# Technology Entrepreneur Center

## Check out our Summer & Fall 2022 courses!

**go.illinois.edu/courses**

# TE 250: Week 12 Financing

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# Calendar

- Content Class (3): 4/20, 4/27, 5/4
  - Attendance 4/27 and 5/4 mandatory – attendance will be taken (20pt penalty)
- Content:
  - Funding
  - Financial Projections/Statements
  - Pitching
- Final Presentations (2): 4/27, 5/4
  - 4/27: Sole Switch, Lexilens, Prova
  - 5/4: other 6 teams
- Remaining Assignments (2): 5/4 (T), 5/4 (I)
- Extra Credit – 2 opportunities

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# Agenda

- Past Assignments
- Remaining Assignments
- Financing

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# Individual Assignments – #6 Market Validation

# FEEDBACK

Market Validation: This is an individual

Are there enough peopl is trying to solve? If it's a small number of people, are the y justify putting your time into this project?

Perfor e the TAM/SAM/SOM approach that was discussed in the week bottom up approaches to make sure your numbers are congruent. If arket research data points (i.e., information found from reports). It's okay to use xplicit that it is an assumption and not a referenced data point. This is a "back of the less concerned with precision and more concerned with understanding that you can validate

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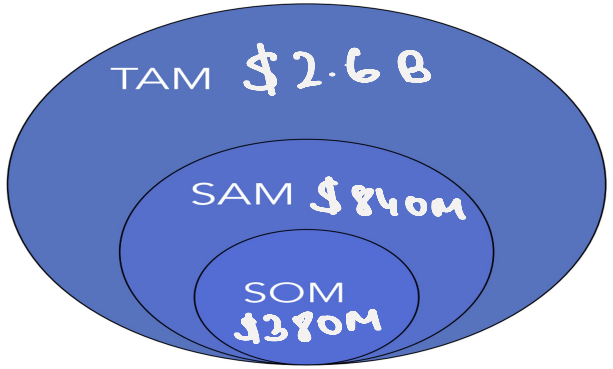
HW 6

Tuesday, April 5, 2022 9:52 PM

**Bottom up for VR education solutions:**

Avg price of each unit with yearly subscription and maintenance = $400
Units bought by each school = 50 units
Avg sale price per school = $20000

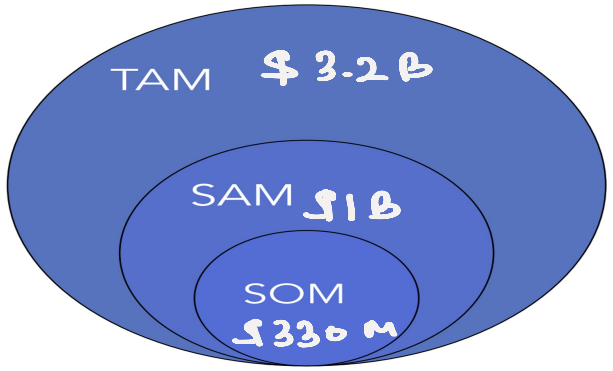



TAM: K-12 schools in the USA- 131,000
X $20000 = $2,620,000,000 ~ $2.6 B

SAM: K-12 schools with at least average funding per pupil
42,000 * $20000 = $840,000,000 ~ $840 M

SOM: K-12 schools in Illinois, California, New York with at least average funding per pupil- 19,000 * $20000 = $380,000,000 = $380 M

Top down for VR education:
Avg price of each unit = $400




US education market size = $1.1 trillion

TAM = US education software market = $3.2 B

SAM = Assuming 33% of US edtech market is for VR = 33% of $3.2 B ~ $1B

SOM = Assuming 33% of market of US edtech VR = 33% of $1B ~ $330M

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# Prova

A company that protects senior citizens from fall injuries using sensor-enabled technology embedded clothing.

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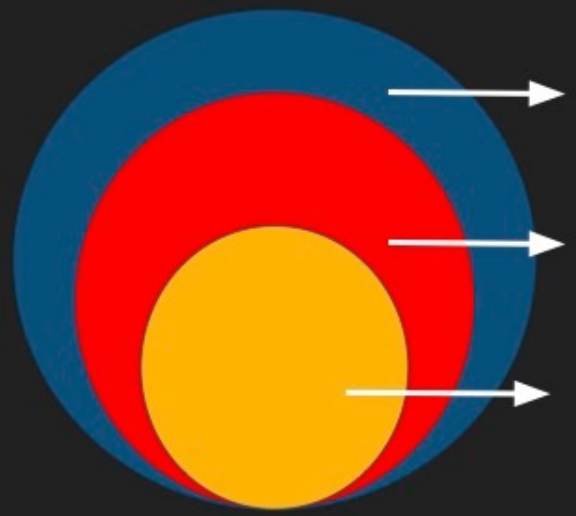
## Top-Down continued

**TAM** -> According to a 2020 Profile of Older Americans, there are about 54.1 million senior citizens in the US. According to a 2015 AARP report, there are about 34.2 million caregivers for adults 50 or older.

**SAM** -> According to the CDC, more than 1 in 4 older people fall each year. According to a 2021 National Health Statistics Report from the CDC, around 99% of older people are insured, so they're probably more likely to buy our products.

**SOM** -> According to an article by the CDC, 10.2% of seniors reported fall-related injuries. People who have not just fallen but actually been injured due to falls are our most likely buyers.

## Top-Down



**TAM** - Seniors in the US - 54.1 million ($ 5.41 billion)
Caregivers - 34.2 million ($ 3.42 billion)

**SAM** - Around 13 million seniors fall each year ($1.3 billion)

**SOM** - Seniors who actually suffer injuries due to falling - 8.4 million ($840 million)

*Assuming each customer spends an average of $100 on our products per year

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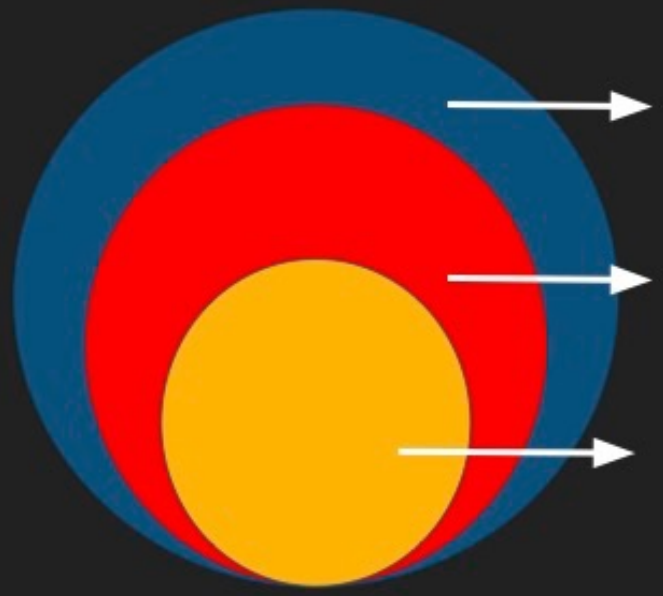
## Bottom-Up continued

**TAM** -> Our Total Addressable Market would still be the same: all seniors in the US, which is about 54.1 million (2020 Profile of Older Americans).

**SAM** -> Since there are about 34.2 million caregivers for adults 50 or older (2015 AARP report), we can assume that the number of care recipients in this demographic is around 34.2 million seniors.

**SOM** -> In our experience working on this project (interviews, research, etc), we've come to conclude that around 1 in 4 seniors with caregivers would be interested in purchasing our products. (0.25 * 34.2 million ≈ 8.1 million)

## Bottom-Up



**TAM** - Seniors in the US - 54.1 million ($ 5.41 billion)

**SAM** - Seniors with caregivers - 34.2 million ($3.42 billion)

**SOM** - Seniors with caregivers interested in buying our products - 8.1 million ($810 million)

*Assuming each customer spends an average of $100 on our products per year

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# Agenda

- Past Assignments
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# Due MAY 4

Final Assignments Teams – Team Pitches

Team Rubric (Peer Scoring)

This is **the group portion of the final project**. Each team will be given ~20 minutes. 10 minutes Pitch and 5-minute Q&A. Students will then be given 2 minutes to complete judging form. That will leave a couple of minutes for transitions, but each team needs to be ready to present as soon as their slot starts.

***Presentation schedule***

Class 14 (3 teams):

Class 15 (6 teams):

Teams are free to decide who presents but a minimum of 3 team members are required to present and all teams members should actively participate in the Q&A.

***All students will individually score the other teams, so attendance is mandatory on both dates as is prompt attendance.***

**Q&A and Scoring: ~5 minutes**

Q&A will be led by the team presenting and questioning will primarily come from the class. I may or may not ask any questions at all. Your individual active participation will be considered as part of your overall final participation grade. I will review all recordings before assigning final grades to ensure you are actively engaged in the questioning of your peers.

**EXTRA CREDIT**

In additional, each *student will anonymously score the other teams' presentations.* This is evidence of your ability to critically evaluate your peers' using topics learned in class.

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# Due MAY 5

## Individual Assignments – Persuasion

Your final individual assignment is to **persuade someone to support your effort**. You pick the target: recruit, investor, customer, etc. (make sure your intended audience is clearly identified or is obvious by the nature of your response). Make an argument to convince your target. **Be sure to support your case with things you've learned from working on your team project**, for example, solving customer pain, equity to early hires, or return for investors. **The format or medium is up to you.** A few examples include a recorded sales pitch or commercial that you upload to YouTube, a sample Kickstarter video, a Prezi, a cartoon, or a 1–2-page typed paper... Here's an example of a creative submission from a previous semester: https://youtu.be/eNrq9-sk6Nk

Use your imagination and make it compelling. Be creative and captivate your audience. Holding their attention is half the battle. It doesn't need to be long or elaborate, just convincing. Do what you think best supports your case and choose a medium in which you're confident. Take some risks. You have license to be creative and have fun with this!

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**Due MAY 4**

Individual Assignments – Peer Review

As part of your engagement and participation score and as part of your peer's engagement and participation score, complete the assessment of your teammates using this Google Form. You will have 100 points to allocate in some proportion to each of your teammates with some required commentary on their contributions.

Peer Form

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**Due April 26**

Individual Assignments – Extra Credit

Module at the bottom of the home page.
Read the case study.
Read the example on “counting noses”.
Use the spreadsheet tool to do a new segmentation assessment for your project.

Up to 10 pts extra credit on homework grade
Due April 26, no late submissions accepted.

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# Agenda

- Past Assignments
- Remaining Assignments
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# TE 250: Other People's Money

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# Commercial Pathway

- "Venture Backable" Startup
  - Very strong and targeted value prop
  - Large and growing market (>$500m)
  - Scalable product offering
  - Team is highly experienced
- "Lifestyle" Startup
  - Low capital investment required
  - Quick to revenue
  - Manageable by a small team
- Small Business
  - Low capital investment
  - Quick to revenue
  - Linear growth possible
- "Buyable" Startup
  - Need investment to reduce well defined risk that increases value
  - Other entities better positioned to take to market (e.g. Therapeutics)
- License
  - Other entities have capabilities needed to realize market value
    - Partial solution or complimentary tech
    - Access to customers
    - Sales, service, distribution, manufacturing infrastructure

**WARNING: Some opportunities don't have a path!**

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# Broad Categories of Funding

1. Non-Dilutive
   - Retain ownership in the business, but generally, owe something in return
     - eg. Grants, Loans, Awards, Strategic, Revenues
2. Equity (Dilutive)
   - Sell ownership stake in the business
     - eg. Investors of all sorts

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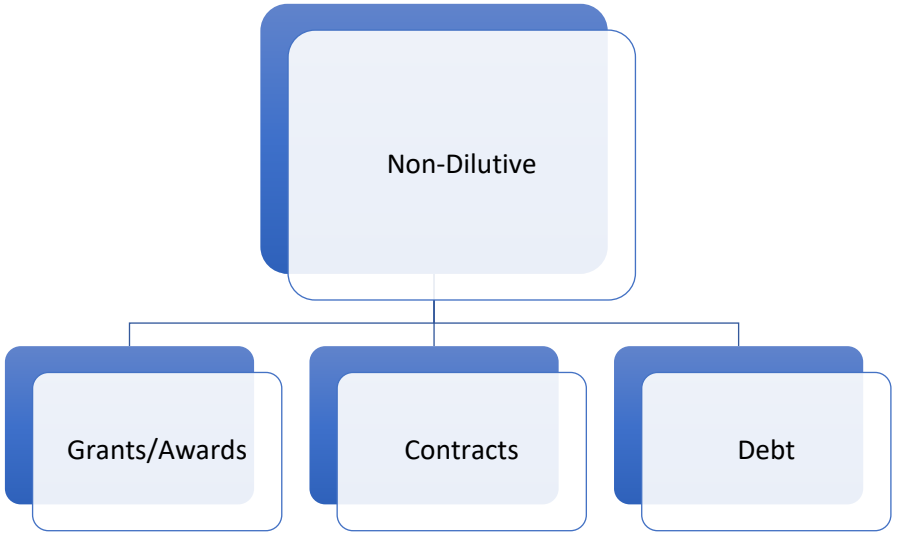
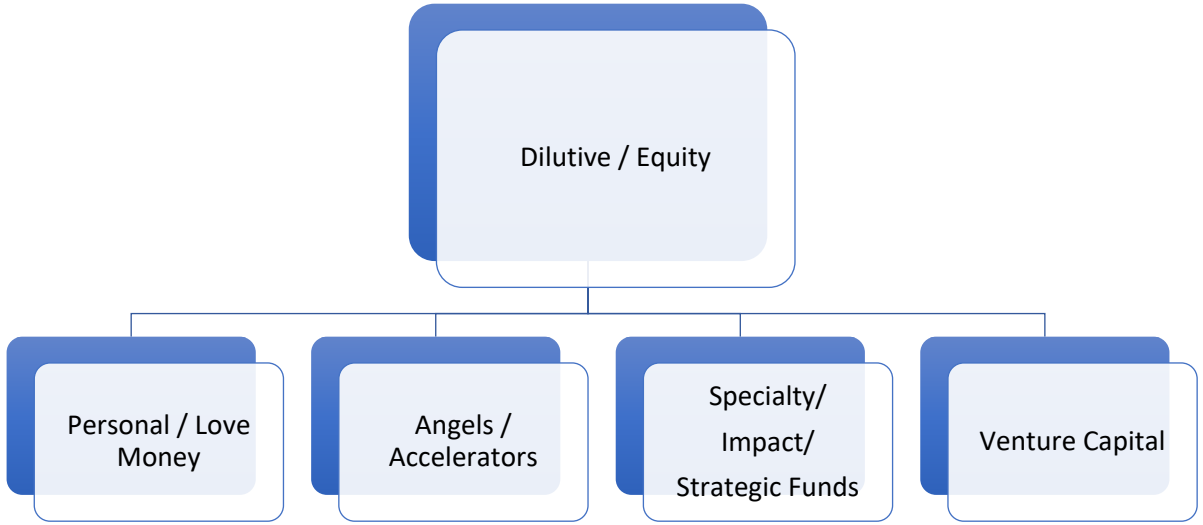
# Other People's Money




Retain Ownership, but generally, sell an obligation




Sell an ownership stake in the business
Investors of all sorts

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# Sources of Non-Dilutive Funding

- Grants / Awards
  - Business Competitions / Awards
  - Business/Economic Development Organizations
  - Government and Foundation Grants
- Contracts / Revenues
  - Crowdfunding
  - Bootstrap (company profits)
  - Contract Research / Joint Development Agreements
- Debt
  - Banks (SBA)
  - Bonds

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# Business Competitions / Awards

- Prize Money is very limited
- Dependent on chance, to a degree
- No repayment, money is awarded for work already completed

# Business/Economic Development Organizations

- Regional Funds, economic development authorities
- Foundations & Institutions
  - private family foundations
  - Universities
- Grants and debt financing (sometimes liberal equity SAFE)
- Often have preference for capital intensive and/or technology-oriented businesses
- Metric is often to create a specific number of full-time jobs
- Typically capped

# Gov't. & Foundation Grants

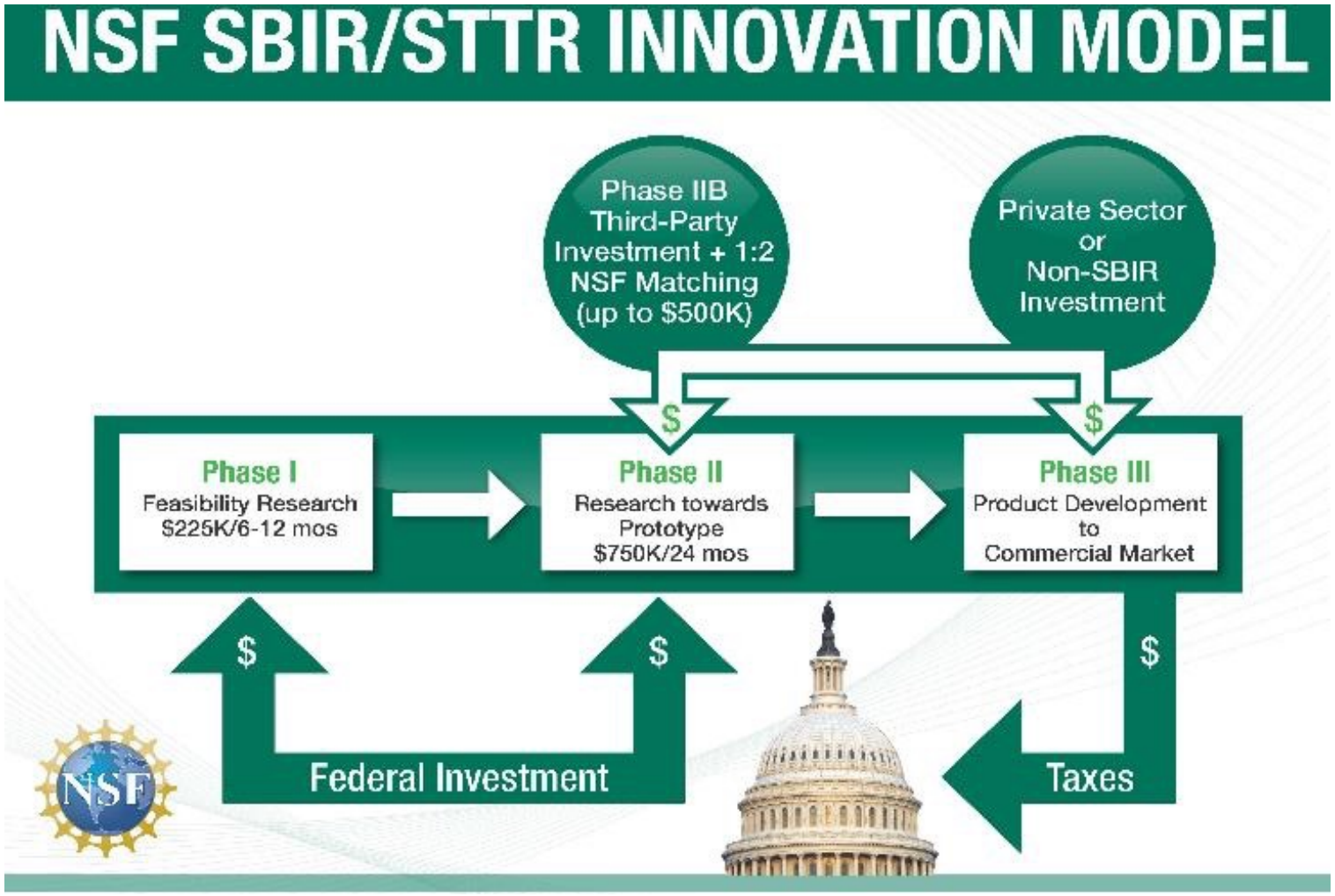
- Available only under very limited circumstances
- Typically, not available for retail, restaurants, etc.
- "Free" money but not "easy" money
- Don't have to repay, but deliverables still due
- Typically retain ownership of intellectual property
- Submit in response to a specific request for proposal (RFP) from a government agency www.sbir.gov
- Align objectives with mission of private foundations, e.g. disease elimination

# SBIR / STTR

- Small Business Innovative Research Grants
- 11 Government agencies (multiple components in different agencies)
- Small Technology Transfer Program
  - Like SBIR, but must have a research institution involved (30%)

# Objectives of the Program (NSF)

- Nurture high-impact technology innovations
- Grants, not contracts (no equity taken)
  - Strong focus on commercialization
  - Other agencies have specific calls
- De-risk for other investors




<u>2020 Numbers:</u>

Phase I: $256K

Phase II: $1M

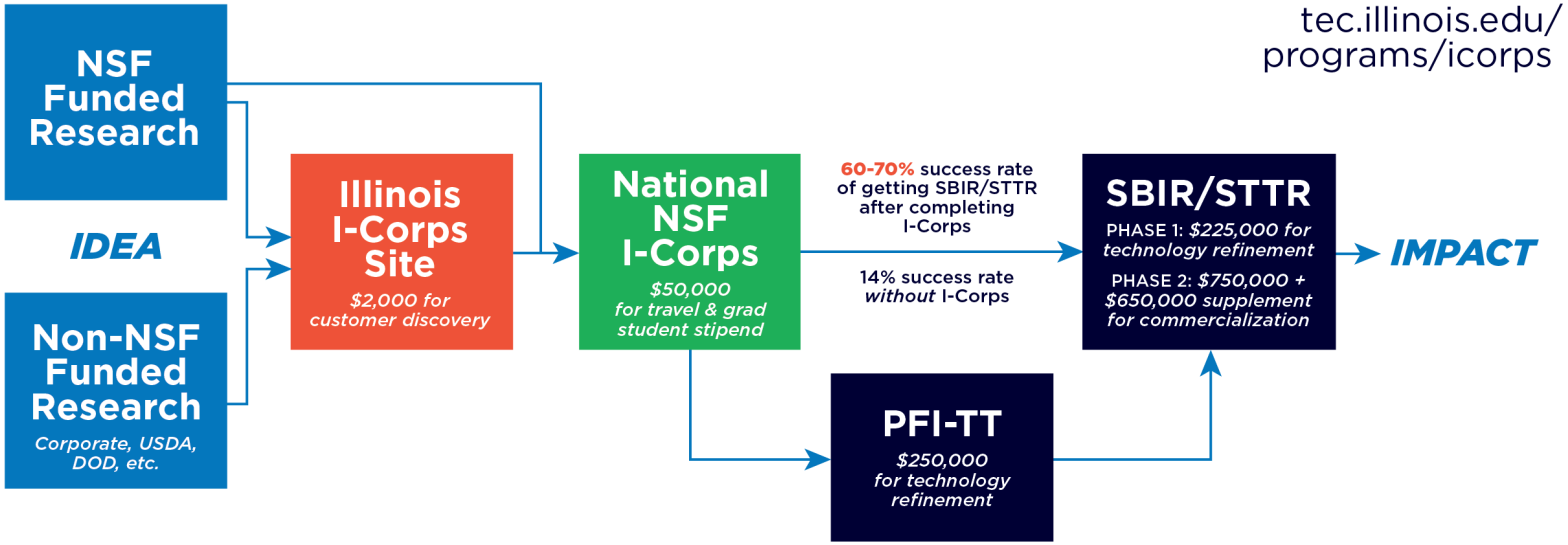
Phase IIB: $500K

# Where does SBIR Fit?

## Idea to Impact

**EMAIL**
illinois-icorps@illinois.edu

**WEBSITE**
tec.illinois.edu/programs/icorps




**ILLINOIS I-CORPS SITE**
4 workshops over 7 weeks to validate your innovation, qualify and prepare to apply to National NSF I-Corps. SBIR Workshops are also available.

**NATIONAL NSF I-CORPS**
Rigorous 7 week program to enable teams to understand the potential value of their innovation to society. Qualifies teams to apply for PFI-TT.

**PFI-TT** **Partnerships for Innovation-Technology Transfer.** Teams can accelerate research results toward commercialization. Engages faculty and students in entrepreneurial thinking. Develops industry partnerships.

**SBIR/STTR** **Small Business Innovation Research/ Small Business Technology Transfer.** Seed funding for high-risk, high-reward ventures. Non-dilutive grants to validate ideas, facilitate scale up and commercialization.

# What NSF *doesn't* fund

- Projects lacking technical risk or innovation, "incremental/evolutionary" projects, "straightforward engineering"

- Projects where NSF doesn't see a strong chance of resulting commercial outcomes

  → This could mean the technology, the company, or commercial opportunity

- Projects where NSF funding won't move the needle

sorry ☹

# Sources of Non-Dilutive Funding

- Grants / Awards
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# Crowdfunding

- Opposite of customer-centric design
- Public-facing, popularity contest
  - Failure is also public
- Surge in popularity due to online platforms
- Lack of accountability
- Notorious for under-delivering
- Favors consumer products

# Bootstrapping

- Use company profits to grow the business, the "old fashioned" way
  - Revenues from early product sales
  - Consulting supports product development
  - Requires customer-centric development process so that you can bill for early product sales
  - Highly desirable, but not possible for some businesses

# Contract Research/Joint Development Agreements/Partnerships

- Established industry (Gov) player interested in small company's tech may provide money and resources to refine product
- Built-in customer
  - license of intellectual property
  - Share in rights/sales/profits
- Use caution with respect to ownership of IP generated under JDA
- Nondisclosure agreements needed
- Risks associated with dealing with big company include superior litigation resources available to big company in event of dispute
- Variant: advance pay or custom development agreement
  - exclusive

# Sources of Non-Dilutive Funding

- Grants / Awards
  - Business Competitions / Awards
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- Contracts / Revenues
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- Debt
  - Banks (SBA)
  - Bonds

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# Banks (SBA)

- Asset-based lenders
  - require collateralization & personal guarantee
- Risk averse, but cost of borrowing is less
- Require good credit record
- Will want to see a written business plan
- Typically want 20% financed by you
- SBA loans can allow bank to take on more risk
- Credit cards

# Bonds/Convertible Notes

- Debt where the issuing company promises to pay the bondholders a specific amount of interest for specific amount of time and to repay principal on expiration date
- Can offer a very favorable interest rate and no loss of equity
- Typically, feasible only for substantial amounts of capital
- Must demonstrate ability to repay from cash flow

# Equity Funding

- Share an ownership stake in the business in exchange for capital
  - company stock or membership
- Can have significant effects:
  - Cap Table
  - Operating Control
  - Board of Directors
  - By-laws
  - Voting Rights
  - Future rights, protective covenants

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# Sources of Equity Funding

- Personal Funds
- Friends & Family
- Angel Investors
- Accelerators
- Impact Investment Funds
- Strategic Capital
- Venture Capital
- Investment Banks / Private Equity
- Initial Public Offering (IPO)

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# Personal Funds

- Self-Financing, e.g. personal savings
- Start here if at all possible
- Maintain control
- Later investors will look for “skin in the game”

# Friends & Family (and Fools)

- Aka "Love Money"
- Exercise *extreme* caution
  - $$$ can ruin relationships
- Can investor afford to lose the money?
- How will others feel?
- Document everything as you would a normal business transaction

# Angel Investors

- High net worth individuals seeking high return investments
- Often collaborate in networks
- Three types
  - Smart Money: add value to company through expertise or contacts
  - Dumb Money: Passive investors; not additive, but not deleterious either
  - Dumb money that thinks it's Smart: the worst; The kind that think they add value

# Accelerators

- Relatively new concept
  - Y Combinator
  - Tech Stars
  - mHUB
- Cohort-based startup bootcamp
- Seed capital on fixed terms
  - Usually 5-10% stake
- Programming + mentorship
  - Usually 3-12 mos
- Culminate in a pitch day for investors
  - **NB: NOT the same as an incubator*

# Impact Investment Funds

- Intentionality
  - Economic development
  - Social good
  - Specific objective (green tech, health, education)
- Investment with Return Expectations
- Range of Return Expectations and Asset Classes
- Impact Measurement

# Strategic Investors

- Established corporate players in your field looking for innovative developments
- Create venture divisions
- Investments in exchange for first rights
  - Built-in customer
  - Can be a double-edge sword if they don't later pursue
  - Be careful on rights you grant them

# Venture Capital

- Equity (unsecured) investment with active role
  - Board participation
  - Strategic marketing
  - Governance
  - Capital structure
- Established to invest in specific categories (investment thesis)
- Difficult to obtain, usually takes several years of development before company is ready
- Often acquire significant portion of business and control
- In exchange for risk, will seek high return within fixed timeframe
- Most valuable when rapid growth and exit are practical

# VC Objectives

- Inherently high risk, requires high reward
- Long-term or "patient" capital allows companies time to mature to profitability
- Goal is superior rate of return;
  - ALWAYS considers exit from outset

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# Things for the Entrepreneur to Think About

- **Does Your Plan Fit the Needs of the Fund?**
  - They need to see Big Returns. If your Plan can justify this and you need lots of capital to achieve, then VC may be a fit.
  - You may be able to grow a successful company and make a lot of money without having to scale to the size that will interest Venture Capital.
- **Are You Ready For Venture Capital?**
  - VCs have a relatively short time fuse to success- a 10 year Fund and the need to show early "Winners" in order to raise the Next Fund.
  - Result: You have to be ready to move quickly, there will not be much time to recover from errors in the plan or execution.

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# Things for the Entrepreneur to Think About

- **Are You Prepared to Become a Minority Stockholder?**
  - In order to generate returns, VCs have to invest a large amount and this usually means they will obtain a significant percentage of the company over time.
  - Having a small piece of a big pie can make you rich but you have to be mentally prepared to become a Minority Stockholder.
- **Make Sure the VC You Work With Can Add Value**
  - Experienced VCs provide valuable advice and guidance, saving you time and preventing mistakes.
  - They also have contacts with potential customers (incl. portfolio companies), Wall Street and acquirers.

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# Things for the Entrepreneur to Think About

- **Understand Where in the Fund Life Cycle You Are**
  - Ideally, you want to catch a Fund during its initial investment phase. Check out where the Fund is in its Life Cycle.
- **All Financing Sources Are Not The Same**
  - Compensation and Return arrangements in a VC Fund drive certain types of behavior. Learn and understand this so you make an informed decision.
- **Talk to Portfolio Company CEOs**
  - You can answer these and other questions by talking to the CEOs of companies that the Venture Fund has invested in. Most VC Firms have websites that list their current and past portfolio companies.

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# Investment Banks/Private Equity

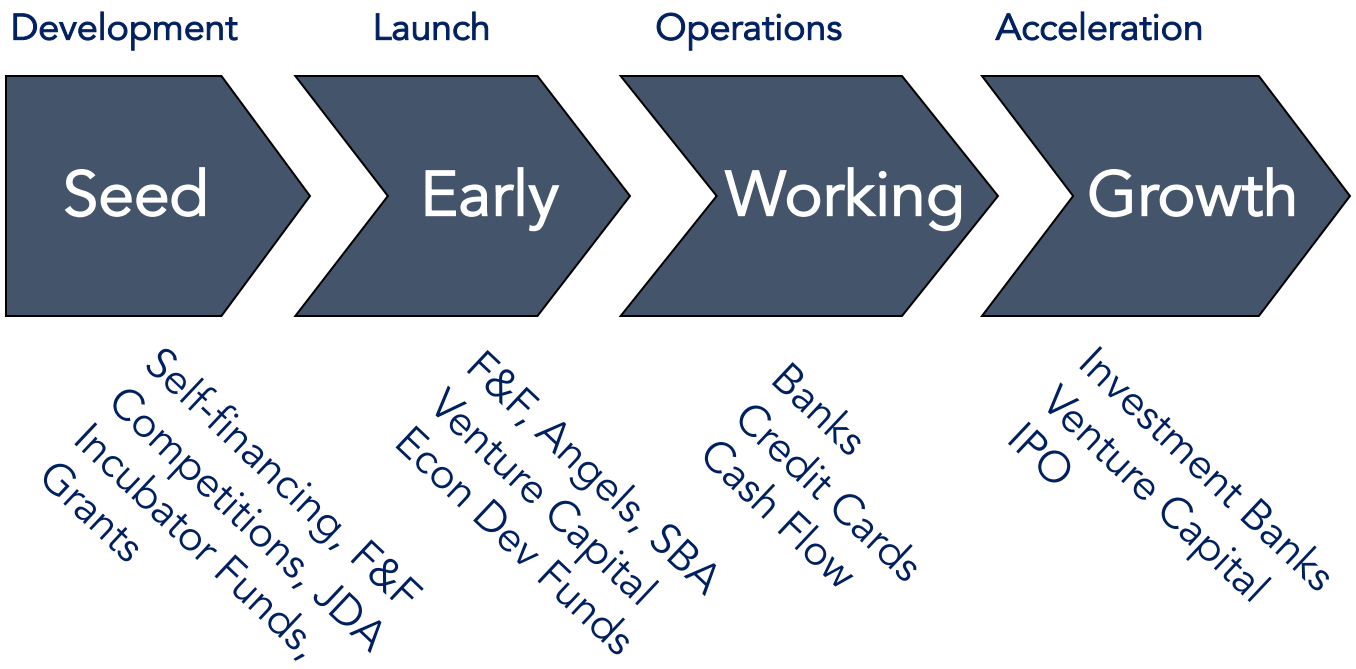
- Very large dollar value transactions
- Generally used for
  - strategic positioning
  - Roll-ups
  - Preparation for public offering
  - Privitazation of public companies

# Initial Public Offering

- Very few companies go public
- Most exit through sale to another company or just operate and then wind down
- Historically very expensive but new novel ideas emerging
  - SPCs, Direct Listings, Tracking Stocks, etc.
- Cumbersome registration & reporting

# Types of Funding

- Different types of capital
  for different stages of business

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# Adoption Curves

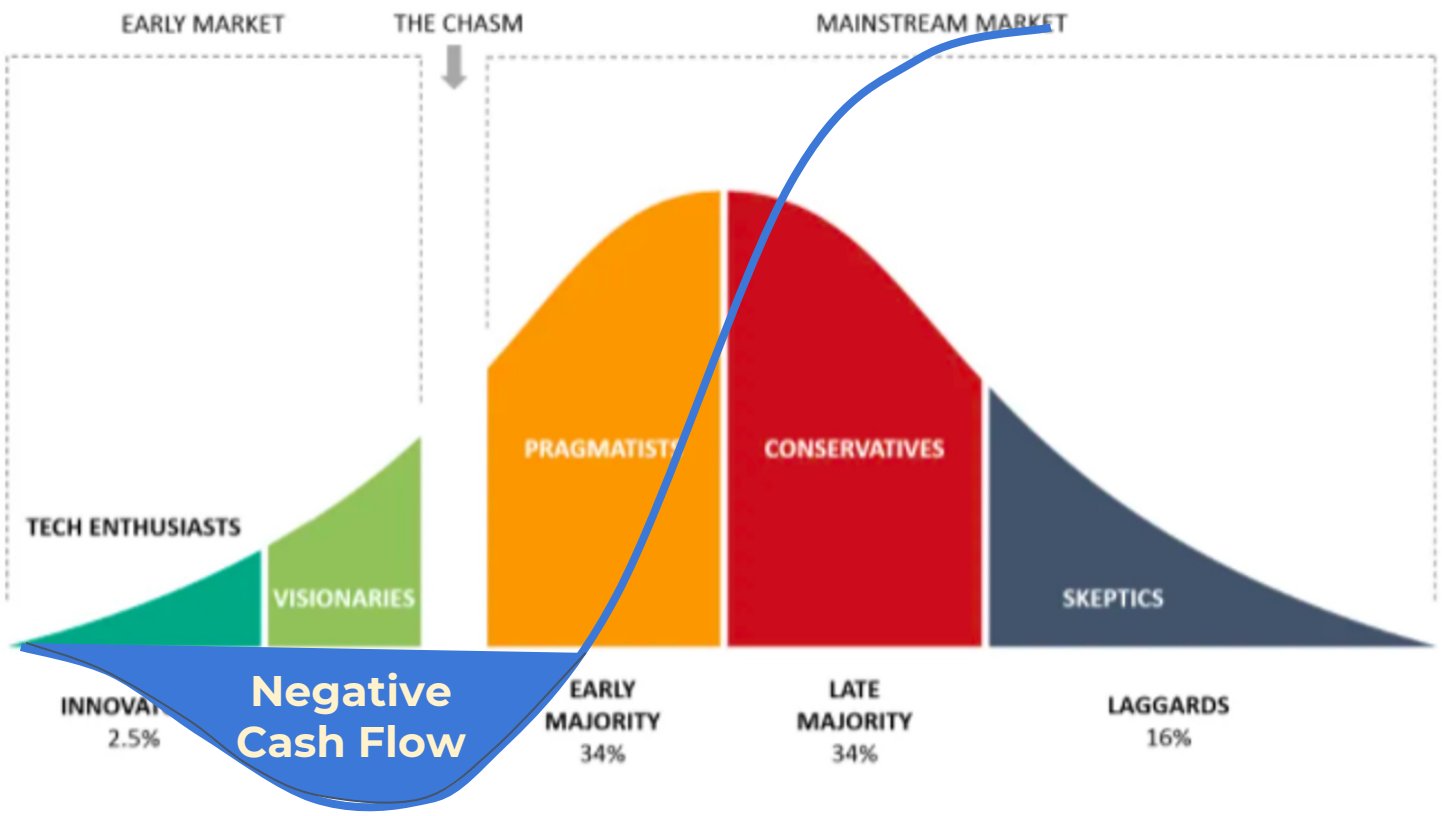


Figure 1: Technology Adoption Life Cycle

- Value Proposition must be very strong for <u>early majority</u>
- Early Majority customer segment must be very well defined
- **<u>NEVER</u>** say "we just need 1% of the market"
- Adoption timing is notoriously difficult to predict

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# Seed Capital

- Needed only when significant development costs preclude product launch
  - Product
  - Infrastructure
  - Operations / Logistics

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# Early Rounds

- The earlier the investment, the greater the risk, therefore greater returns are expected
- Early round investors validate the concept and pave the way for later round investors
- Value can be found in the experience of early round investors
- Analysis of these types of business opportunities tends to be more subjective

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# Early Capital Concerns

- Is a capital infusion really necessary, or can the product be bootstrapped?
  - heavy strings are attached to capital!
    - Business
    - Personal
- Rule of thumb:
  - It will take double the time and double the cost estimated in order to launch
  - Even longer to break even!
- SO ask for more $$$ if there's a chance you may need it

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# Appealing to Investors: The Plan

We solve an important problem – problem/solution

We have traction – beta users/MVP

We are a good investment – team/market size

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# Content

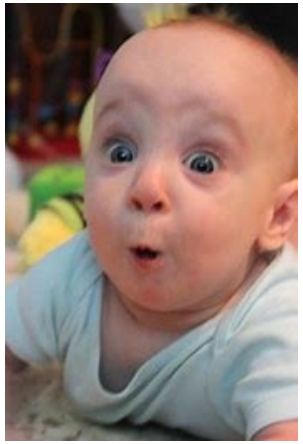
> To be yourself in a world that is constantly trying to make you something else is the greatest accomplishment.
>
> Ralph Waldo Emerson

## What to communicate

- Company Purpose
- Problem
- Solution
- Why now
- Market Size
- Product Plan
- Go-to-market
- Team
- Business Model
- Competition
- Financials
- Ask

## How to communicate

- Passion
- Authenticity
- Clarity
- Memorably
- Surprisingly



> *Clarity is power. - The more clear you are about EXACTLY what it is you want, the more your brain knows how to get there.*
>
> ~ Author Unknown ~
>
> OkyDay.com

# Appealing to Investors: The Plan

- Things that make investors cringe:
  - A product alone doesn't constitute a business
  - Only a person can sell itself
  - There is no such thing as NO competition
  - Small % of huge market goal
  - Intelligence provides no guarantee of success

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# Appealing to Investors: The Team

- You're NOT selling the business, you're selling ***yourself***!
  - Investors buy into teams they believe can execute
  - The best plan in the world is worthless without individuals who can implement
- You must possess
  - Knowledge
  - Ability
  - Desire
- Remember what they say about second chances and first impressions
  - Dress for Success
  - Prepare

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# Appealing to Investors: The Team

- You must demonstrate:
  - Management Experience
  - Product Prototyping
  - Business Model Validation
  - Market Opportunity
  - Competitive Knowledge

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# Appealing to Investors: The Investor

- Points to Remember about Investors:
  - They have what you need
    - Golden Rule applies
  - $$$ is the primary motivation
  - There's value in Intellectual Property
    - Patents / Patentable Technology
    - Trade Secrets
    - Trademarks
    - Copyrights
  - The TEAM makes the business work
  - Investors ***always*** look for the exit strategy.

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# Appealing to Investors: The Investor

- The Right Investor
  - Smart money, ie. more than money
    - Experience
    - Coaching
    - Partner
    - Champion of the Business
  - Ability to support the company in future rounds
    - Syndicate Investment
    - Contacts

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# Appealing to Investors: The Investor

Five Qs? every investor wants to know:

- How much does it cost me?
- What do I get?
- How will you spend my money?
- What is my expected return?
- When will I get the return?

*NB: Use of first person possessive. It's not about you. It's about what you can do for an investor.*

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