Engineering 145
Session #2
Silicon Valley and Entrepreneurship

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TECHNOLOGY
VENTURES PROGRAM

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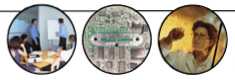
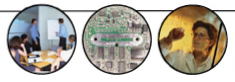


Agenda

1. Admit and Waiting List - Emily & Austin
2. Discussion of Stanford and Silicon Valley - Randy
3. Key Frameworks and Models for Technology Entrepreneurship - Randy
4. Opportunity Analysis Project - Ann and Anand (Chi-Hua)
5. Team Formation - Ann and Anand



First, A Look at Stanford University

Early Years: Fred Terman and HP

invent

- Professor Terman brought Hewlett and Packard together at Stanford
- In 1939, the two decided to "make a run for it ourselves" and founded HP at a now-famous garage in downtown Palo Alto

Source: John Hennessy

Another Golden Age: Early 1980s

- Many new technologies as radical innovations
- Emergence of John Hennessy as another Terman
- Very productive era ...

Sun microsystems
MIPS TECHNOLOGIES
Genentech
In Business for LIfe
Cisco Systems

1990s: The Internet

New Cool YAHOO! Today's News More Yahoos

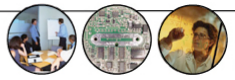
- Two EE students in a trailer
- Use of Yahoo on and off-campus explodes
- Form independent company

Source: John Hennessy

2000s

- Two students dissatisfied with Net search
- They work furiously in their spare time to develop a better way
- They form a company to exploit the opportunity others had left behind

Google™



Stanford's Role in Silicon Valley

- Interaction with industry as just discussed
- Research funding and overall creativity
- Silicon Valley as a nearby planting ground for ideas
- Students as inventors, disseminators, and workforce
- Encouraging entrepreneurship on campus …

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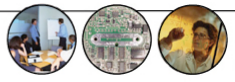
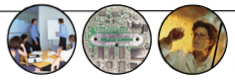


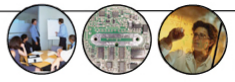
Other Factors in Silicon Valley's Success

- Its talent pool and social networks
  - ✓ Loyalty to the technology with a unique openness
  - ✓ Highly skilled and motivated
  - ✓ Diverse (highly multicultural)
- Its many early adopters of new technology
- Its services infrastructure with many suppliers for outsourcing



Even More Factors in Silicon Valley's Success

- Its venture capital industry that provides more than financing (e.g., assembling teams)
- Its entrepreneurial spirit or DNA
  - ✓ Role models that demonstrate both confidence and paranoia
  - ✓ OK to fail, learn from it, and then try again
  - ✓ Flat organizational structures and meritocracy
  - ✓ OK to talk and partner across company boundaries about common issues and challenges

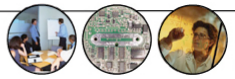


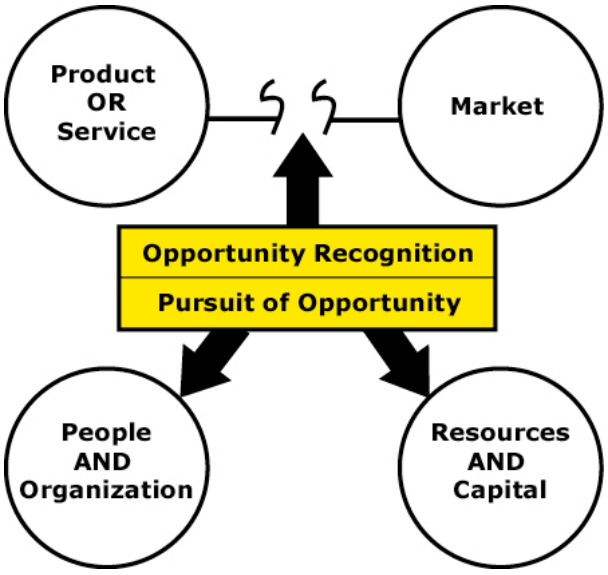
Questions for Discussion

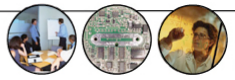
1. What could go right (and wrong) in Silicon Valley in the coming 10 years?

2. Where do you plan to live to start your career next year and why?

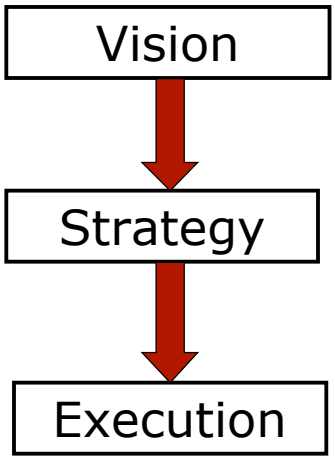
References for Stanford and Silicon Valley Content:
President John Hennessy of Stanford University:
James Gibbons of Stanford University; John Doerr of Kleiner Perkins;
John Chambers of Cisco; Annalee Saxenian and Homa Bahrami of UC Berkeley

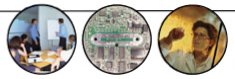


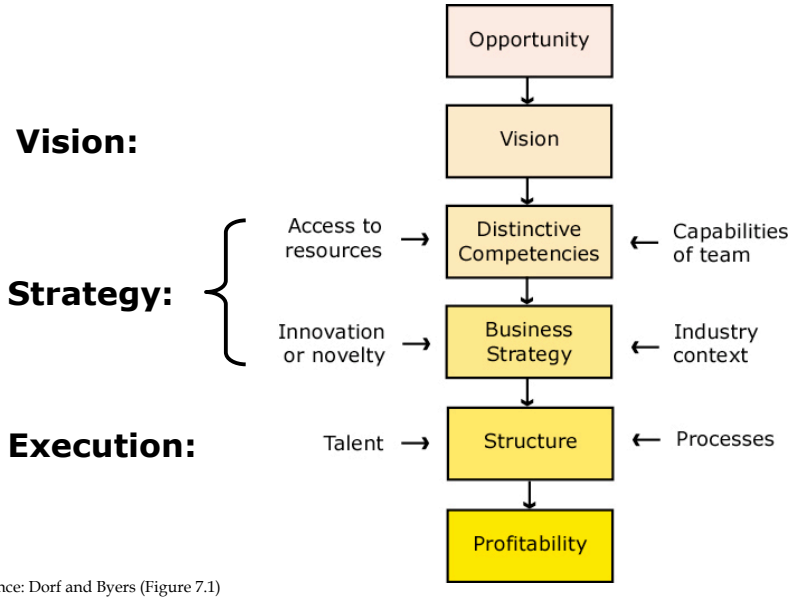




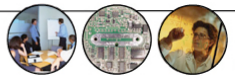
Key Framework #1: Dorf and Byers







Reference: Dorf and Byers (Figure 7.1)



Fundamental Questions: Vision

What do the founders wish to achieve with the business?
What is our shared vision and goals?
Where do we want to go and what business are we in?

Example: what business are they really in?
- Yahoo … Internet Directory?
- Palm … Organizers?
- Google … Search?

Fundamental Questions: Strategy

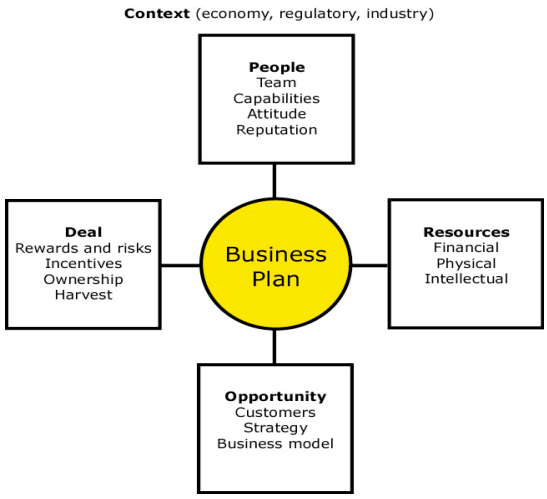
Do we have the right strategy?
Who is going to buy?
What are we selling?
Why are we better?

Fundamental Questions: Execution

Can we do it?
What resources are needed?
What is the blueprint for growth?
Can we adapt?

Reference: Steven Brandt

Key Framework #2: Sahlman's Concept of Fit



Reference: Sahlman

Framework #3: Dynamics of the Start-Up Game

(1) Founding:

An entrepreneur begins with a vision and shares of stock in the new venture.

Entrepreneur trades stock for ideas, money, and people

Value has been successfully created.

(2) Seed Stage:

- Venture capitalists provide money in return for stock
- Employees join via friends & associates in return for cash salary and stock options
- Ideas become intellectual property which represents the initial value in the company

A race against time to create value and reduce risk

(4) Exit Stage:

- IPO or M&A
- Entrepreneur, investors, and employees can cash in stock for money
- A viable company has been created or expanded
- Each entrepreneur continues to build the company, retires, or starts the game again

Further growth is delayed until milestones are reached and risk of failure is reduced

(3) Growth Stage:

More money, ideas, and people are obtained, but for much less stock than in the earlier stage due to lower risk

Company balances earning cash, taking investment, and spending cash to create value

Reference: Start-Up by Jerry Kaplan

Framework #4: Komisar's "3 Questions Every Venture Capitalist Wants to Know"

1. Big Market?
2. Winning Strategy?
3. Excellent Team?

Reference: Randy Komisar

Opportunity Analysis Project Overview

Team Formation