



## The Design of a Graduate Level Course in Entrepreneurship: Ownership Issues

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Perry is also an entrepreneur and has successfully launched two companies. The first, The Weather Underground, grew to be one of the top 100 most popular web sites in the world and was acquired in 2012 by The Weather Channel. The second, LectureTools, provides new tools to make large classrooms better learning environments by enabling increased student participation. LectureTools Inc. was acquired in 2012 by Echo360 Inc.

# **The Design of a Graduate Level Course in Entrepreneurial Ownership**

## **The Issue**

During the past two decades, small businesses provided 60-80% of the net new jobs in the United States economy and were responsible for the commercialization of radical new technologies that are transforming the way we live. The University of Michigan Master of Entrepreneurship (MsE) gives students the ability to create new technology-focused ventures, either as standalone entities or within established innovative organizations.

In the Entrepreneurial Ownership course students formulate skills to become effective entrepreneurial managers, including how to appreciate and act on the difference between leadership and management, understand and develop ethical principles of entrepreneurial leadership, and recognize various entrepreneurial strategies and apply them as appropriate.

## **Methods**

This course provides an analytical framework to improve understanding of individual and shared ownership models in entrepreneurial organizations, and the way alternative ownership decisions affect organizational dynamics. It also looks at the mechanisms that entrepreneurs can use to create specific ownership structures and organizational cultures.

This course is a half-semester long (7 weeks) covering:

### **1. Introductions**

- a. Present current state of equity for your project
- b. Introduction to the pluses and minuses of equity dilution for founders
- c. Value of addressing equity issues for founders
- d. Step needed to address equity issues for founders

### **2. Bootstrapping**

- a. Micropreneur vs. bootstrapper
- b. The value of “treading water”
- c. The tension between avoiding debt and need for growth.
- d. How others have done it.

### **3. Valuation**

- a. Framework for estimating contribution of each founder to success.
- b. Models for valuing a start-up

### **4. Lifecycle of Ownership**

- a. Investment options
- b. A conversation with Steve Case, Revolution Group

### **5. Art of the Exit**

- a. Analysis of startup case studies
- b. Start up CEO/Board relationships

## 6. Tale of Two Startups

- a. Study of case studies
- b. The realities of “down rounds.”

This course, focused on engineering students, emphasized the value of clarifying ownership and the opportunities and challenges presented when bootstrapping a business. Students were challenged to define and defend ownership positions both from case studies of other businesses as well as start-ups they were creating as part of the Master’s program.

### Course Design

The course met once a week for three hours over a six-week period (half-semester). The resources required for this semester included:

- [The Founder’s Dilemmas: Anticipating and Avoiding the Pitfalls That Can Sink a Startup](#) by Noam Wasserman

They were also recommended to read

- [Venture Deals: Be Smarter Than Your Lawyer and Venture Capitalist](#) by Brad Feld, and
- [Raising Venture Capital for the Serious Entrepreneur](#) by Dermot Berkery

Each week the students were assigned a task that they needed to complete as a written document and hand in at the beginning of the next class period. In addition individuals (or sometimes teams) were called upon weekly to present their findings and defend their conclusions in front of the rest of the class. The role of the instructors was to monitor the debate and to assign grades for presentation based on a simple rubric (Figure 1).

This course takes a village to properly conduct. In addition to the instructors the course relied heavily on case studies presented by guests. In our first year we were blessed with a number of entrepreneurs who could speak about ownership challenges both in start-ups that were successful and those that were not. The list and their topics included:

Student Name	Iam A. Student		
	Percent of Grade	Score (0-5)	Contribution
Quality of Presentation	30%	4	1.2
Accuracy of Results	40%	5	2.0
Response to Questions	30%	3	0.9
		Grade	4.1

**Figure 1.** Rubric used to assess student presentations in class.

Speaker	Position	Topic
Mr. Aaron Crumm	Former CEO, Adaptive Materials Inc.	Experiencing entrepreneurship from startup to exit
Mr. Steve Case	Chairman and CEO of <a href="#">Revolution</a> , Founding chair of the <a href="#">Startup America Partnership</a>	The Jobs Act and its potential impact on entrepreneurship.
Mr. Kenneth Stack	CEO, Proximus LLC	Investment from Investment Banking
Mr. Ted Dacko	Former CEO, Health Media	Ownership issues after acquisition
Mr. Jim Sterken	Former CEO, ArborText Inc.	The Realities of “Down Rounds”

The final assignment for ENTR 599 was a combination of a written assignment and oral interview. The written portion was modeled off an NSF Small Business Innovation Research (SBIR) solicitation<sup>1</sup> and proposal preparation guidelines. The basic SBIR proposal guidelines were modified for the purposes of this assignment to include a description of the students’ business, their team of founders, and their Equity Ownership plan.

Individual fifteen-minute oral interviews were required during which each student was asked questions designed to determine their understanding of linkages between the Equity Ownership tools presented in ENTR 599 and the real world situations of their unique business opportunities and future opportunities. The written portion required:

- A. Project Summary (1 page limit)
- B. Project Description (10 page limit)
- C. Biographical Sketches (2 page limit for whole team)
- D. Budget (not to exceed \$150,000) with budget justification for each significant item.
- E. Equipment, Instrumentation, Computers, and Facilities (1 page limit)

The goal was to simulate a SBIR proposal process as we felt this supported our overarching theme to encourage bootstrapping in their start-up planning. Details of the Project Description were:

**Part 1: Identification and Significance of the Innovation.** The first paragraph shall contain a clear and succinct statement specifying the research innovation proposed, and a brief explanation of how the innovation is relevant to meeting a commercial need. [*This is the ‘elevator pitch’. It’s your goal to give reasons why the ‘reviewers’ should want to read more.*]

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<sup>1</sup> If you are interested in learning more about the SBIR program, please navigate to <https://www.sbir.gov>.

**Part 2a: Background and Phase I Technical Objectives.** List and explain the key objectives to be accomplished during the Phase I research, including the questions that must be answered to determine the technical and commercial feasibility of the proposed concept. It is important to show how potential customer needs will be met if the research is successful.

The technical objectives should be presented in the form of milestones with clearly defined objectives, budget amounts, and duration. The summary of technical objectives should span from idea to a mature business with the potential to “exit”. The short-term technical objectives planned under this SBIR should be more detailed than the longer-range objectives. Please include objectives whether private or government funded. [*Less than one page.*]

**Part 2b: Current Ownership.** To satisfy ENTR 599 objectives proposers must identify the company’s current ownership situation and how that has been determined. [*Less than two pages and should include the cap table created in class plus justification for the breakdown in ownership. The reviewers will be looking for who the team thinks is key to success and comparing that with their biographical information.*]

**Part 3: Phase I Research Plan.** This section must provide a detailed description of the Phase I research approach. In a normal SBIR this would include the following:

- A technical discussion of the proposed concept,
- What is planned and how the research will be carried out,
- The plan to achieve each objective, and
- The sequence of experiments, tests, and computations involved in the measurement of those objectives.

For ENTR 599 this goal is reduced to:

- A succinct technical discussion of the proposed concept, [*Aim for one page max. We assume you have a strong technical concept. Here we just need enough to provide background for the commercialization plan.*]
- A timeline of what steps would be planned during this six-month project with sufficient, but succinct, description describing how each step will be carried out. [*Aim for ~one page.*]

**Part 4. Commercial Potential.** Proposals must describe a compelling business opportunity to be enabled by the proposed innovation. The information contained within the Commercial Potential section should convey the scope and nature of this business opportunity. This section should briefly describe the current as well as the anticipated market landscape and the resources required to address the opportunity. The goal of this section is to justify, from a market-opportunity perspective, why a Phase I feasibility study should be undertaken.

In preparing the description of the commercial potential, you are strongly encouraged to address the following four sections: market opportunity, company/team, product/competition and revenue/finance. A well-crafted Commercial Potential section is typically 3-5 pages in order to address the four sections referenced below. [*For this class this is the meat/tofu of the proposal.*]

*Do you have the right team? Are they incentivized to participate? Are the financing and revenue plans appropriate for the plan? Use all remaining pages for this section.]*

- The market opportunity - Describe the anticipated target market or market segments and provide a brief profile of the potential customer. What customer needs will be addressed with the innovation? Estimated size of the market being addressed? What barriers to entry exist?
- The Company/Team
  - What are the origins of the company/team?
  - How many current employees are there?
  - What is the anticipated impact on job creation as a result of this innovation?
  - Give a brief description of the experience and credentials of the personnel responsible for taking the innovation to market.
  - How does the background and experience of the team enhance the credibility of the effort; have they previously taken similar products/services to market?
- Product or technology and competition
  - How does your product or service sit within the competitive landscape?
  - What is the main competition?
  - What is the value proposition for the product or service enabled by the innovation?
  - How do you plan to protect any IP generated from the proposed innovation?
  - What critical milestones must be met to get the product or service to market?
- Financing and revenue model
  - Based upon revenue assumptions, describe how you plan to finance your innovation.
  - **[For non-SBIR proposals only]** Identify your proposal for what equity you are offering for the \$150K goal. Include a cap table showing dilution due to this investment.
  - Assuming this project is funded and the goals are met identify what you think the valuation of the company would be at that point and what funding, if any, you would expect to need that that point. Include a cap table showing dilution due to this investment.

**A.9.5. Biographical Sketches.** (A maximum of two pages per person.) Provide relevant biographical information for the Principal Investigator (PI) and key personnel (including consultants and key members of the subaward team). *[These pages are independent of the 10-page limit]*

**A.9.6. Budget.** The total budget shall not exceed \$150,000 for the SBIR Phase I proposal. Budget line items must be shown in detail in the budget justification. *[A budget spreadsheet will be provided. The budget justifications are independent of the 10-page limit.]*

## Assessment

This was the first time this course was offered and post-course reviews from the students indicate that we failed in several important ways (Table 1).

**Table 1.** Responses of students in ENTR 599 to assessment questions after the semester had ended.

# Question	Responses						Median
	5	4	3	2	1		
	SA	A	N	D	SD	NA	
1 Overall, this was an excellent course.	1	3	4	3	0	0	3.1
2 Overall, the instructor was an excellent teacher.	3	3	1	3	0	0	3.8
3 I learned a great deal from this course.	3	1	3	4	0	0	3.0
4 I had a strong desire to take this course.	5	2	2	2	0	0	4.3
5 I deepened my interest in the subject matter of this course.	2	4	1	4	0	0	3.6
6 The instructor gave clear explanations.	2	3	2	3	0	0	3.5
7 The instructor stressed important points in lectures/discussions.	2	2	4	2	0	0	3.3
8 The instructor appeared to have a thorough knowledge of the subject.	4	2	2	2	0	0	4.0
9 The instructor acknowledged all questions insofar as possible.	2	4	3	1	0	0	3.8
10 The instructor encouraged constructive criticism.	2	4	3	1	0	0	3.8
11 The instructor followed an outline closely.	1	2	2	2	2	1	2.8
12 The instructor used class time well.	2	1	3	4	0	0	2.8
13 The instructor seemed well prepared for each class.	2	2	3	2	1	0	3.2
14 Work requirements and grading system were clear from the beginning.	2	1	2	4	2	0	2.4
15 The amount of work required was appropriate for the credit received.	2	4	3	2	0	0	3.6
16 The amount of material covered in the course was reasonable.	2	2	3	4	0	0	3.0
17 The project was a valuable part of this course.	3	3	1	3	1	0	3.7
18 Project assignments seemed carefully chosen.	2	2	1	4	2	0	2.4
19 Project assignments required a reasonable amount of time and effort.	2	5	1	2	1	0	3.8
20 Project assignments were relevant to what was presented in class.	3	4	0	2	2	0	3.9
21 The textbook made a valuable contribution to the course.	1	1	1	1	3	4	2.0
22 Examinations covered the important aspects of the course.	1	1	1	0	1	7	3.5
23 Grades were assigned fairly and impartially.	1	3	3	0	0	4	3.7
24 The grading system was clearly explained.	1	3	3	2	2	0	3.0

Question 3, to begin, illustrates that the design of the course did not offer a sufficiently meaningful course to the students. Students felt that the assignments were carefully chosen (Question 18) and that grading criteria were articulated clearly (Question 14). Students also complained that some of the classes were redundant with other courses in the program (Question 12) and some were unhappy with the format of the final project (the choice of an SBIR proposal was not, in retrospect, the best choice for non-US citizens).

Another challenge to this course is that not all students have the same level of experience with entrepreneurship. While all students hold an engineering background not all have experience with business concepts, much less entrepreneurship. This course is one of sixteen courses the students take and prior to the course they are to have defined a business venture as part of a team. The ownerships of these ventures would, obviously, be an appropriate test bed for the concepts being presented. Unfortunately, some of the students had not progressed sufficiently to allow the use of their project.

## Next Steps

At the time of this writing the second year of this course is underway. Based on the feedback from the 2013 course we have made a number of changes in the hope of improving the value of the course to our students. The syllabus this semester<sup>2</sup> makes the grading rubric transparent. The required book has been switched to include:

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Book [Venture Deals: Be Smarter Than Your Lawyer and Venture Capitalist](#) by Brad Feld, and  
Book [Slicing Pie](#) by Mike Moyer

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The list of topics was modified to eliminate those topics not directly germane to ownership issues:

Date ▼	Topics ▼
14-Jan	Equity Ownership
21-Jan	Building Cap Tables
28-Jan	Angel investment
4-Feb	Venture, valuations, and strategics
11-Feb	Strategic investments and exits, Non-Dilutive options, Bootstrapping.
18-Feb	Employee Owned, Jobs Act, & Social Entrepreneurship
25-Feb	Final Project Presentations

The final project is based on a life cycle of a startup and requires that the students formulate a capitalization table for the many stages of the company and identify the financial gains/loses for a range of key groups including the founders, advisors, seed investors, venture capital investors and others.

As with the previous semester students will be surveyed after the semester to evaluate its perceived value. Individual interviews will be conducted by independent staff to solicit how the course can continue to improve.

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<sup>2</sup> [http://broadcast.engin.umich.edu/class/entr599\\_W14/?page\\_id=2](http://broadcast.engin.umich.edu/class/entr599_W14/?page_id=2)