Agenda

11:45 am  Lunch
12:00 – 12:05 pm  Welcome
12:05 – 12:15 pm  Follow-Up on Weeks 2&3 – Q&A on Voice-of-Customer and Customer Lists
12:15 – 1:00 pm  Business Model Canvas: Developing and Testing Hypotheses; Customer Discovery
1:00 – 1:15 pm  Technology Commercialization: Market Research; Finding Customers/End Users
1:15 – 1:25 pm  Logistics
1:25 – 1:45 pm  Team Value Proposition Pitches
Welcome
Elyse Ball, Project Manager
University of Akron Research Foundation
Follow-up on Week 2: Voice-of-Customer

Elyse Ball, Project Manager
University of Akron Research Foundation
Business Model Canvas: Developing and Testing Hypotheses; Customer Discovery

Bob Chalfant, Director of the William and Rita Fitzgerald Institute for Entrepreneurial Studies
University of Akron
What We’ll Cover

1. Developing and testing hypotheses
2. Customer development and validation process
3. Minimum viable product (MVP)
4. Pivots
# Business Model Canvas

## Key Partners
- Who are our Key Partners?
- Who are our key suppliers?
- Which key resources are we acquiring from partners?
- Which key activities do partners perform?

## Key Activities
- What Key Activities do our Value Propositions require?
- Our Distribution Channels?
- Customer Relationships?
- Revenue Streams?

## Value Propositions
- What value do we deliver to the customer?
- What are the benefits of our products/services to our customers?
- What are the features of our products/services that make them superior?
- What are the characteristics of our products/services that make them unique?

## Customer Relationships
- What type of relationship do our customers have with us?
- How do our customers interact with us?
- How do our customers interact with our competitors?
- How do our customers interact with our suppliers?

## Customer Segments
- For whom are we creating value?
- Who are our most important customers?

## Key Resources
- What key resources do our Value Propositions require?
- Our Distribution Channels?
- Customer Relationships?
- Revenue Streams?

## Channels
- Through which Channels do our Customer Segments want to be reached?
- How do we reach them?
- How do we interact with our customers?

## Cost Structure
- What are the most important costs in our business model?
- Which key activities are most expensive?
- Which key resources are most expensive?

## Revenue Streams
- For what value are our customers really willing to pay?
- How do they currently pay?
- How much does each Revenue Stream contribute to overall revenue?
Review: Value Proposition

- What value do we deliver to the customer?
- Which customer needs are we satisfying or which customer problems are we solving?
- What bundles of products and services are we offering to each customer segment?
Value Proposition Characteristics

- Newness
- Performance
- Customization
- “Getting the job done”
- Design
- Brand/status
- Cost reduction
- Risk reduction
- Accessibility
- Convenience/usability
Review: Customer Segments

- For whom are we creating value?
- Who are our most important customers?
- Which customers are likely to buy first?
- What does an archetypical customer look like?
Customer Segment Characteristics

- Mass market
- Niche market
- Segmented
- Diversified
- Multi-sided platform
Forming Hypotheses

- Hypotheses = guesses
- Business model canvas allows us to organize our thinking
Customer Development Process

1. Customer discovery
2. Customer validation
3. Customer creation
4. Company building
Customer Development Process

Must be done by the founders

- Founders have vision for product
- Direct feedback helps founder to adapt the vision and change the product
Step 1: Customer Discovery

- Goal: change guesses into facts
- Fill out business model canvas
  - Construct your hypotheses
- Get out of the building!
  - Test your hypotheses of customer problems or needs
    - Design experiments
    - Run tests
    - Get data
    - LISTEN!
Goals of Customer Development

- Change guesses into facts
- Test your understanding of the customers’ problems or needs
- If your hypotheses are wrong, figure out why they are wrong
- Gain insights that cause you to change the canvas
  - Who your customers are?
  - What their pains and needs are?
  - What product can best solve problems
Minimum Viable Product

- Minimum feature set that customers will pay for
- Save more advanced development for later in the process or even Version 2.0
  - Save time, money and resources
Pivot

- What you do when your hypotheses don’t meet reality
- Substantive change to one or more of the business model canvas components
- Iteration – minor change to a business model component
Step 2: Customer Validation

- Does proposed solution match the identified customer problem or need?
- “Product-market fit”
Customer Validation Process

1. Get ready to sell
   ◦ List of potential customers
   ◦ Some kind of demo or MVP
   ◦ Sales collateral

2. Get out of the building
   ◦ See if you can get users or payers on board

3. Develop product positioning
   ◦ Ask customers how you could say things better
   ◦ What sales pitches worked best for them

4. Pivot or proceed
Technology Commercialization:
Market Research

Elyse Ball, Project Manager
University of Akron Research Foundation
What We’ll Be Doing This Week

1. Refine hypotheses for value proposition and customer segments
2. Talk to customers
3. Size up market opportunity
Market Opportunity Analysis

How big is this opportunity?

1. Identify customers and need
2. Determine size of market
3. Research competitors
4. Analyze growth potential
Determining Market Size

- Total Available Market (TAM)
  - How many people would want this product?
  - How big is the market if they all buy?

- Served Available Market (SAM)
  - How many people can actually use this product?
  - How many people can afford the product?

- Target Market
  - Who will you sell to in Years 1-3?
Cliff’s Notes on Market Size

- **Total Available Market (TAM)**
  - Total universe of potential buyers

- **Served Available Market (SAM)**
  - People you can actually reach

- **Target Market**
  - People likely to buy in Years 1-3
Top-Down v. Bottom-Up Analysis

- **Top-down**
  - Take overarching market figures and drill down
  - Best for determining Total Available Market

- **Bottom-up**
  - Look at specific potential customers and their likely expenditures for your product
  - Best for developing precise figures on Target Market
Conducting Market Research

1. Define your market and the market segments that make it up
   - Google – best first step
   - Detailed market reports may help

2. Identify product features that may limit your market

3. Ask customers for their thoughts on market opportunity
UA Library Resources

- Go to library.uakron.edu/search/l
  - Select “Business and Law”
- Determining TAM
  - IBIS World
  - D&B First Research
- Researching competitors
  - Hoover’s Online
  - Mergent Online
  - LexisNexis Academic – far right column
Other Resources

- Detailed market reports
  - BCC Research – TTO has spreadsheet of all available reports and can pull up to 3 per team
  - Frost & Sullivan – medical market reports, can search up to 3 key phrases per team
- As always, Google
Key Market Factors

- TAM, SAM and Target Market size
- Competitors
- Growth rate
- Maturity of market
- What do customers think?
Week 4 Logistics
Elyse Ball, Project Manager
University of Akron Research Foundation
I-Corps Sites Budget Process

1. Budget developed, approved and signed by AL, EL, and Mentor
2. Reviewed and approved by I-Corps Administrator and ORA
3. ORA creates account with funding allocation from budget
4. Expenses reimbursed or paid up-front through varying systems
5. Final budget report completed when all funds are expended (within 6 months)
Week 4 Deliverables

- Budget Form if not completed
- Market Research Form
- Customer Interview Form completed for 5 customer contacts

**Remember:**
- All forms are available at [www.uakron.edu/icorps](http://www.uakron.edu/icorps)
- Complete forms digitally and submit via email to [NSFICorpsSites@uakron.edu](mailto:NSFICorpsSites@uakron.edu) by 5:00 pm Thurs.
  - Email Subject Line must include team number (SPI4-0##)
# Business Model Canvas

## 1. Value Proposition
- What value do we deliver to the customer?
- Which one of our customer's problems are we helping to solve?
- What bundles of products and services are we offering to each customer segment?
- Which customer needs are we satisfying?
- Characteristics
  - Newness
  - Performance
  - Customization
  - "Getting the job done"
  - Design
  - Brand/status
  - Price
  - Cost reduction
  - Risk reduction
  - Accessibility
  - Convenience/ usability

## 2. Customer Segments
- For whom are we creating value?
- Who are our most important customers?
- Examples
  - Mass market
  - Niche market
  - Segmented
  - Diversified
  - Multi-sided platform

## 3. Channels
- Through which channels do our customer segments want to be reached?
- How are we reaching them now?
- How are our channels integrated?
- Which ones work best?
- Which ones are most cost-efficient?
- How are we integrating them with customer routines?
## Market Research Form

### Market Opportunity Analysis
Identify the total available market, served available market, and the target market for your product. Find dollar figures for each segment of the market. Additionally, include data on growth trends or projections for that segment of the market.
Refer to Steve Blank’s Lesson 1.5B: Business Models and Customer Development.

<table>
<thead>
<tr>
<th>Market Name</th>
<th>Total Revenue or Customers</th>
<th>Number of Market Players</th>
<th>Growth Trends</th>
<th>Source (Citation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worldwide Wound Closure</td>
<td>200M surgeries annually $4.8B annual revenue</td>
<td>12-15</td>
<td>8% annually</td>
<td>Marketresearch.com (Google Search)</td>
</tr>
<tr>
<td>Worldwide Wound Closure Adhesives</td>
<td>$200M annual revenue</td>
<td>6</td>
<td>10% annually</td>
<td>Frost and Sullivan Report</td>
</tr>
</tbody>
</table>

### Value Proposition
Identify potential customer segments and develop a hypothesis for each potential customer segment.
Refer to Steve Blank’s Lesson 3: Customer Segments for help with this section.

<table>
<thead>
<tr>
<th>Customer Segment</th>
<th>Total Market</th>
<th>Source (Citation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic Surgery</td>
<td>$6.2B annually</td>
<td>International Associate of Plastic Surgeons</td>
</tr>
</tbody>
</table>

**Hypothesis:**
- Plastic surgeons are more likely to adopt new technology
- Plastic surgery patients are more concerned about reduced scarring
- Plastic surgery patients prefer a clear wound closure device

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*UA NSF I-Corps Sites Program: Week Four 35*
# Customer Interviews Form

**Customer Interviews**

Talk to the five (5) customers you identified in your market research within a specific Market Segment. For each Market Segment, complete one page (or more) depending on how many customers you talked with in that Market Segment.

<table>
<thead>
<tr>
<th>Market Segment:</th>
<th>US Plastic Surgeon</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Customer Name:</th>
<th>Email:</th>
<th>Phone:</th>
<th>Date Contacted:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. John Doe</td>
<td><a href="mailto:johndoe@supersurgeries.com">johndoe@supersurgeries.com</a></td>
<td>330-357-9745</td>
<td>10/24/2013</td>
</tr>
<tr>
<td>Company Contact Name:</td>
<td>Super Surgeons in Akron</td>
<td>Title: President</td>
<td></td>
</tr>
<tr>
<td>How did your conversation change your hypothesis?</td>
<td>Many plastic surgeons are adverse to devices that are not already considered the standard of care – Dr. Doe would like to see others adopt the technology before he would try it…</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer Name:</th>
<th>Email:</th>
<th>Phone:</th>
<th>Date Contacted:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Homer Simpson</td>
<td><a href="mailto:drh@SpringfieldPlastics.com">drh@SpringfieldPlastics.com</a></td>
<td>330-972-8821</td>
<td>10/22/2013</td>
</tr>
<tr>
<td>Company Contact Name:</td>
<td>Springfield Plastics and Associates</td>
<td>Title: Surgeon</td>
<td></td>
</tr>
<tr>
<td>How did your conversation change your hypothesis?</td>
<td>While patients are concerned about scaring, skilled surgeons can apply stitches sufficient to reduce and minimize scarring in critical areas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer Name:</th>
<th>Email:</th>
<th>Phone:</th>
<th>Date Contacted:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Contact Name:</td>
<td></td>
<td>Title:</td>
<td></td>
</tr>
<tr>
<td>How did your conversation change your hypothesis?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Competitive Products Form

## Understanding Competitors
Identify competitors and their products. List the competitive product’s features and then differentiate how your product has an advantage over the existing product or how it is an improvement on the existing competition.

Refer to Steve Blank’s Lesson 1.5B: Business Models and Customer Development to revisit market opportunity.

<table>
<thead>
<tr>
<th>Competitor:</th>
<th>Product Type:</th>
<th>Product Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>J&amp;J Ethicon</td>
<td>Wound Adhesive</td>
<td>Dermabond</td>
</tr>
</tbody>
</table>

**Product Features:**
- Current gold standard for wound closure adhesive
- Some flexibility
- Biocompatible for external use

**How does your product compare to this?**
- More flexible
- More viscous (hypothesis that it is easier to apply)
- Biocompatible with potential for internal use

<table>
<thead>
<tr>
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<th>Product Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Product Features:**

**How does your product compare to this?**
- What makes your product better or different?
Value Proposition Pitches
I-Corps Sites Entrepreneurial Leads
Team I
High Performance Transparent Electrode

- **Yu Zhu** — Academic Lead
- **Tianda He** — Entrepreneurial Lead
- **Victoria Scarborough** — Mentor
Team 3
Glaucoma Detection System

- Rouzbeh Amini — Academic Lead
- Anup Dev Pant — Entrepreneurial Lead
- Fehmida Kapadia — Mentor
Team 4
Membrane Separator for Lithium Battery

- Mukerrem Cakmak — Academic Lead
- Fanhui Jiang — Entrepreneurial Lead
- Michael Adding — Entrepreneurial Lead
- Barry Rosenbaum — Mentor
Team 5
OXAID: Oxygenated Hydrogels for Wound Healing

- Nic Leipzig — Academic Lead
- Pritam Patil — Entrepreneurial Lead
- Megan Jeffords — Entrepreneurial Lead
- Drew Barnholtz — Mentor
Team 6
Vorticity Confinement to Better Predict Aerodynamic Drag

- Alex Povitsky — Academic Lead
- Kristopher Pierson — Entrepreneurial Lead
- Van Duc Ngo — Entrepreneurial Lead
- Brent Hartman — Mentor
Team 7
Singing Accuracy App

- Bryan Nichols — Academic Lead
- Dhvanit Poduval — Entrepreneurial Lead
- James Adams — Entrepreneurial Lead
- Patrick Hofford — Mentor
Team 8
Fluorescence Goggles for Medical Interventions

- Yang Liu — Academic Lead
- Christopher Mela — Entrepreneurial Lead
- Alex Naragon — Entrepreneurial Lead
- Elliot Reed — Mentor
Team 9
Synthesis of Polymers from Plant-Based Oils

- Coleen Pugh — Academic Lead
- Brinda Mehta — Entrepreneurial Lead
- Clifton Young — Entrepreneurial Lead
- Paula Watt — Mentor
Team 11
Instructional App to Track Student Performance

- Douglas Hicks — Academic Lead
- Dhvanit Poduval — Entrepreneurial Lead
- Annal Vyas — Mentor
Team 12
Permanent Magnet Assist
Synchronous Reluctance Motor

- Seungdeog Choi — Academic Lead
- Sai Sudheer Reddy Bonthu — Entrepreneurial Lead
- Garrett Dowd — Entrepreneurial Lead
- Howard Hubert — Mentor
Team 13
Real-Time Toxic Water Containment Sensor

• Chelsea Monty — Academic Lead
• Bradford Vielhaber — Entrepreneurial Lead
• Wil Hemker — Mentor
Team 14
Hypoallergenic Natural Rubber Latex

- Katrina Cornish — Academic Lead
- Jessica Lauren Slutzky — Entrepreneurial Lead
- Allyson Dewell — Entrepreneurial Lead
- Bob Chalfant — Mentor
Team 15
High-Throughput Microalgae Screening

- Peter Ling — Academic Lead
- Siam Racharaks — Entrepreneurial Lead
- Shauna Brummet — Mentor
Team 16
Rapid Identification of Microbes in Soil

- Warren Dick— Academic Lead
- Aditi Sengupta — Entrepreneurial Lead
- Shauna Brummet — Mentor
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  - Email Subject Line must include team number (SP14-0###)