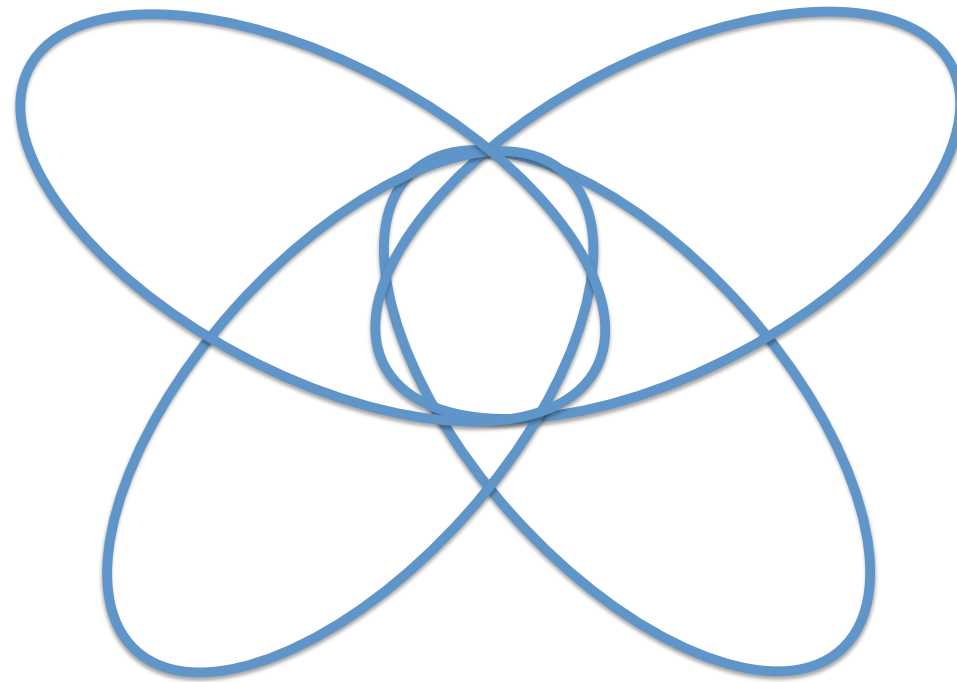
.INOIS

# Petal Diagram



Petal Diagram: Competitive Landscape

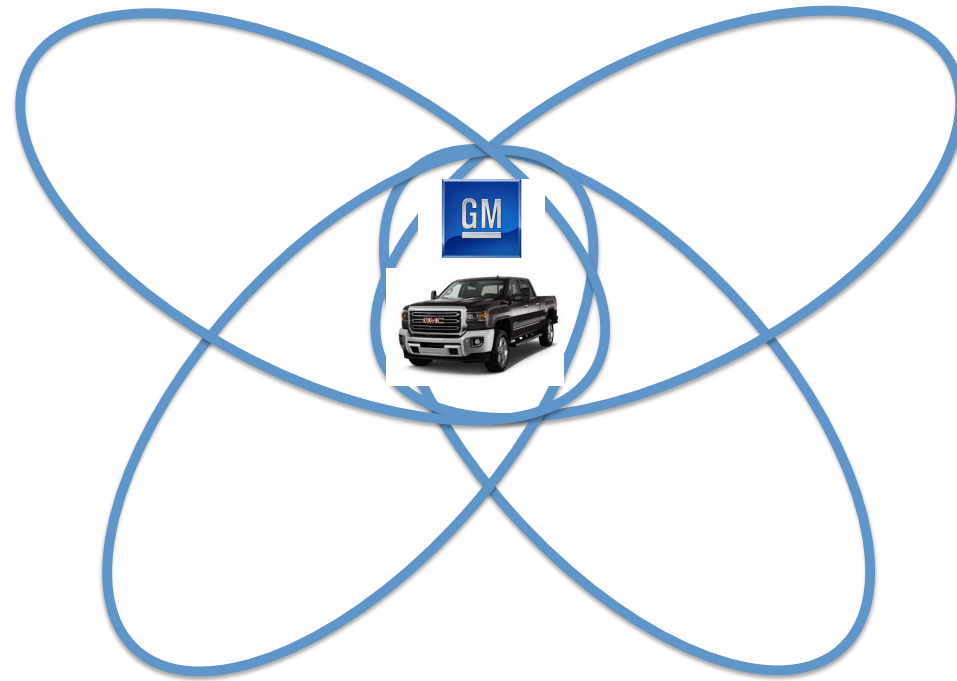
# Transportation



# Petal Diagram: Competitive Landscape

## Passenger Vehicles, Light Duty Luxury Pick Up Trucks

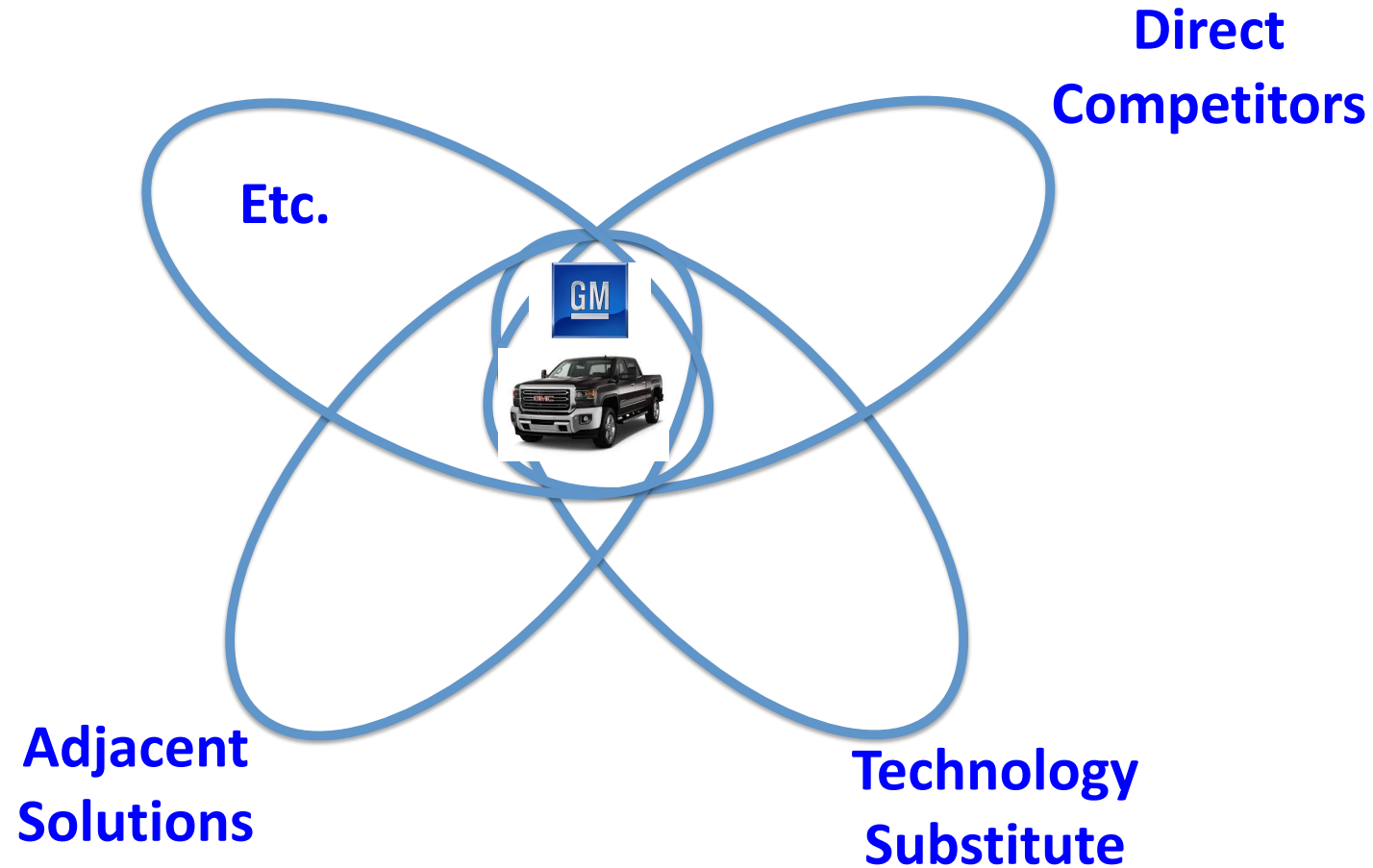
Transportation



Customer Segment: Weekend Home Renovation Warrior  
Value Proposition: “Haul stuff back from Home Depot”

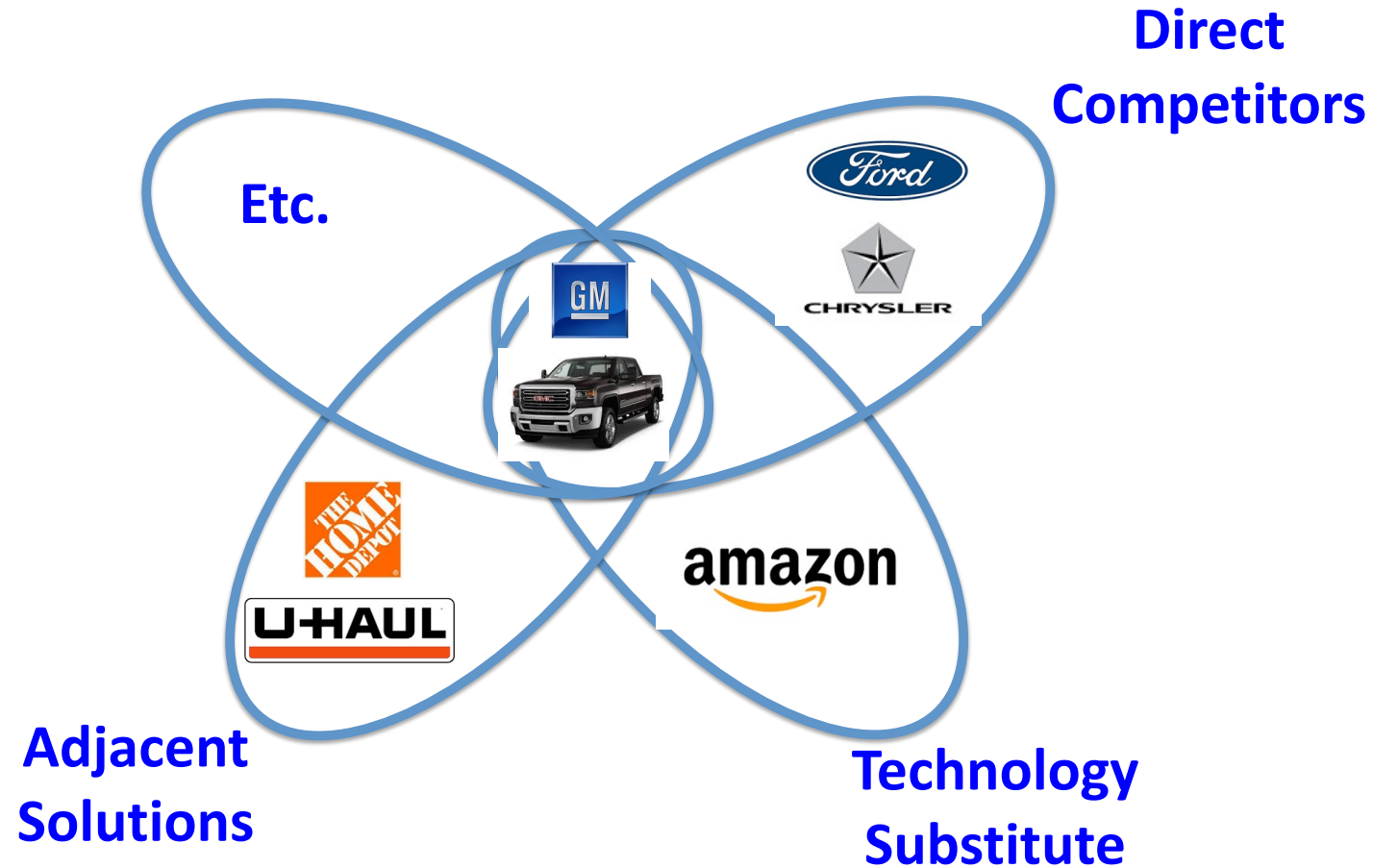
# Petal Diagram: Competitive Landscape

Passenger Vehicles, Light Duty Luxury Pick Up Trucks



# Petal Diagram: Competitive Landscape

## Passenger Vehicles, Light Duty Luxury Pick Up Trucks

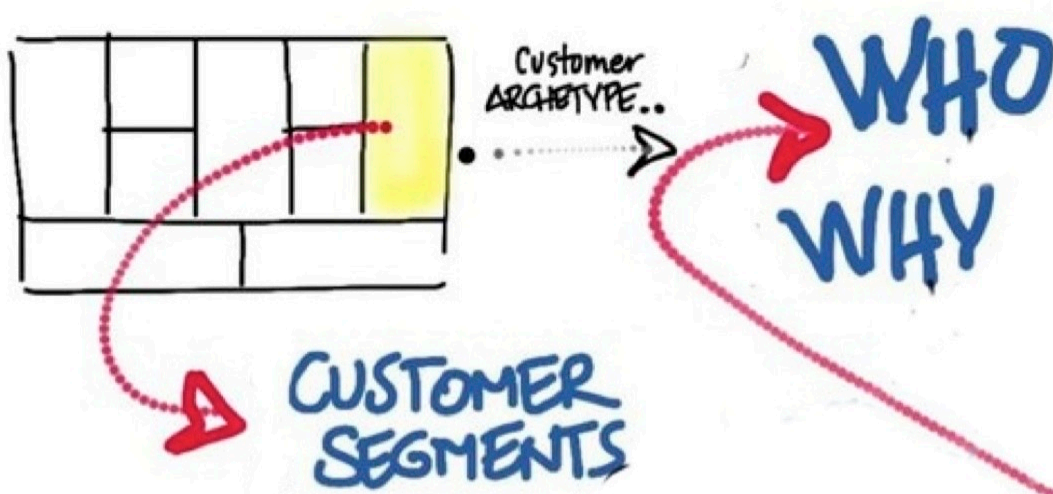


Value Proposition: “Haul stuff back from Home Depot”

# Competition

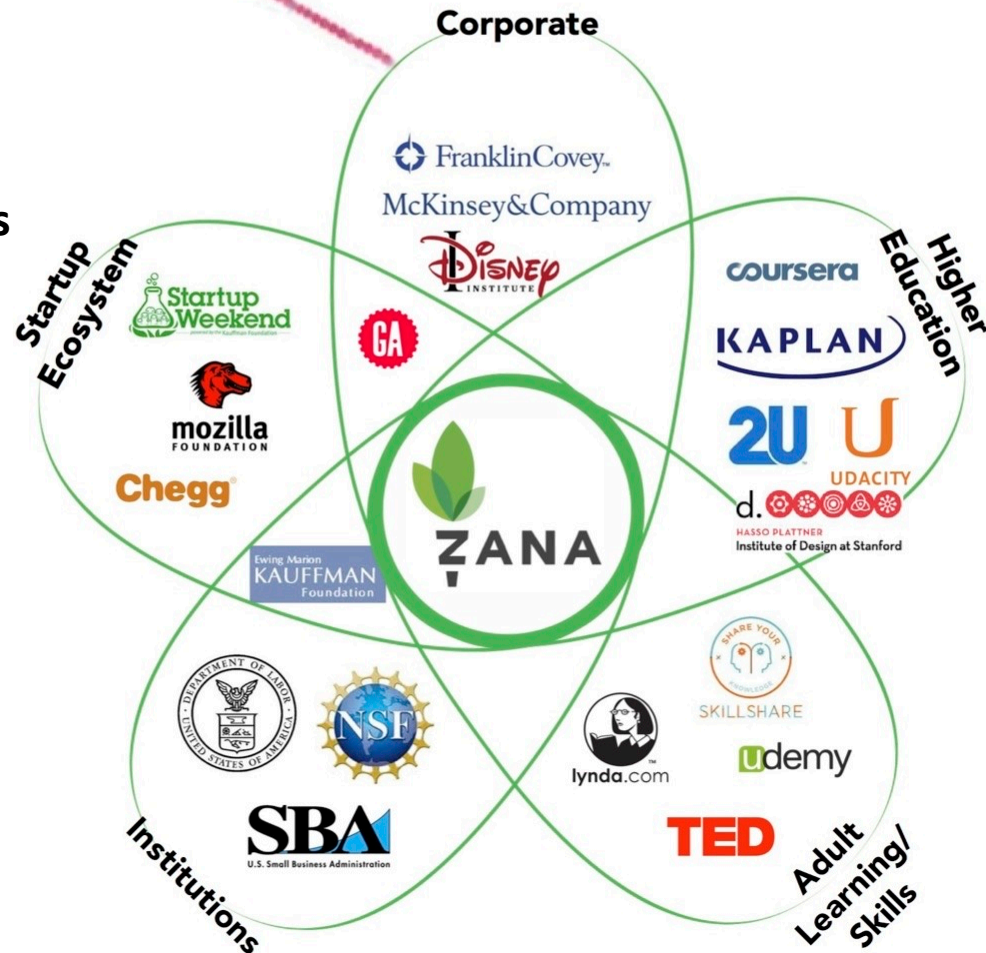
**One of your biggest  
competitors will be the  
status quo.**

**(also know 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:

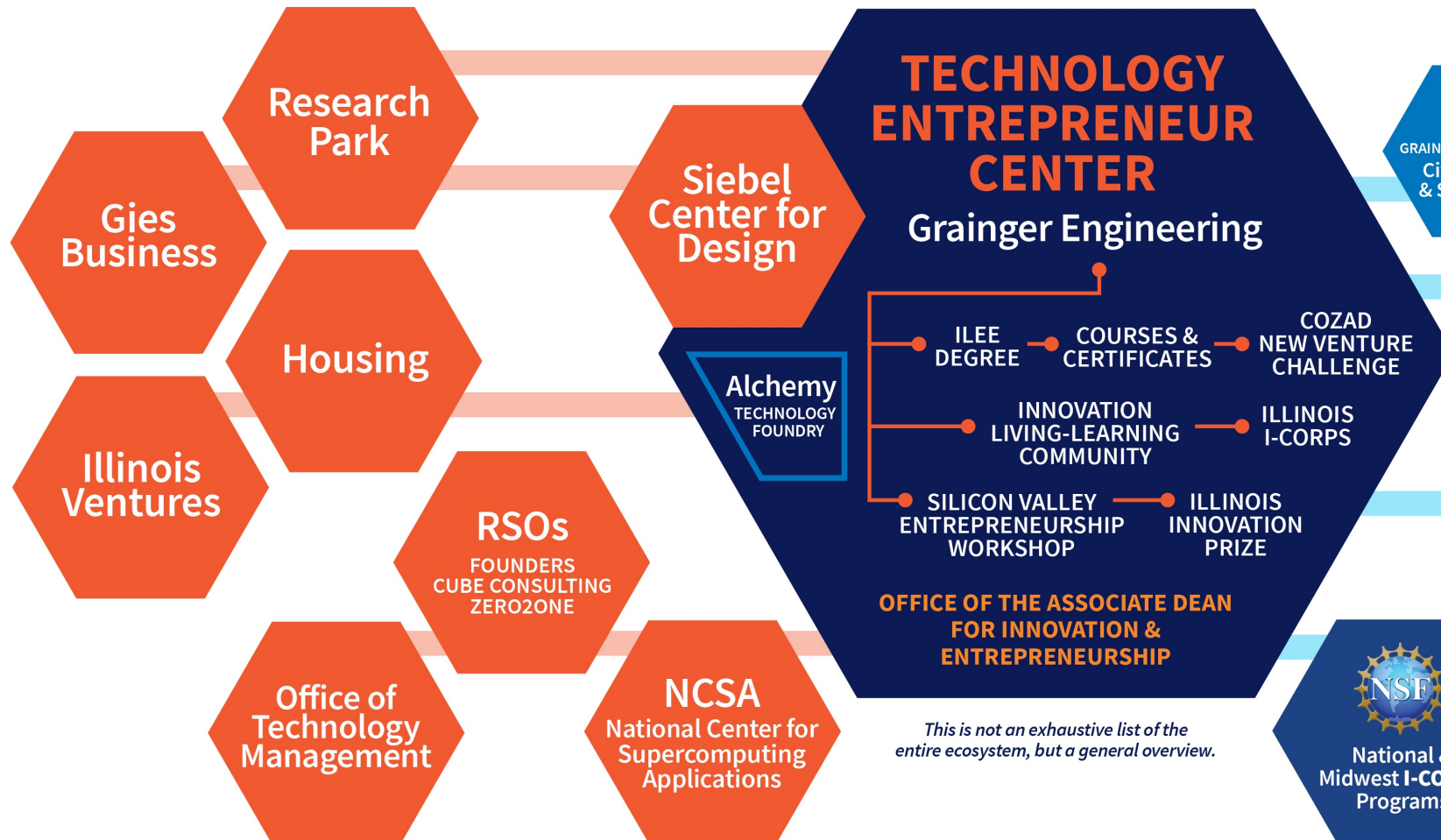
- Current Solutions: How do people currently solve the problem? Hint: it may not appear to be a direct competitor to your solution. Example: Instead of an electric scooter, I could ride a bike, take a bus or walk.
- Preventative Solutions: How might someone prevent the problem from occurring in the first 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



## EXTERNAL PARTNERS



*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 **SCD**

### 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 Startup City Scholars
- Innovation Living-Learning Community (LLC)
- TEC Student Advisory Board
- ThinkChicago
- Silicon Valley Entrepreneurship Workshop
- SocialFuse



## 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 **SCD**
- TE 401** | Design Thinking for Women's Health **SCD**
- TE 498** | UX Fundamentals **SCD**

### 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 **UIUC 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 **SCD**
- 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 **ECE**
- 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

- Cozad New Venture Challenge
- Intellectual Property Clinic
- Mottier Innovation Challenge **ISE**
- 54 Startup Weekend **FOUNDERS RSO**



## 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 398** | 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)

## Gies College of Business

- Disruption Lab
- Origin Ventures Academy for Entrepreneurial Leadership
  - *iVenture Accelerator*
  - *Illinois Social Innovation*
  - *EntreCORPS*
  - *Entrepreneurs Without Borders*
- Hoeft Technology & Management Program
- Illinois Maker Lab

## Research Park

- EnterpriseWorks
- Entrepreneur-in-Residence Program
- AgTech Innovation Summit
- Big Data Summit
- CEO Roundtable
- SBIR & STTR Technical Assistance Program
- I-Start Accelerator Program

## Illinois Ventures

- Consulting Services & Funding
- Proof of Concept Grants

## Siebel Center for Design

- New Courses based in Design Thinking (DT) & Human Centered Design (HCD)
- Integrating DT & HCD into Existing Courses
- Fostering Multidisciplinary Collaborations
- Innovative Building Space Opening Soon
- DT & HCD Training
- Illinois RapidVent Partner

## Office of Technology Management

- Disclosure & Licensing Info
- Illinois Ignite & Share the Vision Events
- Illinois Proof of Concept (I-POC) Program

## RSOs

- Founders: Illinois Entrepreneurs
- Zero2One
- CUBE Consulting
- OTCR Consulting