

Business of Software (CSC454/2527)

Lecture 2

DEPARTMENT OF COMPUTER SCIENCE

University of Toronto

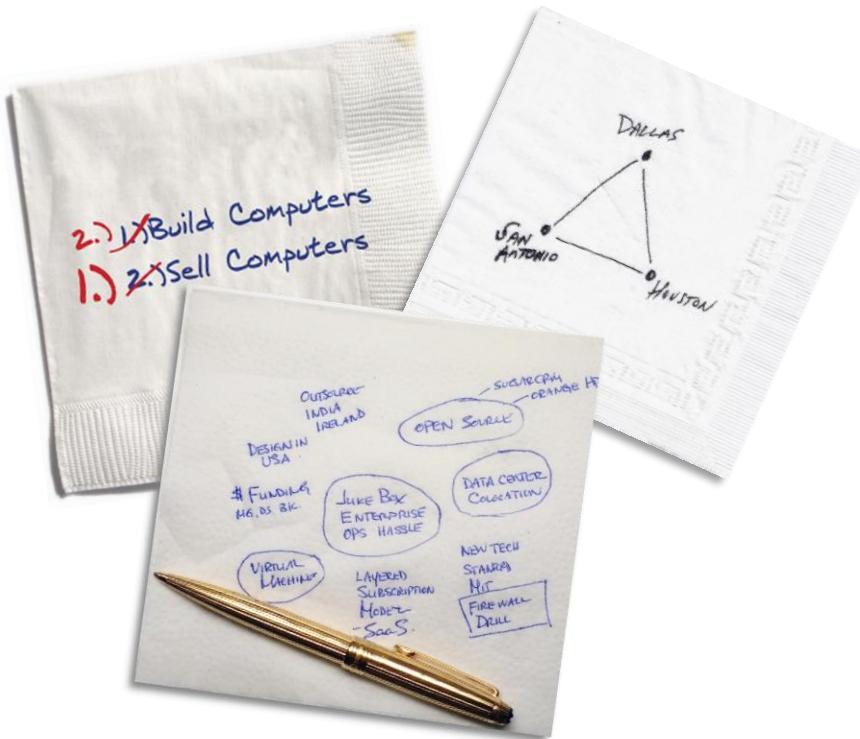
September 20, 2017

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Lecture 2 - Topics

- The First Asset
- Team Dynamics & Team Building
- Market Opportunity and Sizing

The First Asset



Before customers, profits,
investors, or even a perfected
product, assemble the first
valuable asset – The story

Founding Story

Frame your startup in terms of a well-honed founding story to help you connect with customers, employees, and investors – it gets them engaged and keeps them listening (i.e.: Facebook & Dell –dorms, Google & Apple – garages).

“Tell stories to reach people’s hearts and minds. Stories stimulate and engage the human brain and imagination, helping the speaker connect with the audience and making it much more likely that the audience will agree with the speaker’s point of view.” - Carmine Gallo



Carmine Gallo is an American author, columnist, keynote speaker, and former journalist and news anchor. He is President of Gallo Communications Group and works as a communications coach and speaker

Founding Story

If your business is not worth startup storytelling, then you should probably not start one at all. Startup storytelling is a way to differentiate your business, establish your value proposition and define your source of inspiration.

"We are trying to understand the source of the founders' passion. Why do you care so much? It might be a personal connection to the problem or just a strong vision of a different or better world. If it's 'for the money' or 'because it's a big business,' that's poor motivation. It won't sustain most people through the difficulties of starting and scaling a company." – David Cohen



David Cohen is a co-founder and Managing Partner of Techstars, a startup accelerator with programs in seven cities worldwide launching 250+ companies. He was the founder and CTO of Pinpoint Technologies which was acquired by ZOLL Medical Corporation (NASDAQ: ZOLL) in 1999. David was also the founder and CEO of earFeeder.com, a music service which was sold to SonicSwap.com in 2006.

Founding Story



Manmeet Maggu, an MBA candidate in Entrepreneurial Studies at the Rotman School of Management is one of the inventors of a rehabilitative exoskeleton called ReX, which is being developed with the support of two U of T-based accelerators.

- Erin Howe – Writer, Faculty of Medicine

March 4, 2016

Founding Story



"I have a background in robotics and I've always been interested in creating something like the superhero Ironman's powered suit of armor. While I was working toward my degree in mechatronics engineering at the University of Waterloo, my friend Rahul Udasi and I started to build an exoskeleton arm for fun."

- Erin Howe – Writer, Faculty of Medicine

March 4, 2016

Founding Story



“While we were doing that, I learned my nephew has cerebral palsy. We started to investigate what rehabilitation options existed for him and found out there really wasn’t anything out there for an individual.”

- Erin Howe – Writer, Faculty of Medicine

March 4, 2016

Founding Story

"I went to India to try out my exoskeleton with my nephew. Watching him take the first steps with the device was an extremely proud moment for me. Now we are working with a clinic to bring this to Ontario"

- Manmeet Maggu

The screenshot shows the University of Toronto Faculty of Medicine website. The header includes the university's crest and name. Below the header, there are navigation links for EDUCATION, RESEARCH, PARTNERSHIPS, STUDENTS, ALUMNI, FACULTY AND STAFF, NEWS, GIVING, and ABOUT. A sidebar on the left lists links for EVENTS, MEDEMAIL, U OF T MEDICINE MAGAZINE, and U OF T MEDICINE MAGAZINE ARCHIVE. The main content area features a news article titled "Robotic Rehab: Start-up Helps Kids with Cerebral Palsy". The article includes a photo of a man in a suit standing next to a robotic exoskeleton device, and another photo of a child using the device. Social media sharing icons for Twitter, Facebook, Google+, and LinkedIn are present at the bottom of the article.



- Courtesy of Manmeet Maggu

Founding Story

- In these days of information overload, a good story will always win over marketing hype or tech-speak
 - Who are you?
 - Where did you come from?
 - What inspired you to doing this?
- If you want to draw people to your venture they want to feel a part of something bigger than themselves. They have to be good stories and have a purposeful message
A nameless, faceless venture with no real purpose, no story, is not inspiring



Founding Story



"How to leverage your story/purpose to get your startup heard" - by Ian Sanders

<https://www.youtube.com/watch?v=oVivGcVM84w>

Core Message

- The success of your startup will depend on your ability to clearly express what makes you different from your competitors. People try to liken you to something familiar (Example: Apple iPod, 1000 songs in your pocket)
- It is an uncomplicated way of telling your target audience why you are different – explain the unique benefit of your solution and how it will positively benefit their life, in simple terms
 - What is it that you are doing?
 - What makes you different?
 - What is the unique benefit of your solution (value proposition)?

A Bad Example



The Company's primary objective is to maximize long-term stockholder value, while adhering to the laws of the jurisdictions in which it operates and at all times observing the highest ethical standards.

Vision - Mission

- Vision outlines what the organization wants to be or how it wants the world to be in which it operates. Example: *There will be a personal computer on every desk running MS software*
- Mission captures, very succinctly, the essence of your business's goals and the philosophies underlying them – defines the fundamental purpose of an organization and what it does to achieve its vision
 - It signals what your business is all about to your customers, employees, suppliers and the community.

Twitter's Mission Statement

To give everyone the power to create and share ideas and information instantly, without barriers

<https://hbr.org/2014/11/why-twitters-mission-statement-matters>

Facebook's Mission Statement

To give people the power to share and make the world more open and connected

Tesla's Mission Statement

To accelerate the world's transition to sustainable transport

<https://www.linkedin.com/about-us>

Google's Mission Statement

To organize the world's information and make it universally accessible and useful

<http://www.google.com/about/company/>

Uber's Mission Statement

Transportation as reliable as running water, everywhere for everyone

<https://www.uber.com/about>

Airbnb's Mission Statement

Belong anywhere

SpaceX's Mission Statement

SpaceX was founded under the belief that a future where humanity is out exploring the stars is fundamentally more exciting than one where we are not. Today, SpaceX is actively developing the technologies to make this possible, with the ultimate goal of enabling human life on Mars.

QUESTIONS

The Team

"You may have a great business idea, solid financial backing, and optimistic market research, but if your founding team doesn't have the right balance of personalities, you could soon be closing up shop. Having the right team determines the path and outcome of a new venture more than any decision in the lifecycle of a company". – Bernd Schoner



Bernd Schoner, author of *The Tech Entrepreneur's Survival Guide* (McGraw-Hill, May 2014)

Schoner cofounded the radio frequency identification technology company ThingMagic with four fellow Media Lab graduates at the Massachusetts Institute of Technology, and experienced a year of "extreme turmoil."

*“The first and perhaps most difficult step is to evaluate your business partners.
The quality of people in this phase will define the DNA of the company later. It's
critical to be ruthless.” – Naeem Zafar*



Naeem Zafar, teaches entrepreneurship at the University of California, Berkeley, and served as CEO of startup Bitzer Mobile until it was acquired by Oracle in 2013

<https://www.youtube.com/watch?v=JcMtJhtTgNM>

Why is the Team critical?

- Your idea is worth nothing! The quality and effectiveness of your team's execution will dictate its value.
- You may have a great idea, but your company's fate depends in large part on the strength of your team. Bad team choices severely reduces the chances of the startup's development and survival.
- Investors have different calibration points. Some place 70% on management, 30% on product weighting – team is hugely important to them. They may invest but they may not want you or a particular member of your team. Team composition is front and center.
- You will be spending more time with your co-founders and startup associates than you will with any other people - you will need to make the right partner choices or your quality of life will suffer and things can turn ugly.

Investable Team Essentials

- Background/Competence
- Emotional intelligence
- Critical thinking
- Execution oriented
- Strong work ethic
- Complimentary skills
- Diversity (avoid group think)
- Enthusiasm
- Optimism
- Perseverance/Dedication
- Flexibility/Adaptability
- Chemistry/Cohesion
- Resilience
- Curiosity (avoid know-it-alls)



Notes

- ✓ This is a suggested list not an all inclusive one
- ✓ It is assumed that these qualities are present in balanced amounts

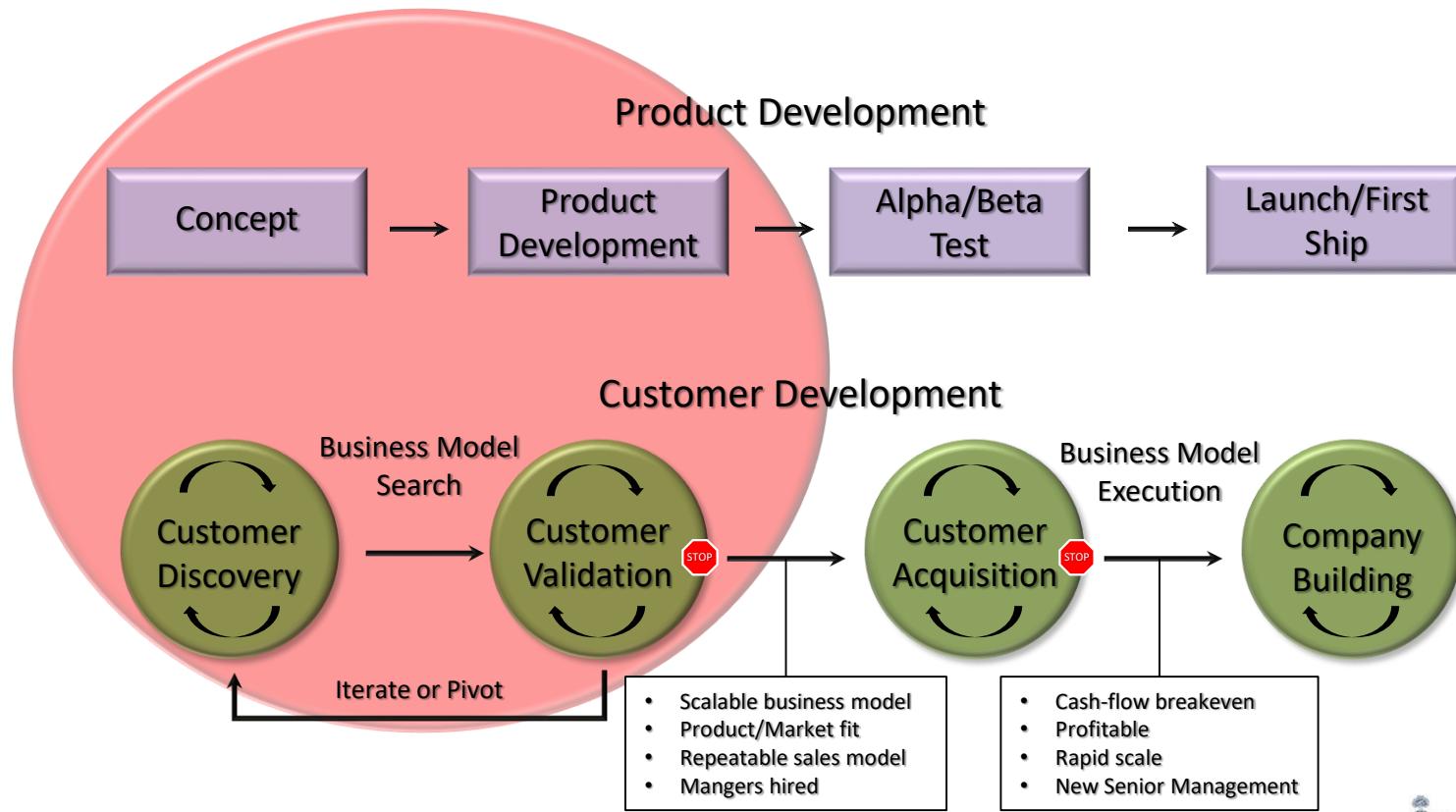
Startup Founder Team Roles

- Leadership
- Development
- Industry veteran (subject matter expert)
- Demand generation (marketing)
- Revenue generation (sales)
- Financial aptitude

Notes

- ✓ This is a suggested list not an all inclusive one
- ✓ Multiple roles can be taken on by one person but going beyond two is not recommended

Founder's Operating Environment





Team Evolution

Only after the founding team has searched for and validated a scalable business model, product-market fit, and a repeatable sales model should any headcount expansion be considered

- Products developed with founders out in front of customers early and often - win.
- Products handed off to a sales and marketing organization that has only been tangentially involved in the new Product Development process lose.
- You are not to under any circumstances outsource the “founding” of your venture to “suits”.



“There is a great disturbance in the Force”

FYI of what is happening at the CDL interview day.

What is the purpose of Interview Day?

Allows the CDL team to get to know you better as founders & to better understand the technologies, products/services, and markets at the core of your business.

Provides a platform for our MBA students to dig into the markets & technology related to your venture and conducting research that you will eventually be able to put to use as founders.

Provides you with the opportunity to learn about/assess the quality of the MBA students that you speak with and to begin to formulate views on which students may be valuable resources for your company if admitted to the program and potentially even as hires thereafter.



“There is a great disturbance in the Force”

Why are MBA students involved at the Lab?

CDL's core educational mandate at the Rotman School is to teach entrepreneurship effectively, through experiential education, wherein MBA students learn by observing the progression of new ventures facing challenges in real-time, & by helping these ventures to plan and to execute their strategies.

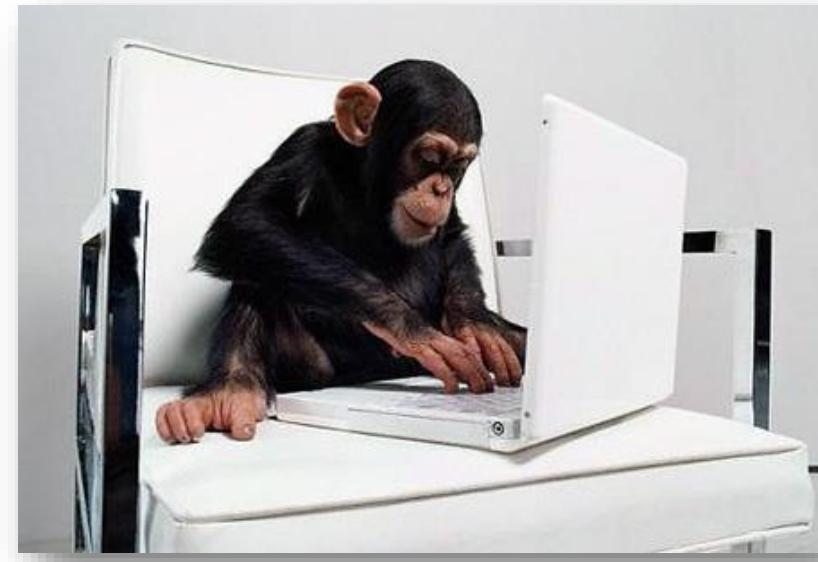
If your venture is admitted to this year's cohort, view the MBA students as a major (free) resource to put to work for your venture's success in achieving the milestones that you feel best fit their skill sets.

How do I prepare? The MBAs have access to your submitted application and the Internet. Their questions are going to be based on the research they have done regarding your technology, your industry, and your team. These are all topics you should be well-versed in, use your time with each of these teams to explain why you are unique and why the Lab will change the trajectory of your company.



“There is a great disturbance in the Force”

You are not Code Monkeys!



“There is no longer any disturbance in the Force”

You are Founders that hold all of the cards!



Market Opportunities & Sizing

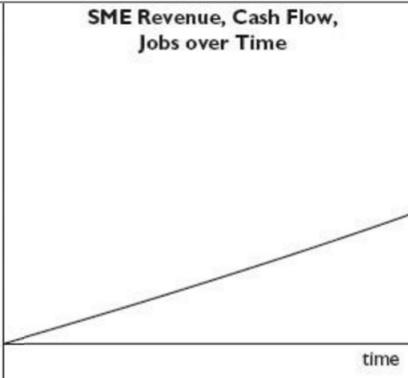
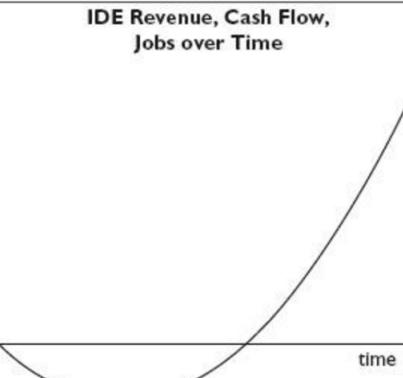
Not All Entrepreneurship is Created Equal

“Entrepreneurship” can mean different things to different people

- **Small and Medium Enterprise (SME) Entrepreneurship**
 - Started by one person to serve a local market.
- **Innovation-Driven Enterprise (IDE) Entrepreneurship**
 - More risky and ambitious type of business because of a global perspective.

SME versus IDE

Source: Bill Aulet and Fiona Murray, "A Tale of Two Entrepreneurs: Understanding Differences in the Types of Entrepreneurship in the Economy," Ewing Marion Kauffman Foundation, May 2013, www.kauffman.org/uploadedfiles/downloadableresources/a-tale-of-two-entrepreneurs.pdf.

SME Entrepreneurship	IDE Entrepreneurship
Focus on addressing local and regional markets only.	Focus on global/regional markets.
Innovation is not necessary to SME establishment and growth, nor is competitive advantage.	The company is based on some sort of innovation (tech, business process, model) and potential competitive advantage.
"Non-tradable jobs"—jobs generally performed locally (e.g., restaurants, dry cleaners, and service industry).	"Tradable jobs"—jobs that do not have to be performed locally.
Most often family businesses or businesses with very little external capital.	More diverse ownership base including a wide array of external capital providers.
The company typically grows at a linear rate. When you put money into the company, the system (revenue, cash flow, jobs, etc.) will respond quickly in a positive manner.	The company starts by losing money, but if successful will have exponential growth. Requires investment. When you put money into the company, the revenue/cash flow/jobs numbers do not respond quickly.
<div style="text-align: center;"> SME Revenue, Cash Flow, Jobs over Time  </div>	
<div style="text-align: center;"> IDE Revenue, Cash Flow, Jobs over Time  </div>	

Our Focus

- Innovation-Driven Enterprise (IDE) Entrepreneurship
 - Innovation = Invention * Commercialization
 - If either Invention or Commercialization is 0, then Innovation is 0
 - Invention (an idea, technology or intellectual property) is important but does not have to be created by the entrepreneur
(examples: Steve Jobs – computer mouse – Xerox PARC, Google – keyword driven advertising – Overture)
 - Not necessarily “technology driven” as in the driverless car sense - innovation can also come from process, business model, positioning improvements (examples: Netflix, iTunes, Zipcar, AirBNB)
 - Zipcar uses tech (keyless entry) in business model innovation treating a rental car as a substitute for car ownership rather than temporary transport for travelers

Pitfalls

1. Selling to everybody

The idea that your fledgling company with little to no resources can make products or deliver services that fit the needs of anyone you run across.

2. Huge Population Syndrome

The thinking goes, one could choose a huge existing market, get a fraction of the market share and using a multiplier effect develop a lucrative venture.

Example: $1.3 \text{ billion people} \times 0.1\% \text{ (market share)} \times 3(\text{toothbrushes/year}) \times \$1 \text{ per toothbrush} = \3.9 million/year

- No validation that customers will buy
- No evidence that there will be growth

First Business Priority

- ✗ Vision ▪ Technology**
- ✗ Business Plan ▪ Vision**
- ✗ Team ▪ Investors**
- ✗ Competitive Advantage**
- ✓ End User (with problem) + Decision Making Unit**

You need to gain enough customers paying enough money within a relatively short period of time so as not to run out of capital but instead become profitable – focus your attention, idea or technology on the end user problem.

Market Segmentation.....You know it when

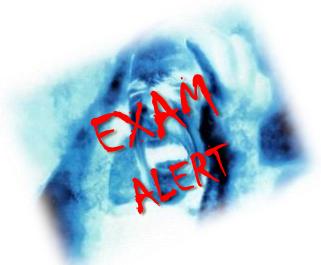
1. Customers within the market all buy similar products
2. Customers within the market have similar sales cycles and expect products and services to deliver value in similar ways
3. There is a word of mouth effect between customers in the same market acting as compelling and high value references for each other

End User + Decision Making Unit

In addition to the End User of your product or service there is a DMU consisting of;

1. Champion: People who advocate for the purchase of the product or service
2. Economic Buyer: People with the authority to spend the money to purchase the product or service
3. Influencers: People who have sway or control over the Economic Buyer

TAM, SAM, and SOM



TAM: How big is the universe if you got 100% of it?...You won't
Total possible demand for your product

SAM: How big is the geographic market if you got 100% of it?...You won't
Based on your current business model

SOM: Who will be the most likely buyers that you will get?
Based on the practical limits of your business model

Term Variations

TAM: Total Available Market, Total Addressable Market,

SAM: Serviceable Available Market, Served Available Market, Segmented Addressable Market

SOM: Serviceable Obtainable Market, Target Market, Share of Market

TAM, SAM, SOM – Why Care? Who Cares?

From an investors' perspective you need to deliver a target return to your investor portfolio which implies both de-risking the investment early (ex: figuring out the minimum possible capital if the start-up has a market) and investing in opportunities which offer substantial upside potential (ex: huge market size).

The SOM and SAM help de-risking the investment while the TAM enables you to assess the upside (blue sky) potential. The Serviceable Obtainable Market is your short term target and therefore the one that matters the most. Why?

Because if you cannot succeed on a fraction of the market (SOM) chances are that you will fail at capturing a large part of the market at scale.

Total Available Market

Your TAM is your Total Available Market. Value of all of the buyer/seller relationships participating in the market. In all of the world, what percentage of people broadly need the category of product or service that you're offering?

Ex: Student financial aid

The TAM of that market is all current undergrad and grad students plus all inbound students needing finance.

The key question to ask about your TAM is: who COULD buy our services?

<http://www.christopherspenn.com/2012/08/3-markets-you-need-to-know/>

Serviceable Available Market

The second area is the SAM, or the Serviceable Available Market. What percentage of the total market is serviceable or reachable for your product or service specifically? The part of the TAM for which your business model's value proposition is strongest

Using the student aid scenario not every student is eligible for financial aid, nor does every student need to borrow. There's a percentage of that market that is eligible, qualified, and has a demonstrated need for the product or service, no matter who they buy it from.

The key question to ask about your SAM is: who IS going to buy our service from some vendor, whether or not it's us?

Serviceable Obtainable Market

The final area is the SOM, or the Serviceable Obtainable Market. What percentage of the SAM is realistically obtainable? What piece of the pie can your business realistically convert into revenue considering: competition, trends, expected demand/forecast, countries, your sales/distribution channels and other market influences? The demographic segment of the SAM with the most direct path to success. This is fundamentally about your market share and what you think your efforts will yield.

The key question to ask about your SOM is: who is going to buy your service from YOU?

SOM Factors

To be realistic your SOM needs to factor in:

- Your product: people who will want to buy your product
- Your marketing plan and the identified distribution channels: you have a clear plan to reach a large portion of your target customers
- Your SAM and the strength of your competition so your SOM needs to be a reasonable fraction of your Serviceable Available Market.

For the investor the ability to reach your SOM means that she is less likely to get wiped out and can possibly reach very large numbers at scale

Numerical Example

You come to pitch an investor who has a target return of 10x. You are seeking a \$250k investment in exchange for 20% of the start-up's equity (assume for now the pre-money valuation of the venture is \$1.25M)

Based on your market research and the content of your business plan we can reasonably assess that:

TAM = \$2bn

SAM = \$100m

SOM = \$5m within 2 years and \$12m within 4 years

*EBITDA margin = 25%

Valuation at exit = 8x EBITDA (this is based on the value of listed companies within the sector)

What happens if you deliver your plan?

*EBITDA is the Earnings Before Interest, Tax, Depreciation and Amortization . The mathematical expression is , EBITDA = Revenue – Expenses (excluding tax, interest, depreciation and amortization)

Numerical Example

Two Years into the venture:

Delivering \$5m in revenues the EBITDA is (\$5m revenues x 25% margin =) \$1.25m and the company is worth 8 x \$1.25m EBITDA = \$10m

The investor return on investment is (\$10m x 20% ownership) / \$250k investment = **8.0x (<10x)**

Four Years into the venture:

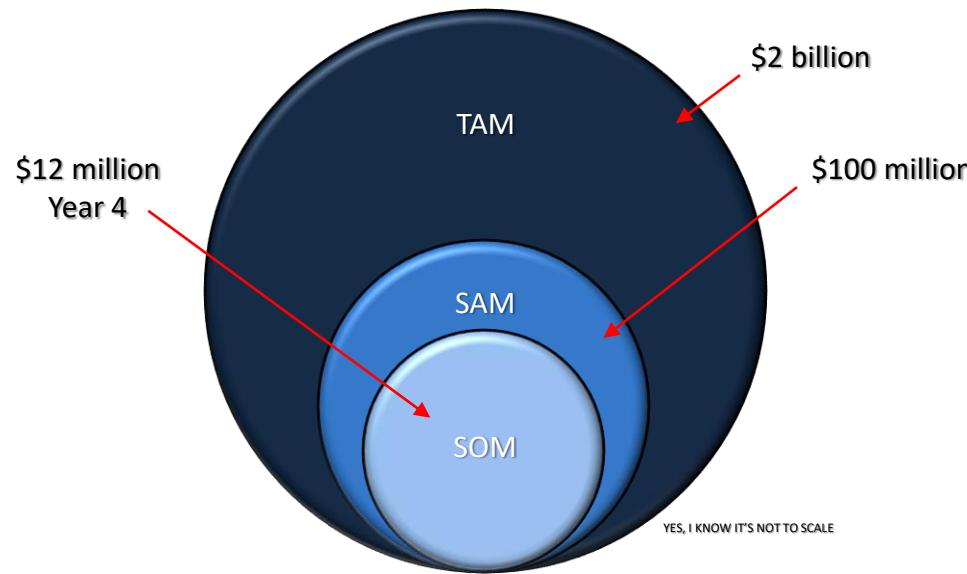
When you reach \$12m of revenues the EBITDA is \$12m x 25% = \$3m and the company is worth 8 x \$3m = \$24m

The investor return on investment is (\$24m x 20% ownership) / \$250k = **19.2x (>10x)**

Numerical Example

When you capture your SOM the investor will meet her target return and she is then left with a company that has achieved;

- 12% market share on a segment (SAM) that represents 5% of the TAM of \$2bn ($\$100\text{m SAM} / \2bn TAM)



Numerical Example

When you capture your SOM the investor will meet her target return and she is then left with a company that has achieved;

- 12% market share on a segment (SAM) that represents 5% of the TAM of \$2bn (\$100m SAM / \$2bn TAM)

The Scaling Factor

If you scale the venture internationally, the company revenue potential (assuming you can reach a similar market acceptance at scale) becomes 12% market share \times \$2bn TAM = \$240m. Which would imply a \$60m EBITDA (25% margin) and therefore a potential valuation of \$60m \times 8 = \$480m. Investors portion is 20% \times \$480M = \$96M

The investor could therefore offer to invest up to \$9.6m in the company in year 4 in order to meet her target return on investment (ROI) of 10x.

Market Opportunity Drivers

If the market that you are planning to launch a venture into does not have the following characteristics – do not launch the venture.

- A large number of potential active users or customers
- Clear future user growth in a market with rapid and predictable growth
- Opportunity to attract active customers or users

Questions & Comments

