



## Venture Funded Startups

TE/ENG 567

Instructor: Sanjiv Chopra

Email: [sanjivc@illinois.edu](mailto:sanjivc@illinois.edu)

Box:

<https://uofi.box.com>

TEC Website: [www.tec.illinois.edu](http://www.tec.illinois.edu)



## INTRODUCTION

Venture Capital has become an increasingly important source of financing for technology based startups over the past decade. However the process and task of raising venture capital remains largely a black art to students and first time entrepreneurs. Without much prior knowledge first-time-entrepreneurs are often forced to negotiate terms of investment with Venture Capitalists (VCs) largely on their own, sometimes making costly mistakes! This course is designed to introduce students to the concepts, tools, and language used by Venture Capitalists. In particular we will look at how VC's evaluate, value, and structure new companies. Through assigned reading, classroom discussion, and case studies this course will address the following questions?

How does the venture capital industry work?

How do venture capitalists evaluate new opportunities?

How do venture capitalists value early stage companies?

How is a typical venture capital deal structured? What is a term sheet? What is a cap table?

Do you know what an "elevator pitch" is? Do you have one for your idea?

How do you attract other stakeholders to your venture such as Employees, Board of Directors, etc.?

By its nature, the subject of Entrepreneurship is integrative, and so students will be expected to apply their knowledge from throughout the Engineering and Technology Entrepreneurship Center curriculum.

### KEY CONCEPTS

1. Opportunity Assessment: It is often said that venture capitalists like to invest in large, growing markets. It is also well known that good ideas often don't turn out to be good business opportunities. This section will actively explore those elements of the idea that make it good venture scale business opportunities.
2. Opportunity Articulation: You may have good ideas for a business but in order to attract employees and investors it is critical to effectively articulate your business proposition. You may use a succinct "elevator pitch" to communicate your ideas in a social setting or an "investor pitch" to present to a group of venture capital partners. Learn how to craft an appropriate message.
3. Venture Capital Finance: Discounted Cash Flow based methods to value stable businesses can be seldom used to value startup companies. In the presence of such uncertainty in cash flows projections, we will look at how venture capitalists value startups and determine their ownership interest.
4. Acquiring Risk capital: Technology based startups often have large financing requirement. Further this financing is required in presence of severe information and agency problems. We will review typical venture investment terms and see how they are designed to mitigate the affects of these problems.
5. Execution issues in Venture funded startups: Raising the necessary financing is only the start of the hard work to develop the product and acquire customers. In this section we will review the strategic and tactical issues around successful execution of the business plan. Major themes covered will include;

- a. Developing a compelling Financial Plan
- b. Customer development and marketing
- c. Sales Execution
- d. Engineering / product development plan

## COURSE OBJECTIVES

Through mandatory readings, case studies, and several topics explored in class, this course aims to equip students with a broad perspective on the central issues involved in Venture Funded Startups throughout the lifecycle of the company.

## COURSE MATERIALS

### REQUIRED:

- TE/ENG 567 Course Packet
- Additional readings may be handed out throughout the semester.

### REFERENCES:

- *The Entrepreneurial Venture*, Sahlman, Stevenson, Roberts, and Bhidé, 1999, ISBN 0-87584-892-3
- *Term Sheets & Valuations*, Alex Wilmerding, 2003, ISBN 1-58762-068-5

### PRE-REQUISITES:

- For on-campus students: Currently pursuing a Graduate degree
- For on-line students: Must have completed a Bachelor degree

## REQUIREMENTS AND GRADING

### ON-CAMPUS STUDENTS:

#### Contact hours:

One 50-minute lecture-discussion per week. A 50-minute session is counted as 1 contact hour. Thus, there is 1 contact hours per week x 14 weeks = 14 total contact hours.

#### Grades:

Grades for on-campus students will be determined on the basis of class attendance, group homework assignments, a midterm exam and a student's choice between a final exam or a group/ individual final project.

#### 1. Attendance:

If you are not in class you are missing a lot of discussion and not getting the most out of the class. So be there.

#### 2. Group homework assignments:

There will be 4-5 homework assignments that need to be done in small groups. Each team must turn in a 2-3 page HW solution. The optimum team size is 3 people.

#### 3. Midterm Exam:

The midterm will be a take home exam. The midterm may consist of short-answer questions and/or a case to be read, analyzed, and submitted for grading. Midterm exam can be done individually or in groups.

#### 4. Choice of Final Exam or Final Project:

Students can choose to take a final exam or opt to do an individual/group final project. The details of the two options are as follows:

Final exam option:

The final exam will be a take home exam. The final exam may consist of short-answer questions and/or short cases to be read, analyzed, and submitted for grading. Final exam can be done individually or in groups.

Final individual/group project option:

Students can choose to do a final project instead of a final exam. The final project will be a topic that is relevant to the contents of the course. Possible topics could include writing a 10-12 page business plan for a real startup, developing a detailed financial plan for a real startup, presenting a startup to a group of VC's in a venture summit, as a VC evaluate an investment opportunity in a startup, etc. Please get your ideas for the project approved by me prior to working on it.

Grades for on-campus students are determined as follows;

- Class participation 5%
- Group HW assignments 25%
- Midterm exam 35%
- Final exam or group project 35%

#### ***ON-LINE STUDENTS (DISTANCE LEARNERS):***

Contact hours:

One 50-minute lecture-discussion per week. A 50-minute session is counted as 1 contact hour. Thus, there is 1 contact hours per week x 14 weeks = 14 total contact hours.

Grades:

Grades for online students will be determined on the basis of individual/group homework assignments, a take home midterm exam and a student's choice between a final exam or a group/ individual final project.

1. Individual/Group homework assignments:

There will be 4-5 homework assignments that need to be done individually or in small groups. Each person or team must turn in a 2-3 page HW solution.

2. Midterm Exam:

The midterm will be a take home exam. The midterm may consist of short-answer questions and/or a case to be read, analyzed, and submitted for grading. Midterm exam can be done individually or in groups.

3. Choice of Final Exam or Final Project:

Students can choose to take a final exam or opt to do an individual/group final project. The details of the two options are as follows:

Final exam option:

The final exam will be a take home exam. The final exam may consist of short-answer questions and/or short cases to be read, analyzed, and submitted at the end of the period. Final exam can be done individually or in groups.

Final individual/group project option:

Students can choose to do a final project instead of a final exam. The final project will be a topic that is relevant to the contents of the course. Possible topics could include writing a 10-12 page business plan for a real startup, developing a detailed financial plan for a real startup, presenting a startup to a group of VC's in a venture summit, as a VC evaluate an investment opportunity in a startup, etc. Please get your ideas for the project approved by me prior to working on it.

Grades for on-line students are determined as follows;

- HW assignments 30%
- Midterm exam 35%
- Final exam or Project 35%

## READING LIST AND WEEKLY READING SCHEDULE

**You must complete the homework after reading the assigned reading for that week but prior to viewing the lecture video for that week.**

### **Week 1: Entrepreneurship and Venture Capital Overview**

1. "A perspective on Entrepreneurship", Howard H. Stevenson, Harvard Business School, 9-384-131.
2. "The Founder's Dilemma", Noam Wasserman, Harvard Business Review, February, 2008.
3. "How venture capital works", Bob Zider, Harvard Business Review, November-December 1998.

### **Week 2: Venture Scale Opportunity Assessment**

1. "How venture capitalists evaluate opportunities", Michael Roberts, Lauren Barley, Harvard Business School 9-805-019
2. "Why the Lean Start-Up Changes Everything", Steve Blank, Harvard Business Review, May 2013
3. "Opportunity Articulation and Shaping" Worksheet
4. "Criteria for Evaluating Commercialization potential", Worksheet

### **Week 3: Case: Rent the Runway**

1. "Rent the Runway", Thomas Eisenmann, Laura Wining, Harvard Business School December, 2012.

### **Week 4: Opportunity Articulation (Elevator Pitch, Executive Summary, Investor presentation and Business Plan)**

1. "How to Make Your Case in 30 Seconds or Less", Nick Wreden, Harvard Management Communication Letter Article, January 2002
2. "Tips for presenting your 2 minute Elevator Pitch", UIUC
3. "How to write great business plan", William Sahlman, Harvard Business Review, July-August 1997
4. "The role of business models in capturing value from innovation, Henry Chesbrough and Richard Rosenbloom, ICC Volume 11, Number 3, 2002

### **Week 5: Venture Capital Finance**

1. "The Basic Venture Capital Formula", William Sahlman, Harvard Business School 9-804-042
2. "Funding New Ventures: Valuation, Financing, and Capitalization Tables", Michael Roberts, Harvard Business School, 9-806-058
3. "Learn to Speak the Language of ROI", John O'Leary, Harvard Management Update 2002

### **Week 6: Case: Rent the Runway (Again)**

1. "Rent the Runway", Thomas Eisenmann, Laura Wining, Harvard Business School December, 2012.

### **Week 7: Venture Capital Term Sheet**

1. "New venture financing", Howard Stevenson, Michael Roberts, Harvard Business School 9-802-131

2. "Deal Structure and Deal Terms", Michael Roberts, Howard Stevenson, Harvard Business School 9-806-085

**Week 8: Venture Capital Terms continued...**

1. "Note on Attracting stakeholders", Amar Bhidé, Howard Stevenson, Harvard Business School 9-389-139
2. "Board of Directors of Private companies", John Davis, Harvard Business School 9-805-154

**Take Home Midterm Exam**

**Week 9: Spring Break**

**Week 10: Financial Plan for startups**

1. "Milestones for successful venture planning", Zenas Block, Ian C. Macmillan, Harvard Business Review, September 1985
2. "How much money does your new venture need?" James McNeill, Harvard Business Review, May-June 1986.

**Week 11: Customer development and Marketing**

1. "Marketing Malpractice: The Cause and the Cure", Clayton Christensen, Scott Cook, Taddy Hall, Harvard Business Review, December 2005.

**Week 12: Sales Execution**

1. "Business Marketing; Understand What Customers Value", James Anderson, James Narus, Harvard Business Review, November 1998.

**Week 13: Product Development**

1. "Defeating Feature Fatigue", Roland Rust, Debora Thompson, et. al., Harvard Business Review, February 2006.

**Week 14: Case: Good money after bad**

1. "Good Money After Bad", John W. Mullins, Harvard Business Review, March 2007.

**Week 15: Open TBA**

**Final Exam or Final Project**

**BACKGROUND READING**

1. Sanjiv Chopra, "Choose To Disrupt", Silicon India Magazine, May 2007.
2. Sanjiv Chopra, "Focus On Architectural Innovation" Silicon India Magazine, June 2007.
3. Sanjiv Chopra, "In Pursuit of Dominant Design", Silicon India Magazine, March 2007.



## HOMWORK ASSIGNMENTS

**You must complete the homework after reading the assigned reading for that week but prior to viewing the lecture video for that week.**

**Due Date: Week 3**

### **Rent the Runway**

1. Create a timeline of actions undertaken by Rent the Runway's cofounders. Do you agree with the decision to pursue each action? What actions are important in validating business model hypotheses and refining the concept? Can you suggest different actions that the cofounders should have taken?

**Due Date: Week 6**

### **Rent the Runway**

1. As the case ends in Jan 2010, the cofounders are considering whether to: 1) Stick with the original plan to pursue operational improvements in 2010 before raising more capital in early 2011; or 2) accelerate fundraising in order to expand inventory and product range, enabling RTR to serve a broader set of customer segments and usage occasions. What would you do about this decision?

**Due Date: Week 7**

### **Valuation Problem Set**

1. John Madden, CEO of Dairy Products, Inc., sought to raise \$5M in private placement of equity in his early stage dairy products company. John conservatively projected net income of \$5M in year 5, and knew that comparable companies traded at a price earnings ratio of 20x.
  - a. What share of the company would a VC require today if his required rate of return was 50%? What if his required rate of return was only 30%?
  - b. If the company had 1,000,000 shares outstanding before the private placement, how many shares should the venture capitalist purchase? What price per share should he agree to pay if his required rate of return was 50%? 30%?
  - c. John feels that he may need as much as \$12M in total outside financing to launch his new product. If he sought to raise the full amount in this round, how much of his company would he have to give up? What price per share would the VC be willing to pay if his required rate of return was 50%? 30%?
2. Mike Doerr of Milkdud Capital liked John's plan but thought it naïve in one respect: to recruit a senior management team, he felt John would have to grant generous stock options in addition to the salaries projected in his business plan. From past experience, he felt management should have the ability to own at least 15% of the company by year 5. Given his beliefs, what share of the company should Mike insist on today if his required rate of return is 50%? 30%?
3. On further analysis and discussion, Mike and John agree that the company will probably need another round of funding in addition to the current \$5M. Mike believes that Dairy Products, Inc. will need an additional \$3M in equity at the beginning of year 3. While the first round investors (including himself) will require a 50% return, Mike feels that round 2 investors, in recognition of the progress made between now and then, will probably have a hurdle rate of only 30%. As before, management should have the ability to own a 15% share of the company by the end of year 5.

- a. Based on this new information, what share of the company should Mike seek today? What price per share should he be willing to pay?
- b. What share of the company will the round 2 investors seek? What price per share will they be willing to pay?
- c. Suppose it was apparent in the beginning of year 3 that Dairy Products, Inc. would meet its financial targets, but not until the end of year 7. How would your answers to part 3a and 3b change? If Mike took his pro-rate share of the round (to keep his percentage ownership of the company the same after the offering as it was before), what overall internal rate of return could he expect?

**Due Date: Week 14**

**HBR Case write up: Good money after bad**

1. Should Harbinson recommend further investment in Seven Peaks?

## ABOUT THE INSTRUCTOR

**Sanjiv Chopra** has worked in the technology industry in various Engineering and Management roles for over thirteen years. Since 2005, as Entrepreneur-in-Residence in the College of Engineering at the University of Illinois, Chopra has taught two popular graduate courses titled “Technology Innovation and Strategy” and “Venture Funded Startups”. As a “practicing” entrepreneur Chopra provides a balanced understanding of strategic and tactical issues that confront engineers and entrepreneurs in designing and commercializing technology based products.

Chopra currently serves as a Senior Director of Industry Strategy in the Industries Business Unit (IBU) at Oracle Corporation where he advises potential clients on the business benefits of technology-enabled transformations. Chopra has also served in key management roles and advisory board of several venture funded technology startups. From 2006 until 2008, Chopra served as a business development executive for Xelerated, Inc. Xelerated is a Communications Processor company funded by pre-eminent venture capitalists, including Accel Partners, Sweden based A/P Fund. From 2001 until January 2006 Chopra served as the Chief Operating Officer of Intersymbol Communications. Intersymbol is a venture-backed technology company developing disruptive, mixed signal integrated circuits for optical communications industry. Intersymbol was acquired by Finisar Corporation (NASDAQ: FNSR) in March 2006. Prior to Intersymbol Chopra was the Vice President of Business Development for CapacityWeb, Inc, a venture backed supply chain software and technology provider. From 1991-1997 he worked in Silicon Valley, California for Integrated Device Technology (NASDAQ: IDTI) designing and developing semiconductor integrated circuits for the personal computer and communications industry. Chopra has also worked as a management consultant at Booz, Allen & Hamilton, a premier management consulting firm.

Chopra holds a B.S. in Electrical Engineering from BIT, India, a Master of Science degree in Electrical Engineering from Iowa State University, and an MBA from Northwestern University, Evanston, IL.