

## **MGT/MGP 251: MANAGING INNOVATION**

Fall 2010

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MGT: Thurs, 12:10 – 3:00 pm, 1302 Gallagher  
MGP: Thurs, 6:00 - 9:00 pm, 1204 Sac Ed Ctr.

### **COURSE FOCUS**

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This course addresses selected challenges and opportunities related to managing innovation. We will move from an overview of the role of creativity and innovation to the managerial strategies and tactics for fostering innovation in organizations to developing your own ability to innovate. To do this, the course is divided into three particular areas:

Understanding innovation: What is innovation? What makes you and others innovative? How can you become a student of innovation—learning from others and effectively managing your own efforts?

Managing for innovation in and beyond organizations: How do companies create an effective environment for innovation? How do innovations—new products, processes, or social movements—emerge and diffuse in populations? What are the social dynamics that shape innovation and how can managers and organizations exploit these dynamics?

Developing your ability to innovate: How can you manage yourself or your group to effectively innovate? What role do power and politics play in innovation? How can you increase the likelihood of seeing new opportunities, coming up with good ideas, and seeing them through to impact?

This course will aid students in identifying where they should focus efforts to improve innovation and provide managerial tools to improve innovation within any firm. The lessons will be applicable in any setting. Managers can make any firm more innovative, not just those in technology-intensive or creative industries.

The class takes a pragmatic approach to learning; students will be innovating as a class assignment so that they will encounter problems that will spur them to actively search for solutions. Course content includes readings, case analyses, written assignments, in-class videos, exercises, and discussion. The goal is to provide theories that help students critically evaluate the many misconceptions about innovation, and to provide practical help for managing innovation now and in the future.

#### Required Texts

Hargadon, Andrew. (2003) How Breakthroughs Happen: The Surprising Truth About How Companies Innovate. Harvard Business School Press. ISBN: 1-578-51904-7

Reading packet of articles and cases.

## Overview

### Part 1: Understanding Innovation

**Day 1 9/23 — Introduction**

**Day 2 9/30 — Recombinant Innovation**

**Day 3 10/7 — Brokering and innovation**  
<Individual assignment due: Recombinant Innovation example>

### Part 2: Managing Innovation in organizations

**Day 4 10/14 — Innovating within organizations**  
<1<sup>st</sup> project group contract due>

**Day 5 10/21 — Innovation networks**  
<1<sup>st</sup> group project due>

**Day 6 10/28 — Innovation and Policy**  
<Individual assignment due: Policy Recommendation>

### Part 3: Developing your ability to innovate

**Day 7 11/4 — Power & Influence in the innovation process**  
<2<sup>nd</sup> group project plan due >

—No Class: Veterans Day (11/11)—

**Day 8 11/18 — Driving innovation (entrepreneurship)**  
<Individual assignment due: Innovative event and network>

—No Class: Thanksgiving (11/25)—

**Day 9 12/2 — Final presentations**  
<2<sup>nd</sup> group project due>

### Highlights of class requirements

- **Individual assignments** are 500 words maximum. Papers are double-sided, double spaced, 10-12 pt font, 1" margins, no cover sheet, and have your name and assignment title at the top (500 words is approximately the front and back of a single page). Papers will be marked down a single point for misformatting. Do not exceed word limits.
- No late papers; all due beginning of class.
- Attendance counts. Everyone gets one free absence.
- Two group innovation projects; different group for each project.
- Example of recombinant innovation; bring a hardcopy for each person in the class of your recombinant innovation example papers.

## Day 1: Introduction

### Readings

Gladwell, M. 1999, December 6th. Clicks and mortar, *New Yorker*.

Simonton, D.K. 1995. Creativity as heroic: Risk, success, failure, and acclaim. from Cameron M. Ford and Dennis A. Gioia (eds.) *Creative Action in Organizations*, p. 88-93. Sage Publications: Thousand Oaks, CA.

Hargadon, Andrew. 1996. "Diffusion of Innovations", part of Chapter 3 from *Handbook of Technology Management*, Institute of Electrical and Electronics Engineering (IEEE):

### Questions

Are you innovative? What are the characteristics of innovators? Name 3 of the most innovative people you know and why they are innovative.

How do you measure the value of an innovation for a firm? For society? What are the characteristics of innovations that have higher than average value?

What are two factors that limit your creativity? What changes would you make to remove these limits.

## Day 2: Recombinant innovation

### Readings

Chapters 1 and 2, *How Breakthroughs Happen*

Freidel, "The History of the Zipper" *American Heritage*, Summer 1994 (10) 1

"On Patents" United States Patent and Trademark Office. January 2005. "General Information Regarding Patents". Website: <http://www.uspto.gov/go/pac/doc/general/>

Posner, R. "On Plagiarism" *Atlantic Monthly Online*, April 2002

### Questions

What was revolutionary about mass production at the Ford Motor Company? Why was this innovation revolutionary?

Henry Ford is credited as the inventor of mass production, but he didn't do it alone. What did Henry Ford do that was necessary for innovation at his firm? What did he do that was not necessary but aided innovation? What did he do that hindered innovation?

## Day 3: Brokering and innovation

### Readings

Chapters 3-5, *How Breakthroughs Happen*

Leonard-Barton, D. 1992. Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, 13.

Billington, C. "Using Knowledge Brokering to improve business processes," *McKinsey Quarterly*, January 2010

Hargadon & Hounshell. Ford Motor Company (B): Barriers to change. UC Davis Business Case.

### Questions

What happened to Ford Motor Company in the 1920's? How did Henry Ford's management style influence the change process from 1921-1927? How did the technology at Ford Motor Company influence the change process?

Are small worlds the ultimate fate of all successful innovations? Is this bad? Why and why not?

### Assignment

First recombinant innovation example due. Make sure to bring hardcopy for everyone in the class.

## **Day 4: Innovating within organizations**

### Readings

Amabile, T. 1998. How to kill creativity (98501), *Harvard Business Review*: 70-87.

Chapter 6-9, How Breakthroughs Happen

### Questions

Consider either yourself or a firm in which you have worked. Using the readings, what are the explicit strategies towards innovation right now or in the near future? Considering the social worlds and social processes in place, how do they support or hinder that strategy? How would you change the network position or social interaction routines to improve innovation?

### Assignment

First group project plan and contract due, printed and physically signed by every group member. Defines the topic of the project, expectations, work processes, decision rules, and anything else useful.

## **Day 5: Networks of Innovation**

### Readings

Schwartz, Evan. 2002, April. "Televisionary". *Wired*: 10.04.

Gladwell, Malcom. 2002, May 27<sup>th</sup>. "The Televisionary". *The New Yorker*.

Kushner, David, "Rebel Alliance" *FastCompany*, May 2008

### Questions

What was a great innovation that failed to catch on? Using the readings, explain why it failed, and what you could have done differently to help make it succeed. Ideally, you should choose an innovation that you are personally familiar with either as a participant or a close observer.

### Assignment

First group project due.

## Day 6: Innovation and Policy

### Readings

Holdren, "The Energy Innovation Imperative," *Innovations*, Spring 2006

Benjamin & Rai, "Structuring U.S. Innovation Policy: Creating a White House Office of Innovation Policy," *The Information Technology & Innovation Foundation*.

Saxenian, "Regional Networks and the Resurgence of Silicon Valley" *California Management Review*, 1990

### Questions

Consider a current national or local public policy issue (e.g., climate change, clean energy, healthcare, poverty, etc...)—how can innovation help? What is required for innovative solutions to solve these problems? How has it helped before?

If you were Mayor, Governor, or President, what would you do to enable innovation to play a key role?

### Assignment

Individual writing assignment Pick an issue of significant local or national importance that also has need of innovative solutions. Define the problem in terms of a need for innovation; provide an analysis of what public policy actions would best enable innovative solutions to this problem, and describe specific actions that public leaders should take.

## Day 7: Power and Influence for Organizing Innovation

### Readings

Cialdini, Robert B. 2001. "Harnessing the Science of Persuasion," *Harvard Business Review* October 2001, p. 72-29.

Pfeffer, Jeffrey. 1992. Understanding Power in Organizations. *California Management Review*, 34:2, p.29.

"Lessons in Exerting Influence without Authority" Case

### Questions

Consider an innovation you know about that was killed by one group over the opposition of another. What did the opposition have to gain? The supporters? Why did the group prevail over the other? What way could the losers have overcome the opposition? (Note: consider the bases of power for each and untapped power available for the losers).

How do you personally feel about exercising of power and influence? Are you good at it, or bad? Did anyone teach you how? How do you feel about others trying to exert power or influence over you?

### Assignment

Second group project plan and contract due, printed and physically signed by every group member. Defines the topic of the project, expectations, work processes, decision rules, and anything else useful.

## Day 8: Driving Innovation (entrepreneurship)

### Readings

Gladwell, "Sure Thing" *The New Yorker*, 18 January 2010

Gilbert & Eyring, "Beating the odds when you launch a new venture" *Harvard Business Review*, May 2010

Uzzi, "How to Build Your Network" *Harvard Business Review*, December 2005

### Questions

Are you more likely to take on an innovative project based on what you now know about the process? What do you plan on doing differently? What are two factors that limit your creativity? How about your entrepreneurial skills? What changes would you make to remove these limits.

### Assignment

**Individual assignment due.** Put on an experience for 8 or more people—something that is not a straightforward dinner party, movie, or nightclubbing. This exercise involves the creativity of seeing what would work for 8 people (minimum) in your network, and the entrepreneurial effort to bring them together in the right way. Describe your experience. The class will vote on the innovativeness (novel, valuable, and non-obvious dimensions) of your "experience."

## **Day 9: Final Class Presentations**

Final group project papers are due at the beginning of class.

## Course Requirements

**Example of Recombinant Innovation (100 points):** You will do an analysis of a recombinant innovation, which you will pass out to each class member. This is due the third class week. The innovation should not be so technical that you cannot easily explain them to a managerial audience. The paper has two parts: a description and an analysis. See the Appendix A to this document for the format.

**Bring a hardcopy for every person in the class including the professor** so you can share your innovation with everyone else in the class.

The innovation must be new to the class. It cannot be one from your group project, from our readings or discussion, or that has already been described by a classmate. If in doubt about this, pick another innovation.

Also forbidden from using in your assignments are Velcro, Post-it notes, iPod, any consumer electronics released in the last 10 years (e.g., new types of cell phones, video game consoles, media players, etc.), new video games, and any current trends in fashionable clothes or other designed objects. Look farther.

**Innovation Policy Memo (100 points):** You will identify a problem requiring innovation, recommend a solution *for supporting innovation*, and provide specific actions that will advance this solution. 500 words maximum. Papers are double-sided, double spaced, 10-12 pt font, 1" margins, no cover sheet, and have your name and assignment title at the top (500 words is approximately the front and back of a single page). Papers will be marked down a single point for misformatting. Do not exceed word limits. No late papers are accepted; all due at the beginning of class.

**Innovation in Action Assignment (100 points):** Design and put on an experience for 8 or more people—something that is not a straightforward dinner party, movie, or nightclubbing. This exercise involves the creativity of seeing what would work for 8 people (minimum) in your network, and the entrepreneurial effort to bring them together in the right way. Describe your experience. The class will vote on the innovativeness (novel, valuable, and non-obvious dimensions) of your "experience." 500 words maximum. Papers are double-sided, double spaced, 10-12 pt font, 1" margins, no cover sheet, and have your name and assignment title at the top (500 words is approximately the front and back of a single page). Papers will be marked down a single point for misformatting. Do not exceed word limits. No late papers are accepted; all due at the beginning of class.

**Class Participation (100 points):** The class discussion is an important chance to learn, so participation is taken seriously. In class you can learn from your fellow students and practice the verbal skills of communication and dialogue.

If you are absent from a class without an excuse (see policy below), your participation grade for the day will be zero. You need to participate actively. If you attend every class but are not engaged, your grade will be a "C". An "A" or a "B" will be earned by activity in the classroom.

Given that there are unexpected and uncontrollable events in everyone's life, one class can be missed without any penalty to your grade (except the final group presentations).

I will cold call (ask you to speak even if you have not volunteered). BE PREPARED FOR DISCUSSION EVERY CLASS.

Listen to what other students are saying and respond to them directly.

Be civil, courteous, and professional at all times. Disagreement is helpful when discussing a complex issue, but keep the conflict at a professional, not personal, level.

Pay attention to the discussion. Part of participation is making an active audience for others.

Participation grades will be reduced for unprofessional comments, lack of attention, or ignoring your fellow students' comments.

**Experimental Group Project (100 points):** The experimental group project will be a chance for you to design an innovation and learn from the process for the final group project. It will be completed in the first few weeks of the class. Each group will develop a proposal for a recombinant innovation (using people, objects, places, or ideas). Innovations should be complete and ready to implement the next day, not speculative or simply plans for developing innovations later.

The format for the paper is in Appendix B and instructions in Appendix C

**Final Group Project (150 points):** The final group project will be a chance for you to design an innovation project and apply the lessons you learned from your first project. Each group will develop a plan to apply an existing technology or process to an existing market or business. Innovations should be complete and ready to implement the next day, not speculative or simply plans for developing innovations later.

A one paragraph up to one page description of your innovation is due no later than three days after the 7th class day. This is a check so the instructor can help simplify unduly complicated projects. It would be best to send it to the instructor as soon as the topic has been settled.

The first part of the project will be a written analysis of 8-10 pages that explains your innovation, describes the likely impact of the innovation, identifies the new network created, and identifies any challenges in development and implementation and your plan for overcoming those challenges (100 points).

The second part of the project will be a presentation, using a template to be provided, and an in-class exercise on the final class day (50 points).

Your grade will also depend on your individual effort within the group. Each member of the group will be asked to evaluate every other group member anonymously on the last day of class on the following dimensions: attendance at group meetings, effort, meeting deadlines, and quality of work. If any student receives unsatisfactory ratings from the rest of their group, their grade will be marked down accordingly.

**Freeriding and group projects** For every group project your grade will also depend on your individual effort within the group. Each member of the group will be asked to evaluate every other group member anonymously on the following dimensions: attendance at group meetings, effort, meeting deadlines, and quality of work. If any student receives unsatisfactory ratings from the rest of their group their grade will be marked down accordingly.

**Grading Conversions:** Grades will be on percentage scale of A+ (98% and above), A (93% and above), A- (90% and above)....failing (64% and below).

## Class Policies

**Absences** Attendance is necessary for participation, and participation is critical to your learning, so the class participation for any missed class is zero. There is no way to make-up participation, as it requires being in class. Please attend all classes.

Given that there are extenuating circumstances in life, a student is allowed one (1) absence without penalty, with the exception of the final group project presentations. There will be no excused absences other than those defined by University policy. Absences that will not be excused include (but are not limited to) work schedules, business trips, interviews, airline or other travel delays due to anything other than severe and unpredictable conditions, and non-emergency events such as weddings, anniversaries, family vacations, etc.

**Late Class Assignments** Papers are due at the beginning of class; *late papers will not be accepted*. The final group project will also not be accepted late because there will be class discussion of those projects the final day of class as well that require the paper to be finished.

If you have a foreseeable excused absence, any excused late papers must still be prepared BEFORE the class discussion of those topics to be turned in for a grade. In the rare cases where you have an excused and unforeseen absence, you will be required to do an independent, makeup assignment of equal difficulty.

**Late Final Group Projects and Missing the Final Class Day** Any final group project turned in late will be immediately marked down. This will be dealt with on a case-by-case basis, but at the very least, any late project will be marked down a full letter grade.

If anyone misses the discussion and presentation of final group projects, that person will receive a zero for that portion of the grade if it is an unexcused absence. In the rare case it is an excused absence, then the student will have to schedule a make-up time for a presentation to the instructor.

**Collaboration, Helping, Cheating, and Dishonesty** One of the goals of this course is to encourage students to communicate with each other, and to help each other learn. Learning management is a process of communication, debate, and argument, not a set of isolated exercises to be performed in private. The limitation to collaboration and helping, however, is when a student is no longer carrying the burden of learning. Some students are particularly adept at using the guise of collaboration and helping as a means to merely exploit others, and not do their own work. You may discuss case analyses, but you cannot copy from another's analyses, or use their written analyses as a basis for your own paper. This subverts the meaning of education, and the potential value it has for improving our minds and our community discussions.

Academic honesty is very important. The instructor will energetically investigate any failure to follow the academic honesty standards of the University.

Particularly important is the issue of misrepresentation or plagiarism. In the era of Internet information it takes discipline to document one's sources for written work. Students are reminded that they must be particularly scrupulous in this regard.

### **Written Assignment Requirements and Format**

Papers are turned in as hardcopy; no emails.

Use a 12-point font, DOUBLE SPACED, 1" margins all around. Always have page numbers. Staple papers only; no binding, folders, clips, or anything other than plain paper that will weigh down the instructor even further than usual.

Always put your name on the front page. A title sheet is only necessary for the final paper (which will not count towards the page limits). DO NOT put your student or social security number on your paper or any other information that is confidential. Your papers are not treated as confidential information, so protect yourself.

Do not exceed stated lengths; beyond those lengths will not be graded. Exhibits (graphs, tables, pictures, etc.) are not counted against the page length (within reason). Exhibits, or any numerical analyses, should always have a clear title explaining the exhibit, and footnotes stating clearly any assumptions or additional data created for the exhibit. If the reader cannot replicate your exhibit from the notes, then it is not sufficient.

Any cited references or other material that is not the author's should be clearly cited in a bibliography that follows a widely accepted format. The bibliography does not count towards page limits.

#### Accommodations for Students with Disabilities

There will be accommodations made for students with disabilities, in accord with university guidelines.

## Appendix A

### Example of Innovation Paper Format

Use a 12-point font, DOUBLE SPACED, 1" margins all around. Always have page numbers. Staple papers only; no binding, folders, clips, or anything other than plain paper that will weigh down, complicate, obfuscate or otherwise elude the instructor even further than usual.

#### Description (maximum of 100 words)

This should be a non-technical description that any manager could understand. If any parts of the innovation are commonplace you do not need to describe those parts. For example, describing a new bicycle light does not require a description of a bicycle or bicycle lights, but instead should focus on what makes the light different.

Focus on one specific innovation rather in bundles of innovations together. For example, McDonald's fast food restaurant is an innovative organization that is composed of multiple innovations – franchising, value meals, process control, food production, french fries, international adaptations, etc. Only one should be the focus of your paper.

For example, discussing the innovation of the popular fast food restaurant McDonalds is a series of innovations – franchising on a large scale, standardized processes globally, sourcing of materials for all restaurants, value meals, special drying and freezing process for the universally valued french fries, adaptations to international settings, etc.

#### Picture of the innovation

Can be hand drawn and skill does not count. This can be appended as a separate page, or placed in the text. It does not count against the word limit.

#### Analysis (maximum of 250 words)

List the specific elements that were recombined to make this innovation and identify each element as to whether it is an object, idea, person, or place. Make this a list in format.

When identifying the elements focus on what the innovators actually had in their grasp to create the innovation; do not refer to the element in general or in a long historical view. As an example, McDonald's innovated with a process of pre-frying its fries before freezing. It created greater browning and faster cooking time. One of those elements would certainly be the french fry but not in general. The specific element that was recombined was the existing fast food french fry cooked in a deep fat fryer.

Clearly state whether the innovation had no impact, was too small to be a success, had a moderate (continuous) impact, or was a large (discontinuous) impact.

Support your evaluation of the impact with at least two pieces of evidence. The evidence can be specific number (e.g., percentage market growth), a more general evaluation of the change (e.g., at least doubled output), or any compelling argument based on fact. For example, it is sufficient to argue that it had a discontinuous impact because "it replaced the earlier innovation and it spread to a majority of the market in the relatively short time of two years" or "it had a continuous impact because it made a profit and the firm remains as a small business".

#### Citations and other requirements

Do not exceed the word limit. This limit will require you to communicate directly and sharpen your writing. It is harder to write briefly than at length, so a single draft is unlikely to be successful. There is a required format for all papers described in the syllabus – follow it carefully. Also, be

particularly scrupulous in citing all sources. In the day of the Internet, this is often overlooked, but it is still plagiarism and will be treated as such.

Citation of any secondary web-based resources without editorial control for quality is not acceptable (e.g. Wikipedia). Cite original sources for any quotations or specific data. The only exception is when referencing marketing information put out by the firm producing the innovation, but you should note that in your references.

Papers are due at the beginning of the class. If for some reason you know you are going to be absent (even if it is excused), you must turn in the paper before the class. It would be unfair for anyone to have the benefit of class discussion before writing their paper.

Late papers will not be accepted, with the exception of absences that are both unforeseeable and excused. For those emergency situations the grading will be determined on a case-by-case basis. Technical difficulties in printing do not constitute an excuse.

## Appendix B

### Experimental Group Innovation Project

The purpose of this assignment is give you practice in the process of innovation before you do it for the final group paper. This is an opportunity to reflect how you came to an innovation and what might be done to improve the process.

#### I. Description (1-2 pages)

Part of the description should be a picture (does not count against page limits). It does not have to be a literal picture; it can be an illustrative hand sketch.

#### II. Value of the innovation selected (1-2 pages)

Why is it valuable? What does it do better or that has not been done before? Is it no effect, continuous or discontinuous? Use data to support your argument.

#### III. List of other innovations considered by the group with brief descriptions (1 page)

#### IV. How and why did you choose this innovation over others? (1-2 pages)

Be honest; there is no wrong answer. If you chose it just to stop group conflict, write that. Would you change the selection process in the future? How?

#### V. Lessons learned (1-2 pages)

What would you do differently when managing a group innovation process in the future? What would you emphasize are the key elements of a good group innovation project?