Welcome

Andy Maas, Project Manager
University of Akron Research Foundation
Agenda

11:45 am  Lunch
12:00 – 12:05 pm  Welcome
12:05 – 12:15 pm  Follow-Up on Week 2 – Q&A on Licensing and Business Model Basics
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
Follow-up on Week 2: Q&A on Licensing and Business Model Basics

Andy Maas, 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

Key Activities

Value Propositions

Customer Relationship

Customer Segments

Key Resources

Channels

Cost Structure

Revenue Streams

The University of Akron

UA NSF I-Corps Sites Program: Week Three
Business Model Canvas

Value Propositions
- 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
  - Price
  - Product/Service
  - Quality
  - Customer-Sales Cycle
  - Order
  - Delivery
  - Payment
  - Support
  - Growth

Customer Relationships
- What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
- Which ones have we established?
- How are we integrating with the rest of our business?

Customer Segments
- For whom are we creating value?
- Who are our most important customers?
- Point of Contact
- Role/Title
- Industry
- Geographic Location
- Annual Revenue
- Number of Employees
- Key Contact
- Notes

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?

UA NSF I-Corps Sites Program: Week Three
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?
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?
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 3 and 4 Logistics

Andy Maas, Project Manager
University of Akron Research Foundation
Week 3 Deliverables

- Budget Form approved by I-Corps Sites administrator
- Business Model Canvas sections on value proposition and customer segments
- Market Research Form
- Customer Interview Form completed for 5 customer contacts

Remember:
- All forms are available at www.uakron.edu/icorps
- Complete forms digitally and submit via email to NSFICorpsSites@uakron.edu by 5:00 pm Thurs.
  - Email Subject Line must include team number (F13-0##)
# 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?

## 4. Customer Relationships
- What type of relationship does each of our customer segments expect us to establish and maintain with them?
- Which ones have we established?
- How are they integrated with the rest of our business model?
- How costly are they?
## 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</td>
<td>12-15</td>
<td>8% annually</td>
<td>Marketresearch.com (Google Search)</td>
</tr>
<tr>
<td>$4.8B annual revenue</td>
<td></td>
<td></td>
<td></td>
<td></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>
<tr>
<td>US Plastic Surgery</td>
<td>1.6M surgeries annually</td>
<td>Same</td>
<td>12% annually</td>
<td>International Associate of Plastic Surgeons</td>
</tr>
<tr>
<td>US Pediatric Trauma</td>
<td>3M surgeries annually</td>
<td></td>
<td>4% annually</td>
<td>Center for Disease Control (CDC)</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

<table>
<thead>
<tr>
<th>Customer Segment:</th>
<th>Total Market:</th>
<th>Source (Citation):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 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 Surgeries</th>
</tr>
</thead>
</table>

### Customer Interviews

<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:john.doe@supersurgeries.com">john.doe@supersurgeries.com</a></td>
<td>330-357-9745</td>
<td>10/24/2013</td>
</tr>
</tbody>
</table>

**Company Contact Name:** Super Surgeries in Akron

**How did your conversation change your hypothesis?**

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...

<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>
</tbody>
</table>

**Company Contact Name:** Springfield Plastics and Associates

**Title:** Surgeon

**How did your conversation change your hypothesis?**

While patients are concerned about scarring, skilled surgeons can apply stitches sufficient to reduce and minimize scarring in critical areas.
Week 4 Deliverables

- Competitive Products Form
- Customer Interview Form completed for 5 customer contacts
- Business Model Canvas sections on value proposition, customer segments, customer relationships and channels

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 (F13-0###)
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? What makes your product better or different?**
- More flexible
- More viscous (hypothesis that it is easier to apply)
- Biocompatible with potential for internal use

<table>
<thead>
<tr>
<th>Competitor</th>
<th>Product Type</th>
<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?**

<table>
<thead>
<tr>
<th>Competitor</th>
<th>Product Type</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Value Proposition Pitches

I-Corps Sites Entrepreneurial Leads
Team 1
Social Media Immersed Automated Hydroponic Agricultural System

- Kye-Shin Lee — Academic Lead
- Vaishnavi Maduri — 1st Entrepreneurial Lead
- Lisa Owings — 2nd Entrepreneurial Lead
- Wil Hemker — Mentor
Team 3
Surface Treatment Platforms

- Gary Doll — Academic Lead
- Thom Olmstead — 1st Entrepreneurial Lead
- Christopher Stonecipher — 2nd Entrepreneurial Lead
- Wayne Watkins — Mentor
- Dan Jonsen — Mentor
Team 4
Prosthetic Socket Cooling System

- Brian Davis — Academic Lead
- Christina Webber — 1st Entrepreneurial Lead
- Dann Bruno — 2nd Entrepreneurial Lead
- Valentina Goutorova — Mentor
Team 6
Photo-Responsive Polymer Platforms

- Abraham Joy — Academic Lead
- Sudhanva Govidarajan — 1st Entrepreneurial Lead
- Daniel Hampu — 2nd Entrepreneurial Lead
- John Peluso — Mentor
Team 7
Method to Produce Metal Alloy Catalysts

- Zhenmeng Peng — Academic Lead
- Changlin Zhang — 1st Entrepreneurial Lead
- Ed Baus — 2nd Entrepreneurial Lead
- David Salay — Mentor
Team 8

Patient-Specific Ligament Placement Software

- Brian Davis — Academic Lead
- Melissa Boswell — 1st Entrepreneurial Lead
- Josh Walker — 2nd Entrepreneurial Lead
Team 9
Osteoporosis Flowthrough Analysis

- Marnie Saunders — Academic Lead
- Jonathan D. King — 1st Entrepreneurial Lead
- Ashley Johnson — 2nd Entrepreneurial Lead
- Dominic Frinsina — Mentor
Team 10
Agricultural Hydroponic Sensor/App

- Ajay Mahajan — Academic Lead
- Christine M. Yukech — 1st Entrepreneurial Lead
- Linda Hale — 2nd Entrepreneurial Lead
- Pat Grospiron — Mentor
- Andrea Trgovich — Mentor
Team II
Aqueous Two-Phase System (ATPS) 3D Tumor Model

- Hossein Tavana — Academic Lead
- Stephanie Lemmo — 1st Entrepreneurial Lead
- Adham Gari — 2nd Entrepreneurial Lead
- Margaret E. Groh — Mentor
Team 12
Anti-Microbial Diffuser

- Hazel Barton — Academic Lead
- Ceth Parker — 1st Entrepreneurial Lead
- Gwendolyn Starda — 2nd Entrepreneurial Lead
- Philip Cunningham — Mentor
- Bob Chalfant — Mentor
Team 13
Mechanoluminescence Sensors (ML Sensors)

- Gunjin Yun – Academic Lead
- Mohammad Reza Rahimi – 1st Entrepreneurial Lead
- Rebekah Konet – 2nd Entrepreneurial Lead
- Max Lewis – Mentor
- Jennifer Hanzlicek – Mentor
Team 14
Parallel-Computation
Fast Fourier Transform

• Dale Mugler — Academic Lead
• Jessica Peplowski — 1st Entrepreneurial Lead
• Zach Savage — 2nd Entrepreneurial Lead
• Andrew J. Maas — Mentor
Team 15
Electrostatic Loudspeaker (ESL) Digital Amplifier

- Arjuna Madanayake — Academic Lead
- Dezarae Holman — 1st Entrepreneurial Lead
- Benjamin Trent — 2nd Entrepreneurial Lead
- Barry Rosenbaum — Mentor
Team 16
Electrically Modified Order Parameter

- Sergij Shiyanovskii — Academic Lead
- Suguna Rachakonda — Mentor
Team 18
Dual-Mode Bioimaging Contrast Agents

- Chanjoong Kim — Academic Lead
- Suguna Rachakonda — Mentor
Week 3 Deliverables

- Budget Form approved by I-Corps Sites administrator
- 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 (F13-0###)