



15. 992: LABORATORY FOR SUSTAINABLE BUSINESS “S-LAB”

Spring 2008
Tuesday, Thursday 2:30-4 pm
E51-325

Professors: John Sterman, Sarah Slaughter, Richard Locke, and Rebecca Henderson
Teaching Assistants: Eswar Mani & Gabriel Shapiro
Office Hours by appointment

Introduction

Given the enormous challenges we face as a society and as a species, this course is focused around the question “what can companies do?” Our hope is to explore the wide variety of ways in which commercial firms are already responding to problems like global climate change, environmental degradation and social dislocation in order to support you in crafting a response that is committed both to the reality of “the bottom line” and to the need to sustain the natural and human systems on which we all rely.

The course will be taught through a mixture of case studies, readings, class discussion and class visitors. A particularly important feature is the term project – a “live” project during which participants will work in groups of three to four people with an organization that has requested the Sloan School’s help in thinking through an issue related to sustainability. Prior projects have included work with large companies like Disney, Intel and Nike, smaller companies like Good Energies, GoLoCo and Green Fuel Technologies and NGOs like MiBanco.

Logistics

The requirements for the course and the contribution of each towards the final grade are:

1.	Class Participation & Attendance	30%
2.	Project Work Plan	5%
3.	Intermediate Report	20%
4.	Final Report	45%

We will post the list of potential host organizations and projects on the course web site before the beginning of the semester. There will be a **project mixer on February 14th** to form teams for the projects, and **Projects Bids are due on February 19th**. We expect that if you submit a project bid you are committing to stay in the course. If you don’t submit a project bid, we will assume that you are dropping the course.

Each team will have a faculty member serve as the advisor for all aspects of the project. It is your team’s responsibility, however, to negotiate and manage all aspects of the work plan and the

project. **A detailed work plan is due on March 6th, 2008.** We will provide you with samples of previous work plans and a template to help guide you.

The goal of each project is for your team to professionally and effectively deliver analysis, advice and recommendations that are immediately useful to your host organization. You will present an **Intermediate Report on April 3** to your host organization (with a copy to your faculty advisor).

You will make a formal presentation to your host near the end of your project and provide them with supporting written analysis and data as appropriate. You will deliver a **draft of your Final Report to your host organization and faculty advisor by May 8, 2008.** Your team will also create a **poster that describes your project for the May 13 S-Lab Day**, for presentation to the MIT community and host organizations. The **Final Report is due on May 15, 2008,**

The final written report should describe the objectives of the project, all background information and analyses, and results (including methodologies and tools developed by the team). If confidential information is included in the deliverable to the host organization, a version of the Final Report without this information should be delivered to your faculty advisor as well, for public release. The final report should be no more than 20 double-spaced pages of text, plus any tables and appendices that help the reader. The final report can be in a form that can be used effectively as a teaching case in MBA classes. We encourage this approach but do not require it.

Missing Class

We have designed this class as an integrated whole, and if you miss class it makes it very difficult to maintain a coherent conversation. You'll miss ideas and concepts – many of them raised by your colleagues -- that are not in the readings and you'll have a more difficult time contributing to the discussion. So.... if for some reason you are forced to miss class – and we hope that this will be a very rare occurrence (!) – please let the teaching assistants know in advance. We'll ask you to write up a “two pager” – a brief response to the discussion questions for the day that you will miss – and we'll also talk about how to keep you current with the conversation. Should you miss more than one class without alerting us in advance and writing up a “two pager”, you will fail the course.

DUE DATES:

2/19/08 Project bids
3/6/08 Detailed Work Plan
4/3/08 Interim Report
5/8/08 Draft Final Report
5/13/08 Project Poster
5/15/08 Final Report

FRAMING THE CHALLENGE

I. INTRODUCTION

1. Course Overview:

February 5

Lead Faculty: Prof. Locke

Guest Speaker: Ms. Lorrie Vogel, Manager, Nike “Considered” Brand

What does it mean for a private company to act “sustainably”? An introduction to the course and to the central challenge of sustainability. Sustainability, defined broadly to include social equity, economic development, and environmental restoration, offers new opportunities (but also challenges) for business. The management aspects are multi-faceted, and this course seeks to provide students with an overview of these issues. To frame our discussion, we will begin with a discussion of the Nike case. What are the risks and opportunities involved in sustainability-based business models? How are the different dimensions of sustainability related? How can organizations cope with the dynamic that things tend to get worse before they get better?

Readings:

Nike CR Reports (link)

Natural Step report on Nike

Nike's Corporate Responsibility Report : 1) Read Chapter 4, "Considered Design and the Environment" and 2) skim chapter 3, "Workers in Contract Factories"

*Skim article on Quality Over Green: Nike's New Air Jordan”, by Reena Jana, **Business Week**, January 2008.*

Case:

Richard M. Locke, “The Promise and Perils of Globalization: The case of Nike

Recommended Readings:

Richard Locke and Monica Romis, “Improving Work Conditions in a Global Supply Chain”, MIT Sloan Management Review, Vol. 48, N. 2 (Winter 2007).

*Roberts, D. and Engardino, P. “Secrets, Lies, and Sweatshops”, **Newsweek**, 11/27/06, p. 50-56.*

2. The state of the world

February 7

Lead Faculty: Prof. Sterman

Why is sustainability an important problem for business? A look at the science – and at the possible political and economic consequences of current trends.

Readings:

*Impacts of Climate Change, by N. Gilman et al., 2007, **Global Business Network**.*

Tracking the Ecological Overshoot of the Human Economy, by M. Wackernagel et al., 2002, **PNAS**.

Recommended Readings:

Human Population: The New Half Century, by J Cohen, Nov. 2003, **Science**.

Prospects for Biodiversity, by Martin Jenkins, Nov. 2003, **Science**.

Future of Fisheries, by D. Paulie et al, Nov. 2003, **Science**.

3. Organizational Response

February 12

Lead Faculty: Prof. Henderson

An introduction to the problem of WBB, overload, how firms overcome organizational barriers to move in new direction.

Readings:

Nobody ever gets credit for fixing problems that never happened. Nelson Repenning and John Sterman, **California Management Review**, 2001.

Past the Tipping Point: The Persistence of Firefighting in Product Development
Nelson P. Repenning, Paulo Gonçalves, Laura J. Black

FRAMING A RESPONSE

I. GET YOUR OWN HOUSE IN ORDER

4. Redefining Traditional Business Models

February 14

Lead Faculty: Prof. Locke

Guest Speaker: Mr. Ricardo Marini, Banco Itau.

How do companies build new business models, reform existing ones, and continue to perform in the marketplace? What are the costs and benefits for profit-seeking firms as they seek to embrace sustainability? How do they measure their impact? Through an examination of Brazil's Banco Real, we will explore the challenges and opportunities for companies as they embark on this change process.

Case:

Banco REAL: Banking on Sustainability (HBS 9-305-100)

NOTE: S-Lab Project Mixer right after class – 4:30 – 6:00 pm in MIT Faculty Club

PROJECT BIDS DUE (No Class)

February 19

5. “Walking the Talk: Sustainability and New Product Development

February 21

Lead Faculty: Prof. Locke

How do companies translate sustainability (e.g., cradle to cradle design) into their product development and commercialization processes? How do they implement these practices and remain competitive in the marketplace? What happens when some of their goals (cutting edge design, commercial success, eco-efficiency) contradict? How do they resolve these dilemmas? We will explore these issues through a case discussion of the design firm, Herman Miller.

Case:

Cradle-to-Cradle Design at Herman Miller: Moving Toward Environmental Sustainability (HBS Case # 9-607-003)

6. Sustainable Retail. Can Big Box Stores Really Go Green?

February 26

Lead Faculty: Prof. Sterman

Walmart has made enormous investments in greening their facilities and in selling green products. Can the world’s largest retailer make a real difference? Does their strategy make sense? For whom?

Readings:

Walmart’s Sustainability Strategy OIT-71.

II. RESTRUCTURE THE SUPPLY CHAIN

7. Ensuring Sustainability Along the Supply Chain

February 28

Lead Faculty: Prof. Locke

Increasingly, companies are reviewing and reforming their supply chains in order to reduce their footprint and promote sustainable business practices. But what are the principal direct business benefits of these strategies: guaranteeing long-term supplies of high quality inputs at competitive prices? Managing (reputation and supply chain) risk? Enhancing the company’s reputation? Promoting social standards among local producers? All of these? None? Through an examination of two companies (Nestle and Starbuck’s) we will explore these issues.

Cases:

Nestle: Sustainable Agriculture Initiative (HBS Case # N9-705-018)

Starbucks Corporation: Building A Sustainable Supply Chain (Stanford Graduate School of Business Case: GS-54)

8. Ensuring the Sustainability of Shared Resources

March 4

Lead Faculty: Prof. Henderson

Unilever looks at the collapse of the world's fisheries – how should they respond?

Readings:

The marine stewardship council (A) IMD008

Globalization, Roving Bandits, and Maine Resources, by F. Berkes et. al, March 2006, **Science**.

9. Social Sustainability and Labor Standards

March 6

Lead Faculty: Prof. Locke

*Following reports of child labor among some of its suppliers, Ikea come under enormous pressure from consumer groups and NGOs. How should they respond? How effective is third party monitoring? How best can global corporations improve labor standards while respecting local socio-economic realities and cultures **and** defending their business models?*

Case:

IKEA's Global Sourcing Challenge: Indian Rugs and Child Labor, Cases A and B (HBS Case # 9-906-414; HBS Case # 9-906-415)

Recommended Readings:

Richard M. Locke, Fei Qin and Alberto Brause, "Does Monitoring Improve Labor Standards? Lessons from Nike", **Industrial and Labor Relations Review**, Vol. 61, N. 1 (October 2007).

DUE: Detailed Work Plan

III. BE AWARE OF WHAT IS POSSIBLE

10. What is legal? What is politically feasible?

March 11

Lead Faculty: Prof. Locke

Guest Speaker: Mr. Jeff Shames

Can a public company focus on more than building shareholder value? What does it mean to build shareholder value, anyway? How much discretion do managers have in determining the answer?

Readings:

Corporate Managers' Operational Discretion to Sacrifice Corporate Profits in the Public Interest, by Einer Elhauge, Chapter 2 – pages 13-76 – from *Environmental Protection and the Social Responsibility of Firms*. Ed Bruce Hay, Robert Stavins, Richard Vietor (eds), 2005.

The Coming Market Shift: Business Strategy and Climate Change by A. Hoffman, Chapter 7, from Cut Carbon, Grow Profits: Business Strategies for Managing Climate Change and sustainability, K. Tang and R. Yeoh (eds).

11. Pause for reflection: Everything's connected **March 13**

A chance to reflect back on the material we've covered in the first half of the semester, focusing particularly on the way in which so many "sustainability" issues are related to each other. Material that makes it clear that we are dealing with an interconnected system: a) it's not just "climate" or "agriculture" or "social justice" – all the issues are deeply interrelated and b) actions that fail to understand the dynamics of the system may have counterproductive consequences. An example of an organization that has acted from this perspective?

[Monday March 17 through Friday, March 28 - SIP/Spring Vacation – No Classes]

IV. BUILD A NEW INDUSTRY (OR REBUILD AN OLD ONE)

12. Alternative Transportation Networks - Simulation **April 1**

Lead Faculty: Prof. Sterman

A deep dive into the problem of transportation: where are the leverage points? Where are the commercial opportunities?

Readings: (TBA)

Recommended Readings: (TBA)

13. Case Example Of Alternative Transportation Opportunities **April 3**

Lead Faculty: Prof. Sterman

What are some of the exciting new development in transportation? What are some of the pathways for their business development?

Readings: (TBA)

Recommended Readings: (TBA)

DUE: Interim Report due to Host Organization (copy to faculty advisor)

14. Energy Efficiency as a New Market **April 8**

Lead Faculty: Prof. Henderson

Energy efficiency in construction is often cited as one of the most effective ways to reduce green house case emissions. Gridlogix has a product that promises to reduce energy use

by 20% with double digit returns. But to whom should they sell it? Why are there so few customers?

Case:

Gridlogix

Recommended Readings: (TBA)

15. Green Buildings – New Markets and Services

April 10

Lead Faculty: Prof. Slaughter

What are the economics of green buildings? Is it possible to build sustainable communities and make money? What kinds of business models make sense?

Readings:

Environmental Building News, "Investing in the Environment: The Financial Industry's Approach to Green Building," Vol. 16, No. 11 (Nov. 2007) (MIT Library subscription)

Gregory Kats, "Green Building Costs and Financial Benefits", Massachusetts Technology Collaborative, 2003 (open source)

Miller, "Does Green Pay Off?"

16. Sustainable Infrastructure and International Markets

April 15

Lead Faculty: Prof. Slaughter

Some people think the great wars of the next fifty years are as likely to be fought over water as they are over oil. Who owns water? Who decides where the waste goes? What are the business opportunities in the space?

Readings:

Joel Kotkin, "Opinion: Road work", Wall Street Journal (8/28/07, p. A13)

Jon Gertner, "The Future is Drying Up," New York Times Magazine (10/21/07)
<http://www.nytimes.com/2007/10/21/magazine/21water-t.html>

17. Organic Foods – Creation of a New Industry

April 17

Lead Faculty: Prof. Henderson

What does it mean to build a business around organic food?

Case:

John Mackey & Whole Foods Market. 9-807-111

18. Growth with Vision

April 24

Lead Faculty: Prof. Henderson

Staying true to ones values in the midst of growth

Readings: (TBA)

Recommended Readings: (TBA)

V. CHANGE THE WORLD

19. Action At The Macro Level: Setting A Price For Carbon:

April 29

Lead Faculty: John Sterman

Role play & discussion

Readings:

How green are biofuels? By J.P.W. Scharlemann and W.F. Laurance, January 2008, **Science**.

The limits to growth revisited by D. Meadows, 1991, in **The Global Citizen**.

20. Action at the industry and societal levels: Industry Collaborations, Certification Efforts, and Partnerships with NGOs

May 1

Lead Faculty: Prof. Locke

Guest Speaker: Mr. Peter Senge

What are some of the challenges involved in the design and implementation of effective policies to promote sustainable and productive use of renewable resources? Individual companies can not tackle these issues alone? How successful are collaborative efforts with other firms in the same industry? What are the risks and opportunities for private company-NGO partnerships?

Case:

Peter Senge, “Strange Bedfellows: Coke and WWF Partner for Sustainable Water”

21. Action at the community level

May 6

Lead faculty: Prof. Henderson

Visitor: Bill Reed

What role do public/private partnerships have to play in building a sustainable future?

Readings: (TBA)

Recommended Readings: (TBA)

22. Individual action

May 8

Lead Faculty: Prof. Serman

What can you do? Reflections on carbon footprints, values, happiness, leadership and the role of the individual

Readings:

Living Lightly and Inconsistently on the Land, Donella Meadows,

DUE: DRAFT FINAL REPORT

VII. SUMMARY

23. Poster Session: Project presentations

May 13

Ting Foyer, E51, from 12-5 pm

DUE: PROJECT POSTER

24. Reflections

May 15

DUE: FINAL REPORT