Customer Discovery Kickstart

How to find out if
my idea is a good one

Kit Needham

Director, Project Olympus

Asst Dean for Entrepreneurial Initiatives
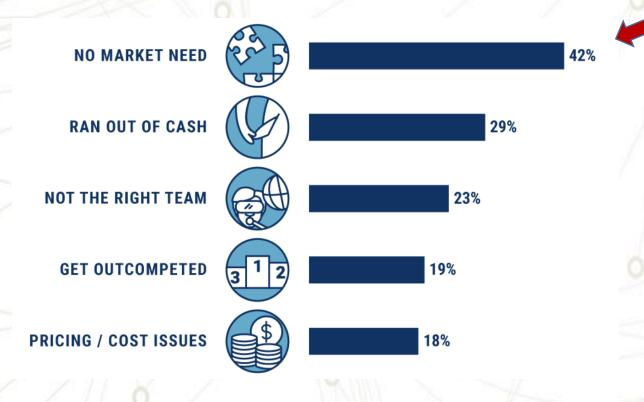
Carnegie Mellon University

Swartz
Center for
Entrepreneurship

OLYMPUS

Best recommended way

Ask

your

Customer!

Top 5 Reasons Startups Fail

NO MARKET NEED — 42%
RAN OUT OF CASH — 29%
NOT THE RIGHT TEAM — 23%
GET OUTCOMPETED — 19%
PRICING / COST ISSUES — 18%

https://www.cbinsights.com/research/startup-failure-reasons-top/

What is

Customer Discovery

Customer Relationship Phases

Phase 1   Customer Discovery

Is this a big problem that a lot of people have where the current solution isn't working e.g. am I solving the right problem?

Phase 2   Customer Validation

I now know I am solving the right problem. Am I solving it the right way?

Phase 3   Customer Acquisition

Strategy and methods for getting customers to buy your product or service at a price where you can be profitable.
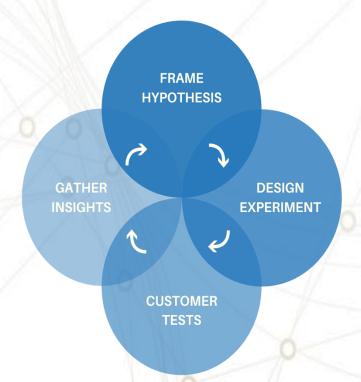
What is Customer Discovery

Phase I

➢**What** is the **pain/problem**

➢**Who** is having the pain/problem

➢**How bad** is the pain

➢**How** are the "who" currently dealing with it

➢**How** is that solution working for them

Methodology is Hypothesis Driven

BUSINESS THESIS

- Who is the customer?
- What is the product?
- Why will they buy it?

FRAME HYPOTHESIS

DESIGN EXPERIMENT

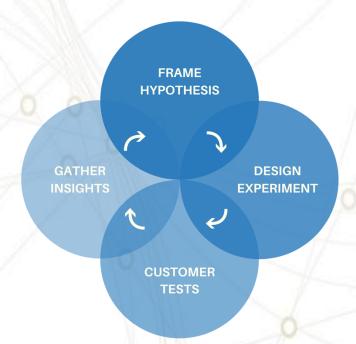CUSTOMER TESTS

GATHER INSIGHTS

BUSINESS HYPOTHESIS

- What items must be true such that the business thesis hold (must be testable)
- Test during customer discovery
- Modify business thesis based on customer input

8

Start with your Business Thesis

BUSINESS THESIS

- Who is the customer?
- What is the product?
- Why will they buy it?

FRAME HYPOTHESIS

DESIGN EXPERIMENT
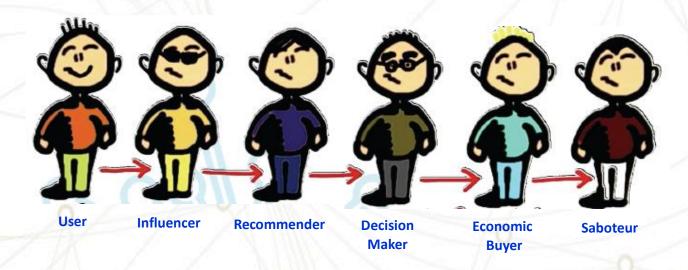
CUSTOMER TESTS

GATHER INSIGHTS

BUSINESS HYPOTHESIS

- What items must be true such that the business thesis hold (must be testable)
- Test during customer discovery
- Modify business thesis based on customer input

What is a Business Thesis

- Who is the customer?
- What is your product/solution?
- Why will they buy it?

Who is/are Your Customer(s)?

User   **Influencer**   **Recommender**   **Decision Maker**   **Economic Buyer**   **Saboteur**

- Ecosystem of people you need to understand, satisfy and appeal to in order to buy your product
- Also called Stakeholders

Creating Your Business Thesis

- **Who is the customer?**
  - This is a <u>person</u> with a specific demographic or persona (age, profession, location, etc)
  - "This specific customer will buy? lease? license?........

- **What is your solution?**
  - What specifically are your proposing to offer?
  - ....my product/service that does this specific thing(s)...."

- **Why would they buy it?**
  - What does the customer value? What problem does the customer want to solve? This is often called **<u>The Value Proposition</u>**
  - ".....that will reduce the cost by X? Increase sales by Y? Reduce the error rate by Z? Allow the customer to access in one-step...."

Value Propositions – Alert!

Customers/stakeholders are <u>not</u> buying your technology...

Customers/Stakeholders are buying a solution to their problem!

Value Propositions

Questions to Ask Yourself

- What do we do for your **customer/stakeholder** that they value?
- What really matters to your **customer**/**stakeholder**?
- What problem are you solving for your **customer/stakeholder**?
- What job is your **customer/stakeholder** trying to get done?

Examples of B to B Theses

(Who) County municipal managers responsible for road maintenance will subscribe to

(What) **Roadbotics** which maps the status and condition of a region's infrastructure

Why) to enable objective, data-driven decisions regarding what to repair and replacement at a significant cost savings.

(Who) School administrators (Grades 6-12)will license

(What) **Lightside Labs** writing platform that provides automated writing feedback and suggestions as students write essays

(Why)to more efficiently provide individual guidance real time to each student.

Examples of B to C Business Theses (DTC)

(Who) Consumers who search for and read news online will subscribe

(What) to **Newsage** which recommends news based upon a reader's instructions and provides interactive chats on the content

(Why) to provide interactive, personalized, summarized news.

(Who) Consumers just diagnosed with new allergies will subscribe

(What) to **Allervision** which provides a tool to easily identify potential allergens in various products

(Why) to prevent acute suffering, often facing anaphylactic reactions necessitating immediate medical attention with epinephrine and emergency room visits.

Homework #1
Create Your Business Thesis

What is the problem you are proposing to solve?
   (One sentence – simple and short as possible)

Who is the customer?
- This is a person with a specific demographic or persona (age, profession, location, etc)
- "This specific customer will buy? lease? license? subscribe?……..

What is your solution?
- What specifically are your proposing to offer?
- ….my product/service that does this specific thing(s)…."
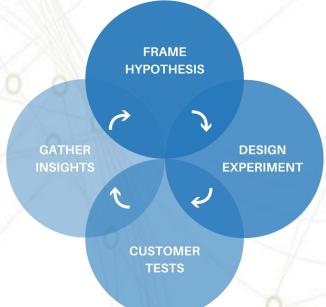
Why would they buy it?
- What does the customer value? What problem does the customer want to solve? This is often called **The Value Proposition**
- "…..that will reduce the cost by X? Increase sales by Y? Reduce the error rate by Z? Allow the customer to access in one-step…."

Hypotheses Test the Business Thesis

BUSINESS THESIS

- Who is the customer?
- What is the product?
- Why will they buy it?

FRAME HYPOTHESIS

DESIGN EXPERIMENT

CUSTOMER TESTS

GATHER INSIGHTS

BUSINESS HYPOTHESIS

- What items must be true such that the business thesis hold (must be testable)
- Test during customer discovery
- Modify business thesis based on customer input

Business Hypotheses

- Your Business Thesis has some assumptions
- These assumptions <u>must be true</u> for your business to succeed.

How do you know if they are true?

1. Develop Business hypotheses
2. Develop questions to test these hypotheses
3. Identify Customers to interview
   (Use Landing Pages to attract potential B to C customers)

What Makes a Good Hypothesis

1. Clear and concise
2. Specific
3. Testable/measurable

Hint: Use simple declarative sentences

Sample Hypotheses

What assumptions do we have that if proven wrong would cause us to fail.

- The problem my stakeholder wants to solve is …..
- My target stakeholder will be….
- My stakeholder can't solve this today because ……..
- The measurable outcome my stakeholder wants is…
- I will make money/revenue by ….
- I will beat my competitors because……
- My biggest financial/technical/engineering risk is…
- My stakeholder has money and would be willing to buy….

How to Prepare to Test Your Hypotheses

1. Identify an industry segment (B to B) or customer segment (B to C)

2. Identify 1-2 specific stakeholders in that segment

3. Create a Business Thesis for a stakeholder in that segment (start with highest priority – e.g. buyer/decision maker or user

4. Develop hypotheses you need to test (what must be true for your business to be successful)

How to Prepare to Test Your Hypotheses

5.   Prioritize 1-3 Hypotheses to test.

6.   Develop 3-5 key priority questions to test each hypotheses.

- Use questions that are **measurable**
  - E.g. "on a scale of 1-10…"; "how many times in the past three months…?" "what are the steps you need to take to….?" "how much do you pay for….."
- Include questions that are **qualitative**
  - "What do you like most about …..; Least about…." "Can you give an example of……"

Who is/are Your Customer(s)?

User   **Influencer**   **Recommender**   **Decision Maker**   **Economic Buyer**   **Saboteur**

For B to B, many stakeholders could be involved in the buying decision.
For B to C, or DTC, the user is usually also the buyer/decision maker

Sample Questions

- What are the top 3 challenges related to _____? How often do they occur?

- How much time do you spend on those challenges?

- Can you tell me a story about the last time that challenge happened and what you did?

- What, if anything, have you done to solve these challenges?

- What don't you like about the solutions you tried? OR On a scale of 1-10, how would you rate your current solution? Why did you give it that number?

- Who has to approve purchases? Do you need any approval to try a new product or serve?

- Who else should I talk to?

Hints for Questions

- **Asking job title/position and how long someone has been in the job/position or status** helps you to judge the level of experience (and doesn't count in the '5-7 question quota). This is a good way to begin the discussion/warm-up. "Tell me about your background and current role…"

- You will need **a different set of questions** for the different stakeholders.

Hints for Questions

- **Avoid "Have you ever…..?"** Better - "How often in the (pick a relevant time period) have you….?"

- **Careful of "Would you ever….?"** type questions. Instead, try to **frame your question on past behavior** which is a much more reliable predicter of how the customer will actually act.
  - "When was the last time…?
  - "How many apps have you paid for…?
  - In the 3 past weeks, which apps…?; how often..? Why?

Homework #2
Testing Your Hypothesis

- For your chosen segment, pick one customer/stakeholder.
- Create 1-3 hypotheses to test. (What must be true for your business to succeed).
- Identify 1-5 questions to test each hypothesis
- Use the Customer Interview Guide to do this

Homework #2 – Part 1 for B2B and B2C Customer Interview Guide

Industry Segment (B2B) or Customer Segment (B2C)

Stakeholder:

Key Hypotheses to test (what assumptions do we have that if proven wrong would cause us to fail)

Hypothesis #1

> **3-5 questions to ask** (to prove/disprove the hypotheses)

Hypothesis #2

> **3-5 questions to ask** (to prove/disprove the hypotheses)
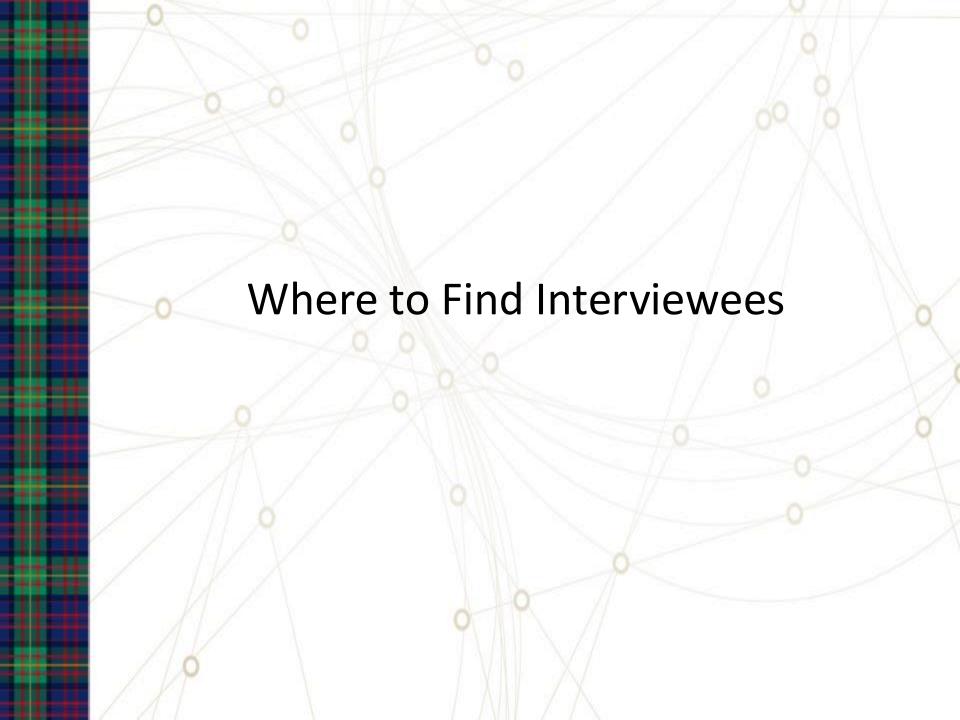
Hypothesis #3

> **3-5 questions to ask** (to prove/disprove the hypotheses)

Hypothesis (n)

> **3-5 questions to ask** (to prove/disprove the hypotheses)

Homework #2 – Part 2 for B2B Customer Interview Guide Potential Interviewees

	Name	Title	Company	email (if possible)
1.	Sarah Mendelson	Brookings Nonresident Senior Fellow – Global Economy and Development, Center for Sustainable Development	Brookings Institute	smendel2@andrew.cmu.edu
2.	Sayeed Choudhury	Associate Dean for Digital Infrastructure, Carnegie Mellon University	Carnegie Mellon University	gchoudhu@andrew.cmu.edu
3.	Grant Ervin	Vice President of External Affairs and Sustainability	S&B USA Construction – Fay – Fay Southeast	
4.	Jeanne Holm	Deputy Mayor for Budget and Innovation	City of Los Angeles	jholm@g.ucla.edu
5.	Gaea Morales	Ph.D. in Department of Political Science and International Relations	University of Southern California	gaeapatr@usc.edu

Where to Find Interviewees

Where to Find them
B to B

Start with people you know directly

Olympus Domain Experts

Ask local organizations (LS examples)

- Jewish Health Foundation

- Innovation Works/ AL Health

- LifeX Office Hours Experts

- UPMC Enterprise Solutions

LinkedIn (look for alums)

National Organizations

Speakers or authors

Industry/Domain Experts

150+ industry experts in over 50 fields

Administrative/Operations

- Accounting
- Banking
- Early Stage Startups & Ideas
- Funding-General
- Funding-SBIR/STTR
- HR/Payroll/Benefits
- Insurance
- Management
- Manufacturing
- Marketing
- Pitching/Public Speaking
- Real Estate
- Sales
- Start-up Strategy
- Taxes
- UX/I Research & Strategy
- Web Design

Legal/Regulatory

- FDA Regulations
- Immigration Law & F-1 Visas
- Law for Startups
- Intellectual Property

Industry/Specialty

- Advanced Materials
- African Markets
- Bio/BioTech
- Blockchain/Cryptocurrency
- Chemistry
- Cloud/AI Systems
- Consumer Products/Retail
- CTTEC/ Commercialization
- Cybersecurity
- DoD/Defense
- EdTech
- Energy
- Esports/Gaming
- FinTech
- Global Commerce
- Hardware
- Internet of Things (IoT)
- Robotics
- Smart Cities
- Social Enterprise
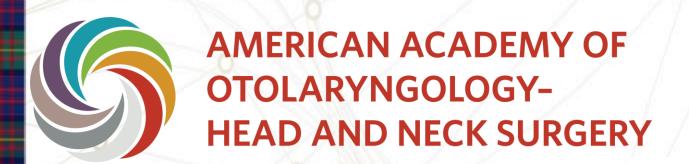- Software as a Service (SAAS)

Life Science

- Medical Devices
- Medical Software
- Medical Markets & Strategy
- Pharmaceutical
- Scientific Communication

Funding/Funders

- Advice
- Funders
- SBIR/STTR Programs

There is a trade association for everything....

AMERICAN ACADEMY OF OTOLARYNGOLOGY– HEAD AND NECK SURGERY

Search "_____ Industry Maps"

The Healthcare Internet of Things (IoT) Market Map

Search "_____ Industry Maps"

Search "_____ Industry Maps"

MEDICAL DEVICE MARKET MAP

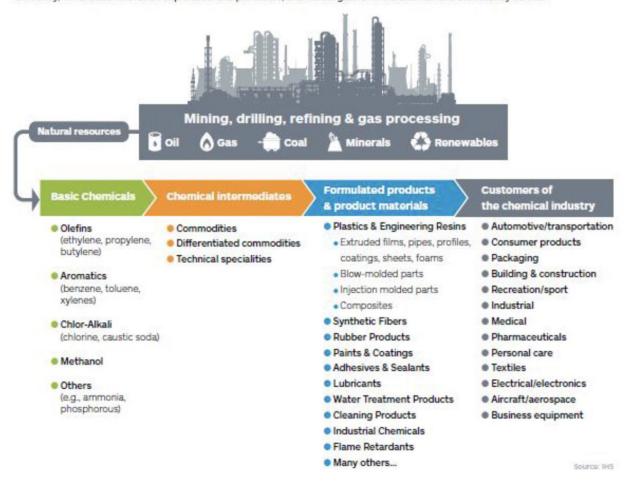# 106 STARTUPS TRANSFORMING HEALTHCARE WITH AI

FASHION

The Fasthech Ecosystem

CHEMICALS

The chemical industry value chain

The chemical industry enables our modern living standards through the conversion of basic energy into consumer products. The underlying factors that lead to success for companies in the chemical value chain are low-cost feedstocks, high levels of operational efficiency, continuous innovation of products and processes, and robust growth in the end markets the industry serves.

Mining, drilling, refining & gas processing

Natural resources

Oil   Gas   Coal   Minerals   Renewables

Basic Chemicals	Chemical intermediates	Formulated products & product materials	Customers of the chemical industry
Olefins (ethylene, propylene, butylene)	Commodities	Plastics & Engineering Resins	Automotive/transportation
	Differentiated commodities	• Extruded films, pipes, profiles, coatings, sheets, foams	Consumer products
	Technical specialities	• Blow-molded parts	Packaging
Aromatics (benzene, toluene, xylenes)		• Injection molded parts	Building & construction
		• Composites	Recreation/sport
Chlor-Alkali (chlorine, caustic soda)		Synthetic Fibers	Industrial
		Rubber Products	Medical
Methanol		Paints & Coatings	Pharmaceuticals
		Adhesives & Sealants	Personal care
Others (e.g., ammonia, phosphorous)		Lubricants	Textiles
		Water Treatment Products	Electrical/electronics
		Cleaning Products	Aircraft/aerospace
		Industrial Chemicals	Business equipment
		Flame Retardants	
		Many others...	

Source: IHS

NAATBatt International

INSTRUCTIONS

Use this page to search for advanced battery-related products and services in which you have an interest from among NAATBatt member companies. You may search by any or all of the following methods:

1. In Part 1, check any or all of the Product Category boxes that are relevant to your search.
2. In Part 2, enter in what you are looking for. You may leave Part 2 blank.
3. Hit the "Submit Search" button at the bottom of the page.

Check any or all of the following boxes that may be relevant to your search:

Materials and Composites

☐ Zinc   ☐ Lithium Brines   ☐ Spodumene   ☐ Lithium Carbonate

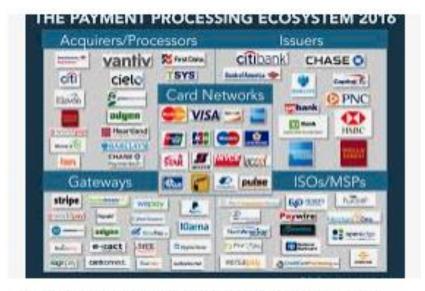☐ Lithium Hydroxide   ☐ Graphite-Natural   ☐ Graphite-Synthetic   ☐ Silicon Anodes

- Advanced Battery Concepts
- American Battery Solutions
- American Manganese Inc.
- Autlán
- BIC
- Bitrode Corporation
- American Battery Solutions
- Amphemol Advanced Sensors
- Eclipse Energy
- DuPont
- Durr Megtec
- Electric Applications Incorporated
- Everledger
- Forge Nano Inc.
- Global Battery Solutions LLC
- Indiana Economic Development Corporation
- JAKERTECH
- King County - Metro Transit
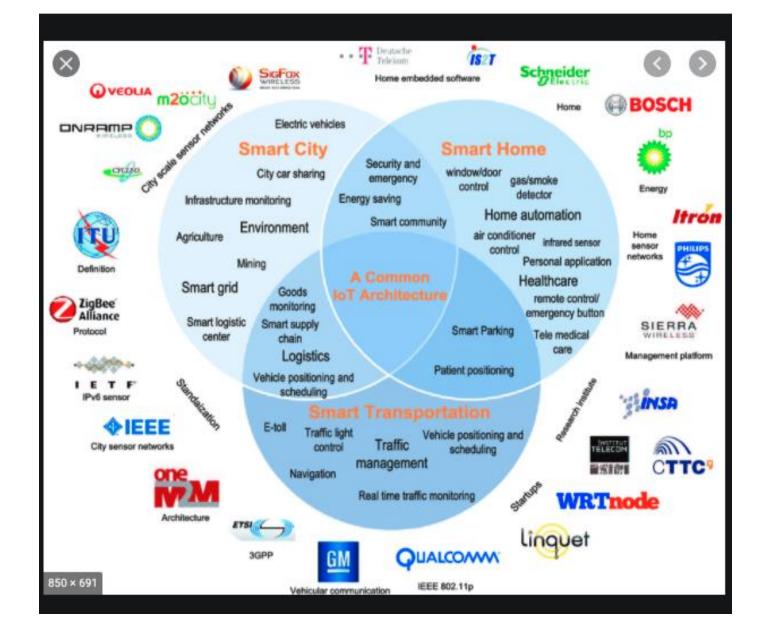- Li-Cycle Corp.
- Lithion Recycling

Payment EcoSystem Diagram

Payment ecosystem demystified. Where ...
medium.com

THE PAYMENTS ECOSYSTEM: Everything you ...
businessinsider.in

Smart Traffic Ecosystem Diagram

If you are selling B to C using the internet

Another way of finding interviewees for customer discovery is to use

Landing Pages

and

A/B Testing

What is a Landing Page

A simple webpage that:

- Is customized for a specific campaign, offer, or purpose

- Guides visitors towards a single call to action.
  - Sign up for a newsletter
  - Purchase a product
  - RSVP for a launch
  - Provide some information about themselves

Landing Pages can be used to tell you

- Is anyone searching for your product/solution?

- What are the key words they are using to search with?

- What are some characteristics of your customer?

Identify Key search words

Brainstorm all the potential words that a customer may use to conduct a Google search.

Why?

- Google algorithms prioritize recommended sites based upon matches to keywords your customers are looking for and what is on your landing page. (SEO).
- Search engines crawl and rank content based upon:
  - Location of the keywords
  - How often the keyword words are used
  - Size of the keywords

Create a 'call to action' button

Have a 'call-to-action' button that the customer can click.

Create a simple questionnaire (3-5 questions) that you ask the customer to complete.

Last question: Add an <u>option</u> to include an email <u>at the end</u> if the customer wants to:

- Be notified when the website/product is launched
- Be willing to chat more about why they were looking at the website. (*No obligation, helps with research and make sure you are providing the best product/service*.)

Set up google analytics

Track:
- How many people showed up
- How long they stayed
- Whether they clicked the button
- Whether they completed the questionnaire
- Whether they included their email

Use A/B Testing to improve results

What is A/B testing:

A/B testing (also called split testing) is **comparing two versions of a web page to figure out the better performing variation**.

What to do

- Create a Site B.
- Vary the content from Site A
  - Use different keywords
  - Place keywords in different positions
  - Try a different 'call-to-action' type of button
  - Vary colors or pictures (if relevant)
- Can also vary questions (3-5) that you ask the customer to complete. Always have an <u>option</u> to include an email at the end.
- Set up Google analytics that track the same metrics as Site A

Compare: Which site is getting…..

The most visits?

The most clicks on the 'call-to-action' button?

The most responses to the questionnaire?

The most email signups?

Then 'rinse, wash, repeat…'

Modify the site that is not performing as well to look more like the site that is performing well – but experiment with changes.

Continuously modify the sites to always attract more people and have more conversions.

Questions should test hypotheses

Questions designed to test Allervision's hypotheses/assumptions of what must be true for the business to be successful:

- Assumptions:
  - Buyer is a person with allergies
  - Buyer is a parent/caregiver of a child with allergies
  - Buyer has recently been diagnosed
  - Some allergies have fewer or less helpful resources that should be high priority for competitive differentiation (what are they?)

Sample questions to test hypotheses

Allervision: App to help manage allergies

- Are you searching for (choose) yourself, a child, other _____?
- Are the allergies (choose) new or been known for awhile?
    - Less than a year, 1-3 years, more than 3
- What type of allergies are you looking for help to manage?
    - (Open-ended)
- What resources are you currently using to help manage the allergies? (open-ended)
- Please add your email if (check all boxes that apply)
    - you want to be notified when (the product) is available – estimate 3Q of 2024
    - If you would be willing to have a 15-minute interview (chat).

Goal is to get interviewees

Last question:

Please add your email if (check all boxes that apply)

- you want to be notified when (the product) is available
- If you would be willing to have a 15-minute interview (chat?) to help us design the best resource for you.

  Option: We are researchers from Carnegie Mellon University who are developing a resource to help allergy management. This no-obligation confidential interview will help us to better design this resource.
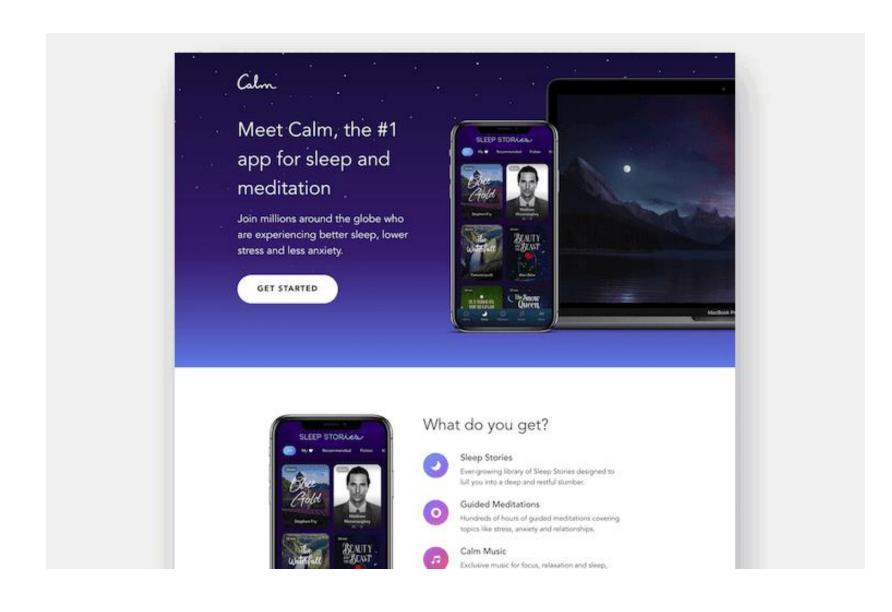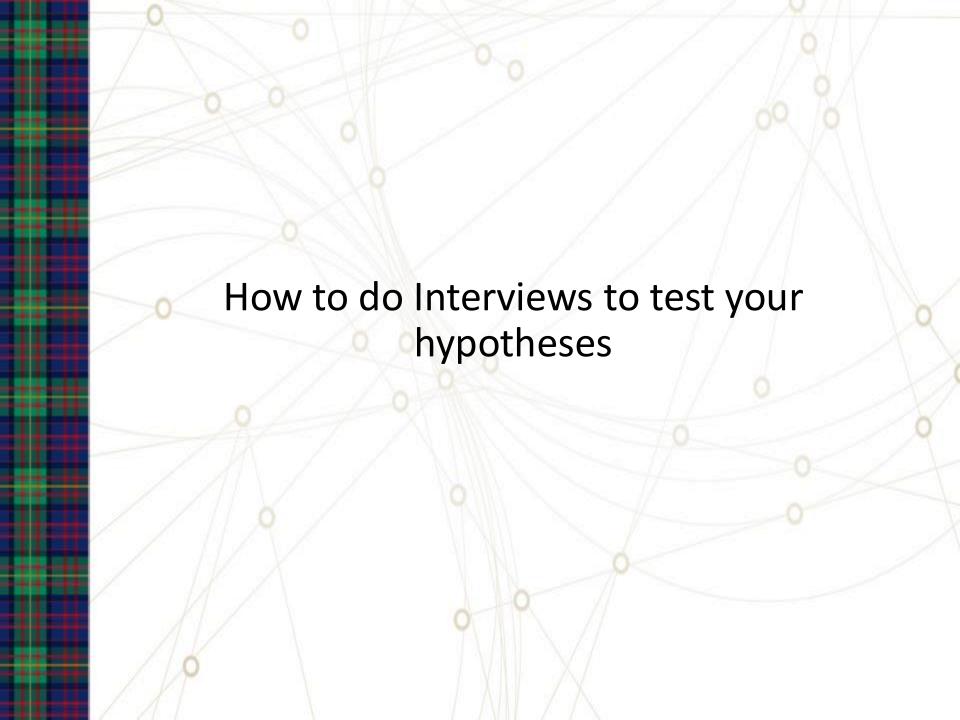
Resources

- [Carrd](#) to make simple websites

- Glide [Glideapps](#) to make simple webapps

- [Webflow](#) to make really nice websites (but slightly more expensive and harder)

- Unbounce.ai [Unbounce](#) = for ab testing

Homework #3 B to C: Create 1-2 landing pages

1. Subscribe to at least two inexpensive urls (e.g. GoDaddy) or use carrd which offers no-cost options for multiple urls.

2. Identify key words that customers could use to search for your product or service.

3. Create a simple one-page landing page for one url that uses some of these key words and a 'call to action' button to click.

4. Create 3-5 questions to ask.

5. Set up google analytics.

After you get feedback, create a second Landing Page with some variations. Be sure to use Google analytics on both sites.

How to do Interviews to test your hypotheses

Best Way to Validate your Hypotheses

"**Get out of the Building!**"

Steve Blank

- **Face to face interviews – Best**
- Zoom/Skype
- Shadowing
- Telephone/Facetime

Online✗surveys

The technique

15 Minutes

5-7 questions

Rule: You are not allowed to talk about your idea!

Get Started

"I am doing some research on XXX. Do you have **15 minutes** to answer a few questions" or "I have 5-7 questions…"

- **- 'Student Card'** works well
- - May need to say "this is **not a sales call**"

- Can start with a few Friends/Friendlies to practice

- Then go after people you don't know
  - For B-B, C-level is not always the best

- Consider asking
  - **Who else should I talk to?**
  - **What else should I have asked**?

Best Resources

"Talking to Humans"
"Testing with Humans"
by
Giff Constable

Premium Version of LinkedIn

Hints for Interviews

- The questions are **not a checklist**. They are a prompt to possibly explore another aspect.

- Be open to iterate and **follow up and explore more deeply** on what the interviewee is saying.

The above are the biggest mistakes in conducting interviews!!!!!!!

Where the magic happens #1

<u>Always</u> ask

"How are you solving it now (or tried to solve the problem in the past)"

"On a scale of 1-10, how would you rate that solution?" "Why did you give it that number".

Write down

- Everything they say,
- In the order they are saying it
- In their words.

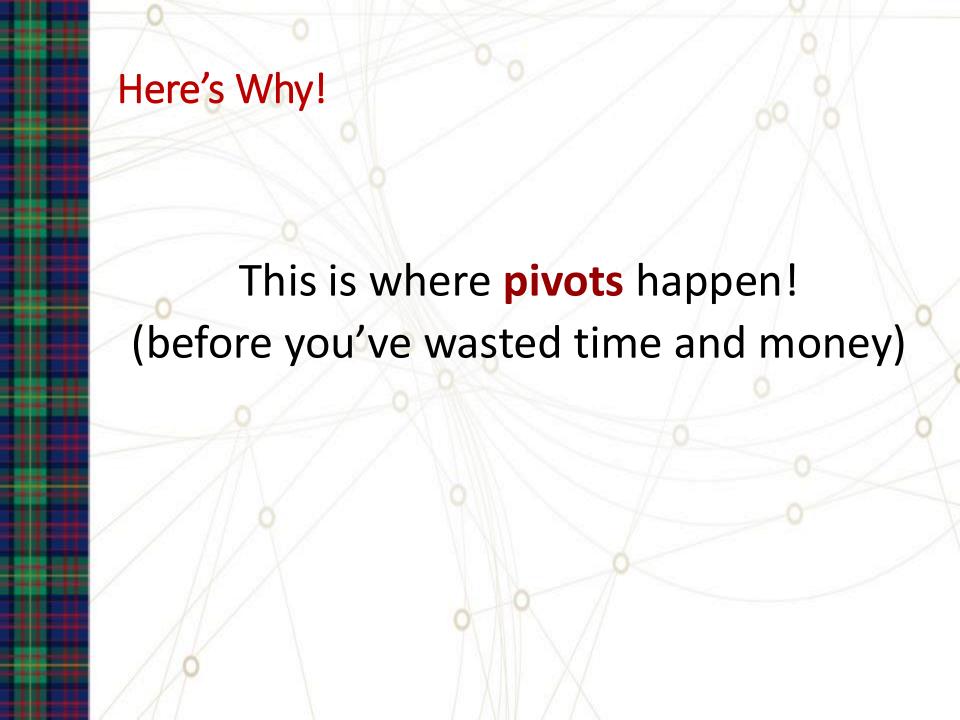# Here's Why
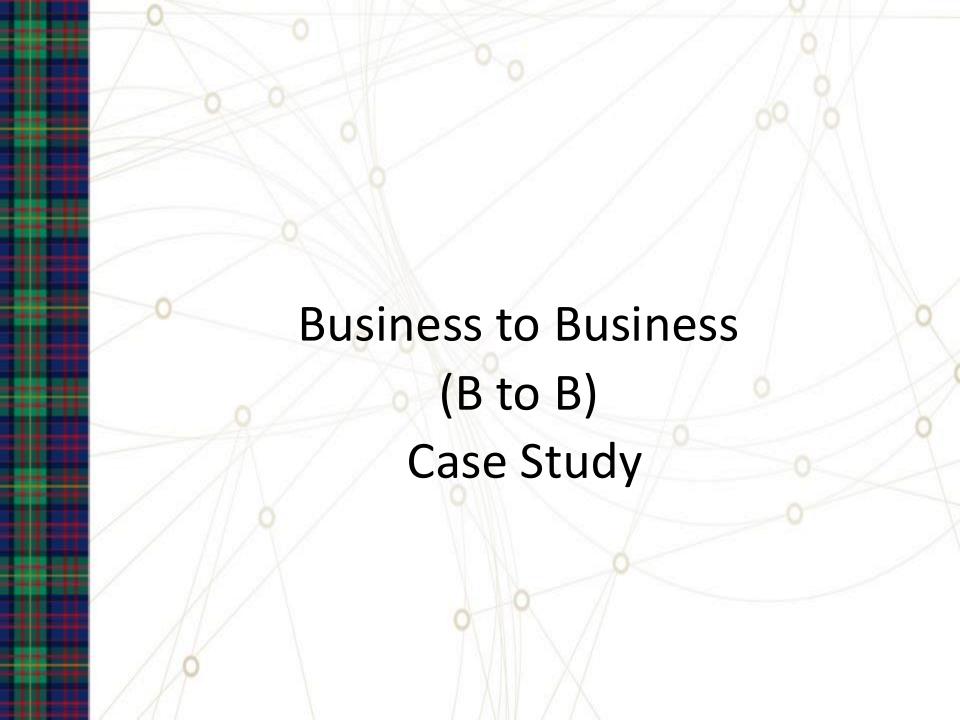
- They are giving you the **feature list** – what they view as really important.

- They are giving you the **feature priority**

- They are giving you **marketing language**

- They are giving you deeper **knowledge of the competition**

Where the magic happens #2

Listen for the **unexpected**.

- If they said something you weren't expecting but seems relevant, ask "tell me more".

- If there seems to be substance
  - Include it in future interviews
  - Go back and ask past interviewees

Here's Why!

This is where **pivots** happen!
(before you've wasted time and money)

Business to Business
(B to B)
Case Study

RistCall

RistCall Business Thesis

Who is the customer: Hospital Administrators will lease…..

What is my solution: ….the Ristcall Smart Watches and platform (that let patients call for aid from anywhere and nurses receive immediate notification) and tracks response time ……

Why will they buy it: ……in order to reduce the number of injuries patients incur when not responded to quickly (within a certain time frame?)

RistCall Hypotheses

- Slow response leads to serious and expensive injuries

- Nurses are not responding faster because of lack of awareness that the patient needs help

- Hospital Administrators want (would pay for) a new product or service to reduce injuries

- Hospital Administrators want (would pay for) data on # of requests and response time

How RistCall Tested the Hypotheses

Identified potential target segment(s)
- Hospitals
- Nursing Homes

Identified potential stakeholders in target segments (these are people with titles/jobs)
- Users: Nurses and Patients
- Influencers: Patient's families,
- Recommenders: Nurses, Patients, Nurse Administrator
- Decision Maker/Economic buyer: Insurance Companies? Board?, ?
- Saboteur (Potential): IT Manager

Used Industry Survey Data to learn the size of the problem

How RistCall Tested the Hypotheses

-On site "shadowing/ observing"
-Interviewing in-person using hypothesis-validating questions.
-Asking who else to interview

Different set of hypothesis and questions for different **stakeholders**
- Patients
- Nurses
- Nurse Schedulers
- Patients' family/caregivers
- Insurance companies
- Doctors
- Buyers/Decision Makers
- Hospital CFO/ Accountants   .
- IT Manager

Sample Hypotheses Testing Questions

Hypothesis: Slow response leads to serious and expensive injuries

Stakeholder: **Nurse Administrator (Staffing scheduler)**
- How do you learn that a patient needs help? (current solution)
- What do you like most? What do you like least? (competitive assessment)
- How often in the past week was the Response Platform unmanned because the nurse was helping a patient? (Follow up from the answer to the first question; measurable)
- Can you give me an example of a recent issue because no one quickly responded? (Qualitative)
- Who else should I talk to? (may be other stakeholders you need to talk to that you don't know about)

Sample Hypotheses Testing Questions

Hypothesis: Nurses are not responding faster because of lack of awareness that the patient needs help

Stakeholder: Nurses
- How do you learn when a patient needs attention? (current solution)
- On a scale of 1- 10, how is that system working for you?
- Why did you give it that number? (what they like most/least about the current solution, also gives you the features they value or are missing)
- What happens when a patient injures him/herself? (Maybe ask about a recent example)

Sample Hypotheses Testing Questions

Hospital Insurance/Cost Manager: Slow response leads to serious and expensive injuries

Stakeholder: CFO/Account Management
- What happens when patients injure themselves while in hospital?
- Who pays for these injuries?
- In the past month, can you give me an idea of how many times this occurs? Why?
- What methods have you tried to reduce the injuries or improve response time?
- What were the results?

RistCall Shadowing, Interview and Research Learnings from Customer Discovery

- It's a $1.2B annual problem for hospitals (secondary research)
- Injuries occur when patients are not responded to within 2.5 minutes.
- Insurance companies don't reimburse hospitals for on-site injuries.
- Medicare is beginning to reimburse hospitals in general based upon Patient Satisfaction ratings.
- Hospitals were actively seeking ways to improve their ratings.
- Patient Satisfaction Manager was a huge influencer/recommender.
- Nursing homes have the need but not the financial incentive.
- IT personnel don't care – RistCall only accessed existing Internet.
- The buyer/decision maker was the CFO.
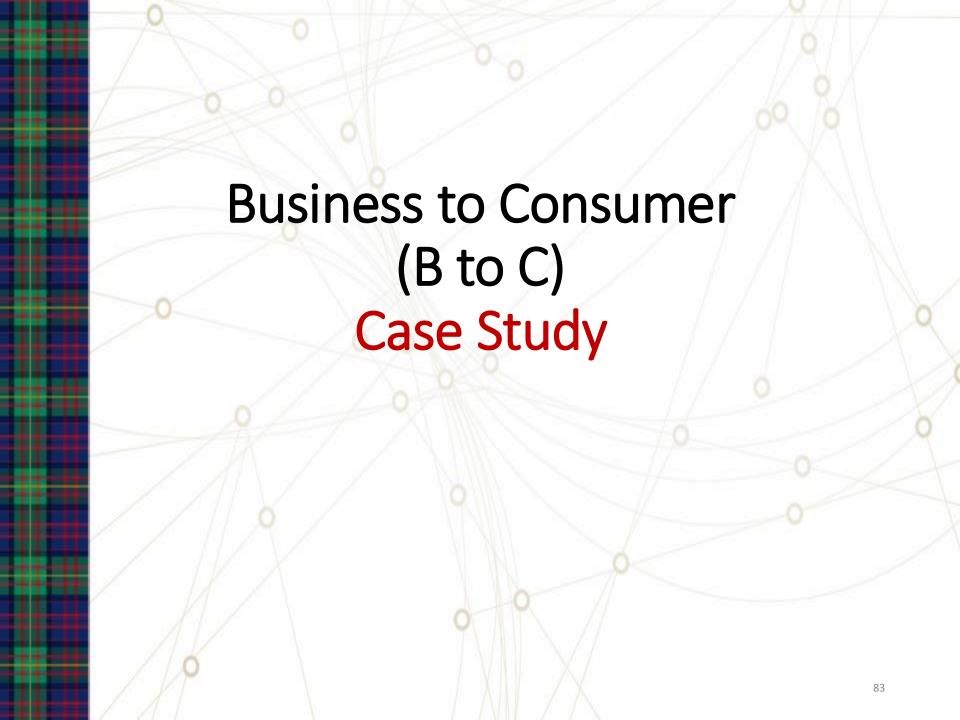
Hospitals were willing to pay $5k to test RistCall!

RistCall's Revised Business Thesis
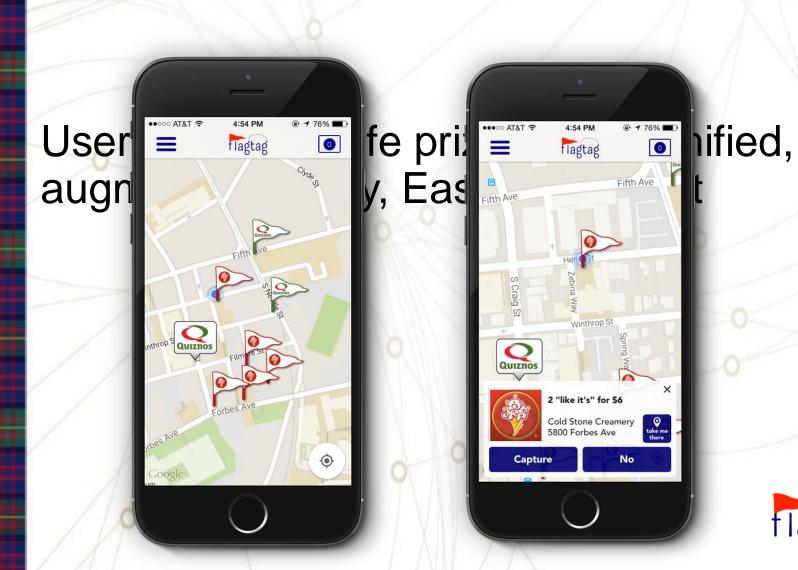
Who: CFO/Hospital Administrators will lease…..

What: ….RistCall's smart watches and platform…..

Why: ……in order to reduce the number and cost of injuries that patients incur when not responded to within 2.5 minutes and increase patient satisfaction ratings.

Business to Consumer
(B to C)
Case Study

User win real life prizes with Gamified, augmented reality, Easter egg hunt

Consumers
(targeting students)

Find discounts

Discover new businesses

Have fun while saving via
gamified incentives

Businesses

- Leverage an efficient marketing
scheme

- Bring new faces through the door

- Receive analytics with respect to user
habits and coupon efficiency

Customer Discovery Survey Results

Key Demographics for Student Stakeholders

CMU: 100 Interviewed – 56 male, 44 Female

Pitt: 50 Interviewed – 25 Male, 25 Female

Chatham: 50 Interviewed – 3 Male, 47 Female

(Later interviewed 100+ more at Carlow, Duquesne and Point Park Universities)

Sample questions

"On a scale of 1-10, how likely are you to deviate from your go-to restaurant for a better deal at a competing restaurant?"

"On a scale of 1-10, how difficult would you say it is for you to organize a bunch of your friends in a group activity or outing?"

"How many apps on your phone have you paid for?"

"When was the last time you played CTF?" (why not more often?)

"Would you play CTF if it were an IM here?"

flagtag

"On a scale of 1-10, how likely are you to deviate from your go-to restaurant for a better deal at a competing restaurant?"

- Takeaway: College students are more likely to seek a deal than commit to a restaurant.

- Product Design: Make sure a key component to the game is interaction with businesses.

- Marketing Message: "Capture the flag, but also capture great deals"

Key Findings

"On a scale of 1-10, how difficult would you say it is for you to organize a bunch of your friends in a group activity or outing?"

Takeaway: Organizing groups of friends is a pain point for college students

Product Design: The game setup in the app needs to be intuitive so it is a helper, not a pain.

Marketing message: "You make the friends; we'll make sure they are organized."

Key Findings

"How many apps on your phone have you paid for? What are they? (if answered yes)."

Results:
No females at CMU, Pitt or Chatham paid for any apps.

22% of males at CMU and Pitt had any paid apps on their phones – all were for games

Takeaway: Fees from app is not part of the revenue model. (nor were they planning on it –they just wanted to check.)

Key Findings

"When was the last time you played CTF?" (why not more often?)

Takeaway: Students had not played recently and the reason was because of lack of time.

Product Design: Spread game over longer time period where you don't have to commit a block of time.

Marketing Message: "Play on your own schedule."

flagtag Key Findings

"Would you play CTF if it were an IM here?"

Responses: CMU: 80% - yes, 10% - maybe
            Pitt: 48% - yes;   24% - maybe
            Chatham: 2% - yes,   98% - no

Conclusions:
- Key was Time, Friends, …. And Incentives
- Chatham was not an active group

Customer Discovery

What they did right:

- Interviewed a large number of students from a variety of campuses
- Results helped to significantly restructure initial game design
- Derived key marketing messages from the interviews that were successful in getting students to download the app

Customer Discovery

Where they missed the mark

- Misinterpreted the concern for time to mean 'design a shorter game time' rather than less time for games at all.

This is called Confirmation Bias – 2nd biggest mistake

- Asked an 'aspirational' question i.e. "*Would you play……?*" Responders meant well but simply didn't act as they said they would.

What They Learned

After going through AlphaLab and launching the app:
- Students:
    - Very willing to download the app and open it
    - Mostly interested in capturing the flag for the discounts but not at all in the game aspect.
    - A little slow to redeem the coupons (flagtag is paid a bonus for each redemption)
- Businesses
    - Very well received
    - Most effective of all the coupon options they had tried by 3X
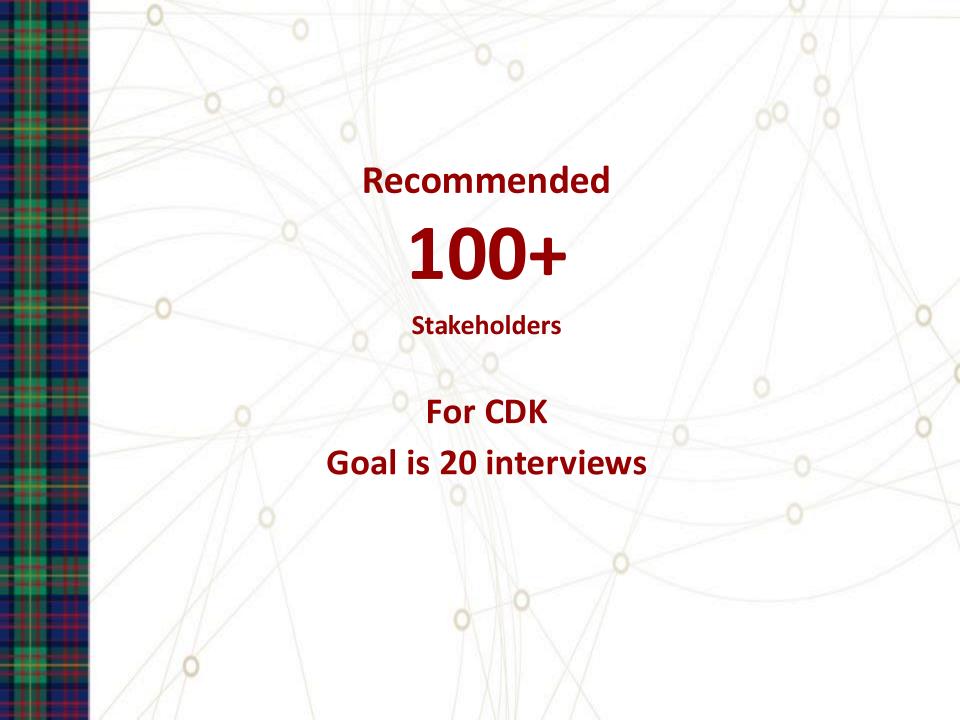
Fall 2016

- Verified the business model
- Revised the app
  - o Simply capture coupons – no game aspect
  - o Provided an incentive to redeem the coupons more quickly

Relaunched Spring 2017
Folded Summer 2017

How Many?

Recommended

100+

Stakeholders

For CDK

Goal is 20 interviews

Making it Work

➤**Keep notes** – you'll forget.

➤Stop and **assess periodically**

➤**Modify Business thesis** based upon feedback

➤**Adjust** questions and who to interview as needed

Benefits

- Avoids **unnecessary 'pivots'** (lost time and money)
- Potential customers are 'giving' you the **compelling sales pitch**
- Helps **prioritize** what is most important
- Learn more about the **competition**

More Benefits

- Get **first-hand knowledge** of your target audience
- Can measure degree of **enthusiasm and interest** through observation
- Starts to build the **relationship**
- Helps identify potential **reference customers/pilot participants**
- **Investors (and judges)** will want to know…..

Words to Live By

Fall in love with the problem....

....not your solution!

Customer Segments

Phase 1   Customer Discovery

Is this a big problem that a lot of people have where the current solution isn't working e.g. am I solving the right problem?

Phase 2   Customer Validation

I now know I am solving the right problem. Am I solving it the right way?

Phase 3   Customer Acquisition

What do I know about the strategies and methods for getting customers to buy my product or service at a price where I can be profitable.

Customer Validation

- Go back to those you interviewed who were the most interested or helpful
- Ask for their feedback on your proposed solution

At least one will ask if they can try it!

Appendix

1. About Project Olympus (107)
2. Competitive Analysis (110)
3. Ask Yourself ...(after Customer Discovery and Competitive Analysis) (118)
4. Hyliion: Business to Business B to B) Case Study (127)
5. Beatbots: Pivot from B to B to B to C Case Study (134)
6. What Investors are looking for (141)

Project Olympus

Startup Incubator for CMU
One page application
Customer Discovery Kickstart program
Personalized Work plan and assigned EIR
at conclusion of program

'In business' since 2007
1400+ startup ideas
$804M+ follow on funding
21 exits

Resources

Join Project Olympus
- www/cmu.edu/Olympus
- Domain Experts
- Entrepreneurship Resources

NSF I-Corps HUB

Olympus Incubator Program

   Customer Discovery Kickstart

   About Olympus Incubator Program

   Project Olympus Entrepreneurs-in-Residence

   Entrepreneurship Resources

   Domain Experts

   Startups at Project Olympus

   Project Olympus Successes

   Olympus Show & Tell ⬀

   Spark Grants

Programs

Customer Discovery Kickstart

Innovation Commercialization Fellows

NSF ICorps Regional and National Programs
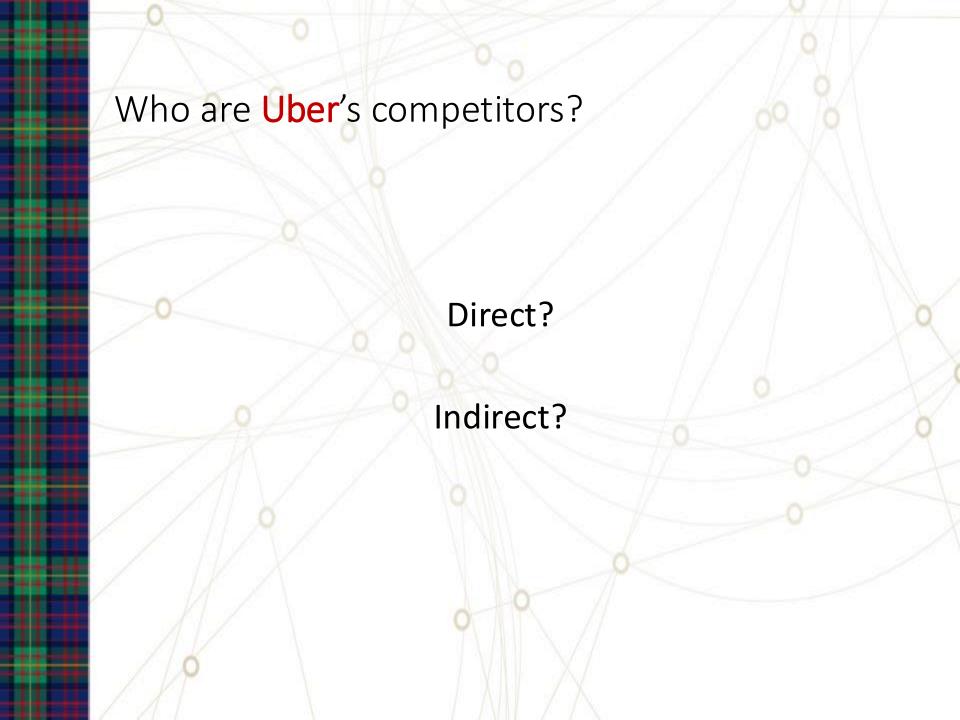
Competitive Analysis

Competitive Analysis

**Any way the customer
is solving the problem now is
competition**

DIRECT vs INDIRECT

DIRECT – similar products and services

INDIRECT – solving same problem for same target market with a different product or service

Who are Uber's competitors?

Direct?

Indirect?

Template

	Feature 1	Feature 2	Feature 3	Feature 4	Feature 4
You					
Competitor 1					
Competitor 2					
Competitor 3					
Competitor 4					

Examples of Features

- Price
- Benefits
- Quality
- Durability
- Image/style
- Service
- Warranties
- Location
- Convenience
- Sales/Distribution

- Ease of Use
- # of features
- Type of features
- Wow factor
- Size/Weight
- Availability
- Security
- Safety
- Endorsements
- Certifications

Example of Detailed Analysis

Competitive Communication Audit Sample: B2B Integration Market

Company	Tagline	Main Positioning	Website Title	Website Meta description	Twitter profile	Google+	LinkedIn	Top SEO Key Words
Liaison	Flexible Cloud Integration and Data Management Leader	Liaison Technologies is a global integration and data management company. We provide innovative solutions to integrate, transform, harmonize, manage and secure critical business data on-premise or in the cloud.	Liaison Technologies - Data Integration - Transformation - Harmonization - Management - Security	Liaison Technologies is a global integration and data management company providing innovative solutions to integrate, transform, harmonize, manage and secure critical business data on-premise or in the cloud.	Moving, managing and transforming data with cloud integration managed services & data management solutions	Secure data integration and management, on premise and in the cloud.	Liaison Technologies delivers cloud-based enterprise application and B2B / EDI integration managed services, strategic consulting, cloud-based master data management, data security and data transformation solutions - reducing business costs and driving operational efficiencies on-premise or in the cloud.	• EDI notepad • EDI • EDI integration • Data Translation • EDI Editor • EDI Viewer • B2b integration • B2b edi • Edi b2b
Axway	Business in Motion	Axway, a market leader in governing the flow of data, is a global software and services company with more than 11,000 public- and private-sector customers in 100 countries.	Governing the Flow of Data | Axway - Global	Manage, secure & monitor all business interactions with Axway's business technology solutions. Secure company data & ensure regulatory compliance.	Axway's cloud integration, API & identity mgmt software extends enterprise boundaries & empowers customers to govern the flow of data.	Axway - Governing the Flow of Data	Established in 2001, Axway is a global software company with more than 11,000 public- and private-sector customers in 100 countries, and offices around the globe. Our award-winning products and solutions enable business-critical interactions within and among enterprises. With the acquisition of Vordel, Axway now delivers the cloud integration, API, and identity management capabilities customers need to extend the boundaries of their enterprise and fully govern the flow of data out to the cloud, mobile, and beyond.	• cft • managed file transfer • mft • secure internet file transfer • secure messenger • b2b gateway • partners file transfer • enterprise file transfer • managed file transfer software • b2b edi • IT professional services
E2open	The Leader in Collaborative Planning & Execution	E2open is the leading provider of cloud-based, on-demand software solutions enabling enterprises to procure, manufacture, sell, and distribute products more efficiently through collaborative planning and execution across global trading networks.	Welcome to the E2open Business Network | Supply Chain Collaboration in the Cloud | E2open	E2open is the leader in collaborative execution, delivering a strategic, cloud-based solution for managing business across global trading partner networks.	E2open is a leading provider of cloud-based, on-demand software solutions for collaborative planning and execution across global trading networks.	Welcome to the E2open Business Network!	2open is the leading provider of cloud-based, on-demand software solutions enabling enterprises to procure, manufacture, sell, and distribute products more efficiently through collaborative planning and execution across global trading networks. Enterprises use E2open solutions to gain visibility into and control over their trading networks through the real-time information, integrated business processes, and advanced analytics that E2open provides. E2open customers include Celestica, Cisco, HGST, HP, IBM, Lenovo, L'Oréal, LSI, Motorola Solutions, Seagate, and Vodafone.	• mark woodward • chief supply • supply planning • what is cpo • supply chain control tower • scm world • chiefsupply • supplier collaboration • simplified logistics • sales order management • exostar login • b2b outsourcing
Pervasive / Actian	Take Action on Big Data	Actian transforms big data into business value for any organization - not just the privileged few. Our next generation Actian Analytics Platform™ software delivers extreme performance, scalability, and agility on off-the-shelf hardware, overcoming key technical and economic barriers to broad adoption of big data.	Pervasive Corporate Site > Home Big Data Analytics | Transforming Data Into Value | Actian	Big Data Analytics from Actian transforms data into value with business data management. The best big data tools and software for any organization.	Was Pervasive Software, Now Actian! - Still leader in SaaS integration. Expert in data & application integration and data quality cleansing. Transforming Data into Value Take a sip - http://www.CoffeeAtActian.com	Take Action on Big Data	Actian transforms Big Data into business value for any organization—not just those with considerable resources. Actian provides transformational business value by delivering actionable insights into new sources of revenue, business opportunities, and ways of mitigating risk with high-performance in-database analytics complemented with extensive connectivity and data preparation.	Pervasive: • Datacloud • Data integrator • Online integrator • Data integration software Actian: • Ingres • Big data analytics • Ingres database • Dbvisualizer • Data cloud

Competitive Landscape

	Pinterest	Telly	#waywire	VI▶interest
User Friendly	✅	❌	❌	✅
Privacy	✅	❌	❌	✅
Keyword follow	❌	❌	❌	✅
Playlist follow	❌	❌	❌	✅
Video Bookmarks	✅	✅	✅	✅
Video Autonext	❌	✅	✅	✅
Video Shuffle	❌	❌	❌	✅

Ask yourself……

…Is it a **REALLY Big Problem?**

…Is it a **Really Big** Problem?

- **How many** people or companies have this problem? (Is it a big target market?)

- **How much time or money is spent (or lost)** each year because of this problem? (The more it costs them, the more they are motivated to pay for your solution)

- How well **is their current solution working** for them? (They will happily switch to your solution because their current one isn't working very well.)

Ask Yourself…..

- Is your solution **10X better** than the alternatives or **3X cheaper**?

- Is it a "**Need-to-Have**" vs "Nice-to-Have?"

- Will it be a big opportunity that **will attract investors?**

Ask Yourself.....

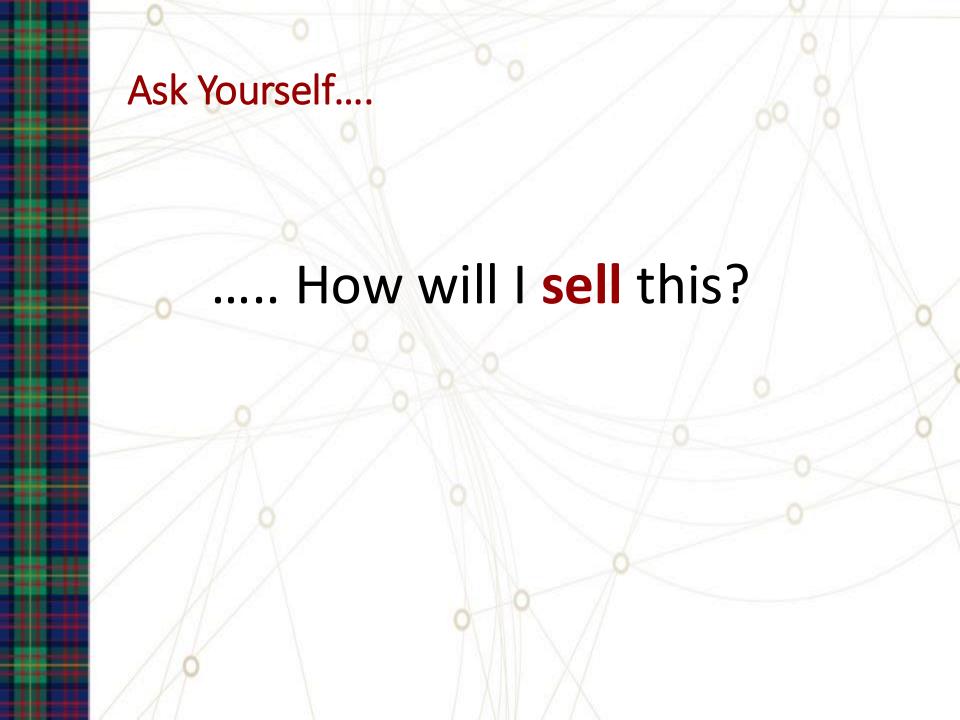## "…… will it scale?"
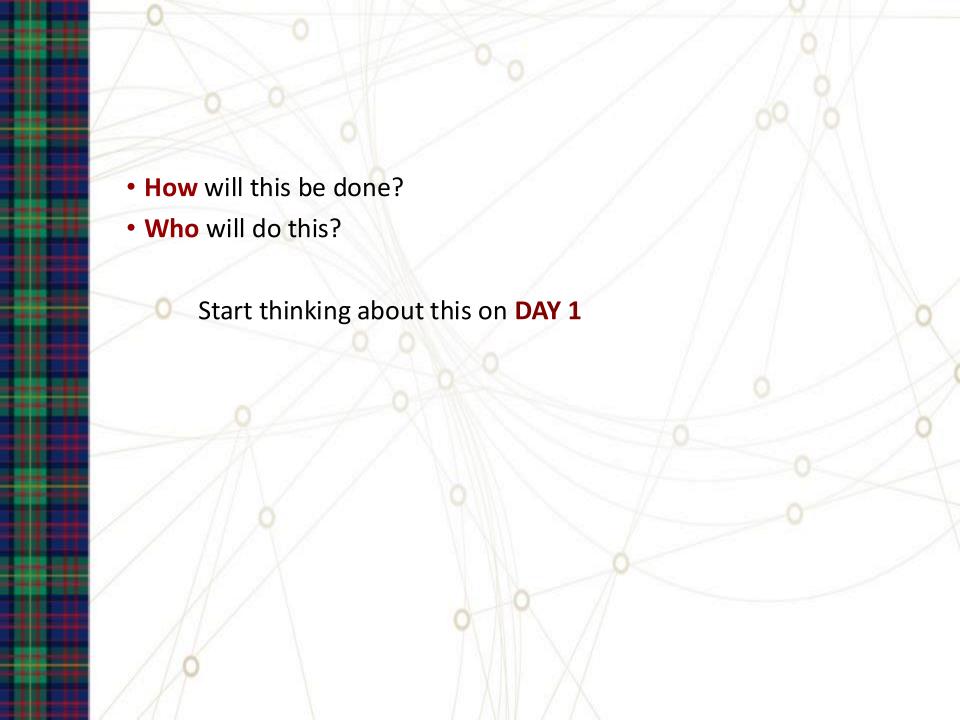
Ask Yourself….

- Do your product/service **margins increase with volume**?

      - COGs

      - Installation/Customization

      - Service/maintenance

      - Staff ratio to sales

Examples of Businesses/Products that Scale Well

- **Software** (MS Word, Excel, Quickbooks)
- **Apps** (Pandora, Twitter, BudgetSimple)
- **Mass Market** items (My Keepon, FitBit)
- **Hardware** that is standardized or uses standard parts (Air conditioners, remote controls)

Ask Yourself....

….. How will I **sell** this?

- **How** will this be done?
- **Who** will do this?

Start thinking about this on **DAY 1**

Business to Business (B to B)
Case Study

Proposed Product

- **Add-on hybrid system** for tractor trailers
  - Uses **regenerative braking to capture power** when the vehicle is slowing down that can be reused to accelerate.

- **Value proposition to the customer: Reduces fuel consumption** by over 30% with an **ROI of less than 1 year**.

Sample Questions

- **How much** on average do you spend on fuel? % of annual budget?

- Have you done **analysis on fuel usage** that you can share?

- What are you **currently doing now** to reduce your fuel costs?

- On a **scale of 1-10, how well** are those techniques working?

- **Why** did you give each that number?

HYLIION   Interviewed

- Fleet managers
- Fleet truck drivers
- Independent truck drivers
- Trailer manufacturers
- Mechanics that service the fleet
- Companies with proprietary fleets
- Industry association staff

HYLIION Where did they find them

- Industry conventions
- Truck stops
- Fleet owners' headquarters
- Trailer sales offices
- Telephone

Findings

- **6 million** trailers in the USA
- Each trailer averages 6.5 mpg = $**85,000 fuel costs per year per trailer**
- **52 Billion gallons** of fuel consumed yearly
- **31% = $46 B in potential fuel savings**
- **$25k per unit x 6M trailers = $150B potential market**

Findings

- Largest value/ROI for **long-haul fleets**
- 15% of fuel is used to **run the cab at night** for heat/AC and electronics
  - Shaking cab results in **poor sleep** – which can lead to accidents
  - (This was the 'outlier') that helped sell management
- **Less wear and tear** on the diesel engine
- **Reduced emissions**

HYLIION   Conclusion

Big Problem

Big Market

Great Product

Great Business

Pivot from B to B
to
B to C
Case Study

BeatBots

BeatBots

Initial Hypothesis

- Therapy tool for therapists who work with severely autistic children

- Price: $25k (includes hardware and software)

- Target audience: Clinics that specialize in therapy for severely autistic children

BeatBots

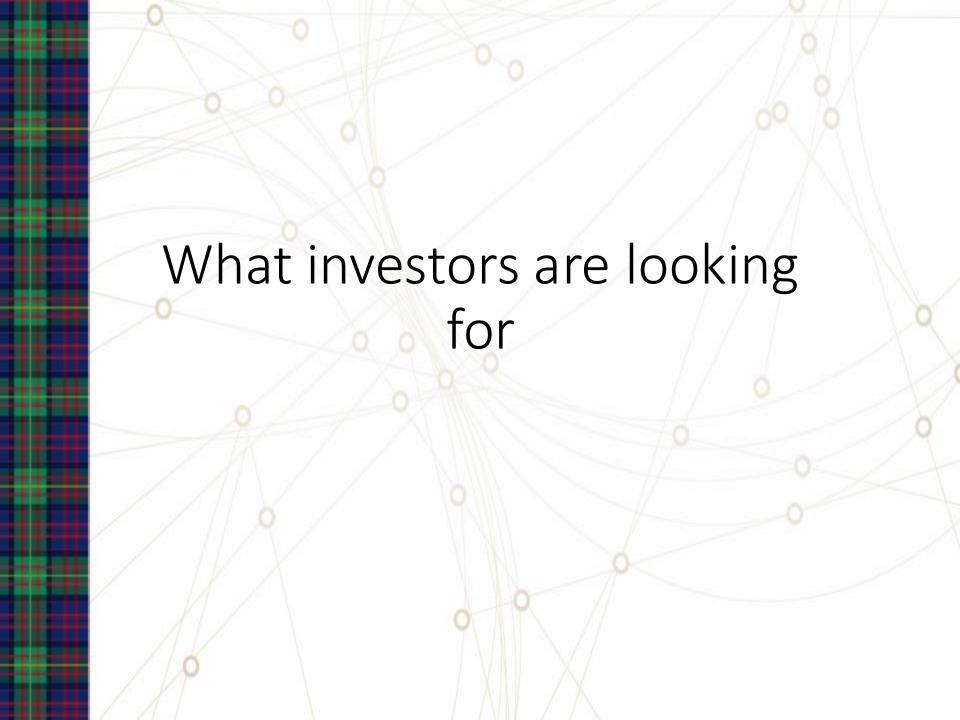Product worked extremely well as a therapy tool to engage highly autistic children

However…..

Size of Target Market: **100 clinics worldwide**

Great Product

Lousy Business

BeatBots

Pivoted to a retail product for mass market for $50 and licensed it a toy company that would manufacture, package and get BeatBots on the shelves of major retailers.

What investors are looking for

Why no**wait**® was a good investment

" We want to **invest in large markets**, …if you have a fantastic team with fantastic products but …… it's in a small market, there's a smaller type of outcome that can happen e.g they're swimming in a smaller pond. If you have a big and expanding market, it's great to have a great team and product, but if you don't, you still have a chance. "

"…..We focus on **investing in trends shaping the landscape** over the next 10 years. **Casual dining is a multi-hundred-billion business in the U.S. alone**. Everybody's got to eat."

"……What they're doing **solves an acute point,** waiting to get in line, waiting to get a check. They have a very elegant solution."

Nick Solaro of Drive Capital, a Columbus, Ohio-based $250M VC fund on their $10M investment in NoWait in May 2014 (Source: Pgh Business Times)

Sold to Yelp for $40M

Q&A

kit@cs.cmu.edu