

The Wharton School
UNIVERSITY OF PENNSYLVANIA
Department of Operations and Information Management
Syllabus for OIDD 210

Information:
Strategy and Economics

Professor Eric K. Clemons
clemons@wharton.upenn.edu
<http://opim.wharton.upenn.edu/~clemons/>

JMHH 572 // Ext. 8-7747

Spring 2016

Class Sessions: M, W 12:00-1:30
Office Hours: M, T, W 2:00-2:45 and by appointment

Course Administrator Kayoung Choi
kayoungc@wharton.upenn.edu

This course starts from six basic assumptions:

- Information technology has enabled a wide range of new business opportunities by reducing or eliminating barriers to entry, by changing the value of physical resources, and by creating virtual substitutes for those resources.
- And yet, there is very little that is entirely new in business. Basic objectives, such as differentiation, long-term competitive advantage, customer relationship management, and intelligent pricing strategies, are still essential. Even the apparently novel business model of Google is the model that was used by American and United Airlines to control search for and distribution of seats in the airline industry. Patterns repeat themselves.
- The set of relevant patterns has been changed by recent developments in the application of information and communications technologies, and by recent software strategies such as those followed by Capital One Bank, Facebook and MySpace, Google, and a range of companies that most of us have never followed.
- Strategic business problems often do not come nicely delineated, or clearly marked as problems in multi-echelon inventory management, or in pricing of a portfolio of product, or service offerings to multiple market segments, or indeed clearly labeled as requiring algorithmic problems in any single discipline.
- The skills needed to recognize business problems can be developed, based on a changing set of frequently occurring patterns. This course seeks to teach students how to recognize patterns, act as talented diagnosticians of business strategy, and think about business strategy in ways appropriate to today's technology-enabled environment.
- It is possible to teach a course about information and strategy without teaching

about technology. Thus, this course is not about technology. It is about information and information-based strategy; it will use patterns, history, and information economics to teach you how to think about new competitive environments.

We focus on problem identification and on the development of sound strategic responses. More precisely, we focus on problems caused by rapidly changing conditions in the competitive environment, most frequently caused by changes in information technologies, and on the rapid development of competitive strategies to respond to those changes. We will develop in some detail how to respond, how the organization may need to change structurally, and how systems may need to change to reflect changes in organizational structure.

The course is intended to provide students with a set of skills that will be useful in careers in consulting and in strategic management. It can be seen as an introduction to the strategic use of information technology, with a focus on changes, threats, and opportunities resulting from changes in information availability. It draws on the professor's professional experience in diverse settings, in industries ranging from securities trading to the retailing of fast moving consumer goods. It is based in part on solving problems for and with clients, in settings ranging from start-ups to senior officers at the Pentagon, and locations ranging from London to Beijing. The course attempts to integrate this experience and the experience of students and of guest speakers with relevant theory; experience and theory can be combined to develop an approach to information-based strategies that is more general than that which can be derived from any location or any competitive setting. The course provides a focused and modern complement to the strategy courses normally taken in the management department.

All aspects of the firm — production, service, sales, marketing, and strategy — will be affected by changes in information cost and information availability. Clearly, some firms will win and others will lose; nearly all will have to change. And yet, fundamental laws of economics have not been repealed. This course uses economic theory and previous experience with rapid technological change, to provide insights for the development of strategy in an increasingly digital age.

Course Objectives

Students completing the course will have a sound theoretic framework for pursuing further studies in the area of information-based strategies, including eCommerce. They will understand how information technology affects the basic strategic options available, and will understand how firms and industries are likely to be affected. They will understand the often poorly structured process of evaluating potential systems innovations. They will be able to participate in strategic planning and systems planning because they will understand the relationships among them. The course is particularly recommended for students in strategic management and marketing, and for those interested in careers in consulting or who expect to manage portfolios of new

technology companies. No background in technology or in technology management is required. Students completing this course will have mastered an understanding of the competitive implications of information technology and the fundamentals of the use of information in business.

Required Text

The text for the course is *Oh, Yeah, Now I Get It: Learning to solve really complicated problems in business, in society, and in Life*. The published text has not yet been released, so students will have access (without charge) to pre-publication material posted online.

Course Pedagogy and Philosophy

The number of written assignments has been dramatically reduced. Students will now be required to complete two out of three assignments during the semester rather than seven of nine. Since the assignments were principally to prepare students for class discussion and for the final project, the weight assigned to class discussion and to the final project have been significantly increased. The final project serves in large measure as course integration, as an opportunity to demonstrate mastery of the material, and as a personalized final examination on projects selected by groups of students because of their interest in their project. Projects will be expected to reflect the material covered during the semester. The final reports Project teams will be expected to respond to comments and direction received during preliminary presentations.

Assignments and Grading

There will be several in-class discussions of cases or of problem sets during the semester. Please note that all written assignments are shown in **RED** in the electronic version of the course syllabus. Dates when written assignments of any kind are due are noted in **RED**, both in the session-by-session course outline and at the top of each day's page in the syllabus. Classes that require additional preparation for discussion but do not have written assignments due are highlighted in **BLUE**, both in the session-by-session course outline and at the top of each day's page in the syllabus. Written assignments should all be done in *groups of two or three* students. These same groups may wish to prepare together for discussion sessions as well.

Written assignments must be submitted electronically to the course website at the start of the class sessions in which they are due; since assignments will usually be discussed in class on the date that they are due, it will not be possible to accept late assignments unless prior arrangements have been made. Please note that students will only have to submit **TWO** of the **THREE** assignments. *If students do submit more than the required minimum number of assignments, only the **highest** assignments will be counted towards their grades; thus the later assignments can be considered make-up assignments for an assignment missed for any reason or for an assignment where students felt they did poorly.*

Students will also be expected to do a final project for the course. For the final project students can start working in groups of four to six team members, by combining two homework teams if desired. Larger groups may be formed after the initial project presentations. Additional details on the final projects will be provided early in the semester. There will be a mid term exam during the normal class period.

The final project will count for **40%** of your course grade, class participation will count for **25%**, the midterm will count for **25%**, and the written assignments will count for **10%**. Please note that the final project is the most significant component of your grade. Project grades will be based in part on the extent to which they reflect the material covered in the course and in part on the extent to which they reflect the feedback and guidance offered to project teams during preliminary presentations.

Color Coding in the Syllabus

A **bold red session heading** indicates that something is due at the beginning of the day's class. A **bold blue session heading** indicates that this is a discussion session, although there will not be a written assignment due. A **session heading highlighted in yellow** indicates that the session will be held in the evening. **Please note that the evening sessions are required and not optional.**

Student Bios

Please send a word file containing a short biographical sketch, not a full resume, via email, to **clemons@wharton.upenn.edu**. Please title your attached file **210S16_I_NAME.doc**, where **I** is your first initial, and **NAME** is your last name. Please provide the following information:

- your expected concentration at Wharton
- your experiences relevant to the topics of this course
- your reasons for taking this course and what you hope to get out of it

Course Outline and Readings

Unit 1 — Strategy and Agility in the Face of Discontinuous Change

- Session 1 W 13-Jan **Introduction and Course Overview**
Introduction to the changing role of information in business. Changing information endowment changes everything, from human behavior to corporate strategy.
Read: *Now I Get It*, (Preface)
- Session — M 18-Jan **No Class — Martin Luther King Jr. Birthday**
- Session 2 W 20-Jan **Learning from the Experience of Others — The Power of Pattern Recognition**
Review of the science of business and the science of strategy formulation in the presence of discontinuous change, based on patterns observed over the past twenty years.
Read: *Now I Get It*, (Preface, Unit 1, Introduction and Chapters 1-4, 6)
- Session 3 M 25-Jan **Versioning and the Market for Information Goods**
Introduction to types and willingness to pay. Introduction to information asymmetry. Introduction to versioning contracts to maximize producer surplus.
Read: *Now I Get It*, (Unit 2, Introduction and all chapters and appendix)
Due: Submit your homework team lists to course administrator
- Session 4 W 27-Jan **Versioning and the Market for Information Goods — Continued**
Signaling, screening, masquerading, data mining, and regulatory complexity.
Read: Continue reading *Now I Get It*, (Unit 2, Introduction and all chapters and appendix)
- Session 5 M 1-Feb **Dealing with Information Asymmetry — Screening Mechanisms in Newly Vulnerable Markets**
Gaining competitive advantage through systems for market micro-segmentation and differential pricing; attempting to sustain advantage.
Read: *Now I Get It*, (Unit 1, Chapter 5, Review Unit 2, Chapter 3)
Discussion: Screening and Competitive Advantage
- Session 6 W 3-Feb **The Power of Framing and Reframing**
Problems can be made much easier by proper reframing. Conversely, problems can be made much more difficult, or even impossible to solve, by an incorrect framing
Read: *Now I Get It*, (Unit 3, Introduction and all chapters)

- Session 7 M 8-Feb **Hustle at a Discontinuity, followed by Platform Envelopment: Platform Envelopment and Resource-Based Sustainable Competitive Advantage**
Was the success of Rosenbluth International a fluke? What do we know about platform extensions and resource-based competitive advantage? What does this tell us about Microsoft? What does this tell us about Google?
Read: *Now I Get It*, (Preface, Unit 5, Introduction and all chapters)
Discussion: Platform Envelopment
- Session 8 W 10-Feb **The Why of Outsourcing – Understanding the Changing Risk Profile of Outsourcing**
Information Systems and the structure of manufacturing operations – the changing balance between internal production and outside procurement.
Read: *Now I Get It*, (Unit 4, Introduction and Chapters 1-10)
- Session 9 M 15-Feb **The Power of Certainty – Resonance Marketing**
The role of increased information in the changing balance between cost-based strategies and value-based strategies, the changing advantage of incumbents, and the changing nature of competition.
Read: *Now I Get It*, (Unit 7, introduction, all chapters and appendices)
Discussion: The Logic of Resonance Marketing
- Session 10 W 17-Feb **First Thoughts on Finding a Business Opportunity, Preparing a Business Plan**
What are your passions? Can you commercialize them? How can you determine this and how can you convince others to support you? Guest speaker from Wharton Small Business Development Center.
Read: **<<To Be Determined, on creating a business plan>>**
BP: Project Team Lists and Contact Information Due
- Session 11 M 22-Feb **Quantitative Analysis of Resonance Marketing Examples**
The ideas of resonance marketing can be used to quantify the impact of online content and community-generated reviews on new product launches.
Read: *Now I Get It*, (Unit 8, introduction and all chapters plus appendix 8.A2)
HW1: Written Analysis – Quantitative Analysis of Resonance Strategies
- Session 12 W 24-Feb **The How Not of Outsourcing – Stasis Bank**
Understanding, designing, and managing the risk profile associated with outsourcing information systems.
Read: Clemons, Stasis Bank Case
Discussion: Protecting Yourself from Contracting Risks

Session 13 M 29-Feb **Information Goods as a Strategy — Monetizing the Net beyond Advertising**

Current acquisitions of social network websites and user content websites have generated considerable interest and huge bids from media companies. Is this the big play in the next round of internet-based companies or simply the next round of dotcom silliness? How can the net be used to generate revenues and profits? Surely there must be something other than advertising!

Read: *Now I Get It*, (Read Unit 12)

Discussion: Business models, and discussion of whether or not the net must be “free” and funded by advertising, privacy intrusions, and control of search

Session 14 W 2-Mar **Making the Technology Investment Decision**

In some ways information technology investments are similar to other large capital investments with long lead times and resulting uncertainty; in other ways they have unique problems all their own.

Read: *Now I Get It*, (Read Unit 11)

HW2: Computational exercise on business valuation

Session — M 7-Mar **No Class — Spring Break**

Session — W 9-Mar **No Class — Spring Break**

Unit 2 — Redesigning the Organization

Session 15 M 14-Mar **Guest Speaker — Starting Your Own Business**

Session 16 W 16-Mar **Two-Sided Markets, Platform Envelopment, and Third Party Payer Business Models**

Third Party Payer business models appear to be a special case of what are now commonly called two sided markets. When are they dangerous? When are they ideal for consumers but dangerous? When are they ideal for all parties?

Read: *Now I Get It*, (Unit 6, introduction and all chapters)

HW3: Computational exercise on the power of search

Session 17 M 21-Mar **Review Session before Mid-Term Examination**

*Review of material in preparation for Mid-Term. (Mid-term exam will cover all material presented **before** this session.)*

Session 18 W 23-Mar **In Class Mid-Term Examination**

- Session 19 M 28-Mar **Preliminary Business Plans Due!**
Groups will submit a written description of the business opportunity that they intend to explore and will present three overheads describing the business opportunity and why the group believes it will be valuable. These business plans will be discussed in class. You will be given instructions for submitting them in advance of class.
BP: Business Plan PowerPoints (no more than six slides plus title page) need to be loaded on the course website and Business Plan Proposals needs to be submitted.
- Session 20 W 30-Mar **Preliminary Business Plans Due!**
Continued discussion of preliminary business plans.
BP: Business Plan PowerPoints (no more than six slides plus title page) need to be loaded on the course website and Business Plan Proposals needs to be submitted.
- Session 21 M 4-Apr **Review of Mid-Term Examination**
- Session 22 W 6-Apr **Redesigning the Organization**
Often a change in information technology changes what is now possible for the firm, which changes the firm's strategy and structure.
Read: Transforming the Sales Function
Analysis and Discussion of SNM and Plover
- Session 23 M 11-Apr **Defending your Business Plan**
How do you know you have a business plan? Lessons from previous semesters
- Session 24 W 13-Apr **Learning To See Alternative Worlds — The Power of Scenario Analysis When Dealing with Strategic Uncertainty**
Planning under uncertainty and the use of scenario analysis; discarding your old mental models in preparation for developing a new world view.
Read: *Now I Get It*, (Unit 10)
- Session 25 M 18-Apr **Scenario Assignment — Using Scenarios to Manage Uncertainty**
Analysis and Discussion: Using Scenarios
- Session — W 20-Apr **No Class — Work on Final Projects**
- Session 26 M 25-Apr **In-Class Session — Discussion of Final Projects**
- Session 27 M 25-Apr **Double Evening Session — Discussion of Final Projects**
-28
Class will run from 6 to 8.30. Sandwiches and soft drinks will be provided. In order to be polite to students presenting in the evening session, attendance will be mandatory unless individual student arranges excuse in advance. Feedback at these sessions will be essential in development of final projects.
- Session 29 W 27-Apr **Course Summary and Integration**

**W 27-Apr Final Projects Accepted any time between Noon 27 April and
Noon Sunday 9 May.**

OPIM 210 — Information: Strategy and Economics

Suggestions for Preparing Written Case Analyses

The following simple guidelines will help you in your written case assignments for this course:

- You are, of course, not only permitted but **encouraged to meet to discuss your case assignments** before class, but all written exercises must be done individually or in your groups of two or three.
- The most important thing to remember about the exercises is that it is necessary for you to **answer the assigned questions**. In this course we are not asking you to perform a general competitive analysis, tell a captivating story, summarize the case reading, or describe the company. We are asking you to perform specific analyses, based on specific principles from economics and competitive strategy. Please be certain that your answers are responsive to the assigned questions. Likewise, please separate and number your answers to ensure that you answer each part of each question, and to help your graders when reviewing your work. Please number and place your name(s) on each page. If what you are writing does not respond directly to a specific question, it probably does not need to be written, however extra credit can be earned for especially insightful and especially terse answers.
- Next, it is critical to understand that the graders are not looking for specific key words, but they are looking for **careful strategic analyses and for specific supporting details**. On many questions, it is possible to reach dramatically different but equally valid conclusions about the case, depending on the assumptions you make or the data you use. Please be specific about your assumptions and your supporting data and clear about your analyses.
- **There is no maximum length acceptable and no minimum length required. Most cases will be three or four pages, double-spaced.** However, longer answers are not generally better or more complete. It is preferable to have a well articulated response that presents a single well considered viewpoint, well defended by specific examples. Longer papers frequently mean that you have not yet decided upon your answers and have instead “written around the question” and provided multiple and contradictory responses rather than articulating a single argument.

Your answers to written case assignments will constitute just under one half of your grade for this course, and the final exam relies heavily on the form of analysis stressed in the cases; for these reasons written exercises should be done carefully. Please turn cases in at the start of the class in which they are due. Since cases will be discussed in class, written assignments done after class would enjoy a considerable advantage over

those done before class discussion. Consequently, written analyses cannot be accepted late unless prior arrangements have been made.

It will be beneficial for groups to meet to discuss questions before class, even on days when no written assignment is due.

**OPIM 210 – Information:
Strategy and Economics**

**Learning from the Experience of Others – The Power of Pattern
Recognition**

Session 1 – 13 January 2015

**Questions for Class Discussion
Not for Written Analysis**

1. Why is this course about *information* rather than about information technology? Why is this course about *information-based strategy* rather than about information technology?
2. What is *strategy*? What is the role of *uncertainty* in creating a strategy? What is the role of *hostile intent* when creating a strategy? Do you actually *need* a strategy if neither uncertainty nor hostile intent is present? Do you need a strategy to get a seat on a bus at rush hour? Do you need a strategy to divide your weekend dating time with your roommate? Do you need a strategy for allocating your time to your classes each week? Do you need a strategy for preparing for and managing a job interview? Why or why not?
3. Why is there a final project in this course? Why do we dedicate so much class time to the final project when we could be “teaching and learning instead”?
4. Why is class participation such a high percentage of the course grade? Is that fair and reliable? Is that fair to students whose native language is not English?

**OPIM 210 – Information:
Strategy and Economics**

**Learning from the Experience of Others – The Power of Pattern
Recognition**

Session 2 – 20 January 2015

**Questions for Class Discussion
Not for Written Analysis**

1. What makes a theory useful? Descriptive power? Predictive power? Falsifiability? What do we think about the Atomic Theory of Matter? About the theory that human behavior is leading to climate change?
2. How would we judge a theory that says Amazon did well because it branched out boldly, and J&J failed because it tried to sell what it had always sold but in a new online channel? What does this theory tell us to expect from very safe and traditional online grocery sales at Tesco or bold and innovative online sporting goods sales at Buy.Com?
3. What are the principal differences between *strategic uncertainty* or *ambiguity* and *strategic risk*? Why are the mechanisms for managing risk better understood than the mechanisms for managing uncertainty and ambiguity?
4. Do you believe that standard paradigms like conservation of energy in physical systems or finite element analysis in structural engineering have counterparts in management?
5. Can managers be taught a set of paradigms to permit rapid diagnosis of problems and rapid recognition of solutions? Are new paradigms really needed for management education?
6. What is the importance of speed in diagnosis and recognition? Is diagnosis really a critical skill for managers?
7. What is the theory of *newly vulnerable markets* and how is it used as the basis of designing an entry strategy for attackers in mature industries?
8. Think about the Monty Hall Problem. Can opening a door that does not have the Genie behind it tell you anything about where the Genie is? Should you change your guess after you see the open door? Does opening 8 doors that do not have the Genie behind tell you anything about where the Genie is? Should you change your guess?

**OPIM 210 — Information:
Strategy and Economics**

**Versioning and the Market for Information Goods:
Information, Information Asymmetry, and Pricing**

Session 3 and 4 — 25 and 27 January 2015

**Questions for Class Discussion
Not for Written Analysis**

1. Why is it necessary to enjoy a monopoly position before a firm can attempt to set a single, profit-maximizing price?
2. Why does a single profit-maximizing price result in a large consumer surplus and a large deadweight loss? That is, why are multiple prices better, both for higher producer profits and lower deadweight loss?
3. With perfect information, consumers would always choose the lower price if the same item was made available at different prices. How does this explain the existence of *versioning*, selling very similar items at different prices? Why is versioning, to set very different prices on very closely related items after damaging the highest quality ones to create variation, more common with information goods than with purely physical goods?
4. If a firm knew each customer's *type* (good or bad risk, expensive or inexpensive to serve, etc.) how could it use this information?
5. Why does a signal have to be expensive or difficult to send? What if consumers got a 20% reduction in their insurance for taking a 2-hour *attitude training and anger management* class? What if they got the same 20% reduction only after perfect attendance at a 12-month class with an exam after each session? What if you got a 20% reduction in health insurance costs for joining a health club for \$100? What if you got the same reduction only for having played a varsity sport and continuing to play in an amateur club league?
6. What is the principal difference between a *signal* and a *screen*? Why is the use of screening mechanisms and screening contracts in business so much more common than the use of signals?
7. Why are there complex social issues associated with information asymmetry? Why are these issues becoming more complex? Why are regulators becoming suddenly more interested in corporate use of screening contracts and data mining?

8. Why are these issues complex enough that regulators often get their analyses wrong in subtle ways that have huge implications for the markets?

**OPIM 210 – Information:
Strategy and Economics**

**Dealing with Information Asymmetry –
Screening Mechanisms in Newly Vulnerable Markets¹**

Session 5 – 1 February 2015

**Questions for Case Discussion
Not for Written Analysis**

1. What is the *customer profitability gradient* and why is it so important to modern profitability-based strategies?
2. It seems pretty clear that the *defender* should *always* enjoy an information advantage, relative to a competitor attempting to capture its most profitable customers. That is, the *attacker* is *making educated guesses* about who might be profitable and who might not be; the *defender should always have more accurate information* on who has been profitable and who has not been. Why do some attackers encounter situations where defenders appear unable to duplicate the attackers' strategies and thus unable to defend themselves effectively?
3. What are the three characteristics of a Newly Vulnerable Market and why are each important?
4. Why did Capital One face a Newly Vulnerable Market? Describe each of the three elements that enabled Capital One to treat credit cards as a newly vulnerable market?
5. Capital One had higher costs than other credit card issuers because it did not have access to deposits or other cheap sources of funding for its credit card portfolio, it did not have operational scale, and it was attempting to implement more complex marketing strategies than its competitors. And yet it charged lower prices than its competitors, as reflected in its lower APR. How can any organization have higher costs and lower prices than competitors and still be more profitable?
6. Customer profitability gradients are not unique to banking or even to sophisticated services. The US Postal Service has been in trouble for years, since long before the widespread adoption of services like email. At one end of the market it lost market share among customers who wanted mass mailings to city residents. At the other end it lost market share among customers who were willing to pay for special

¹ There are no posted class notes for case discussion sessions.

delivery services, who switched to Federal Express. (i) The USPS is required by law to charge all customers the same amount for each class of service, regardless of location of sender and addressee. How does this contribute to the existence of a CPG? (ii) Why are local delivery customers and customers who most want immediate delivery extremely desirable? (iii) How does the loss of these two segments create problems for the USPS?

7. The idea of customer profitability gradients and information asymmetry should be readily extensible to other industries. (i) Is there a strong customer profitability gradient in private medical coverage, such as operating an HMO or PPO? If so, what would constitute a profitable customer? (ii) How might an unscrupulous HMO or PPO operator earn extraordinary profits through a Capital One strategy? (That is, what would a screening mechanism look like?) (iii) In the era of traditional landlines and regulated telephone service, was there a strong customer profitability gradient? If so, what constituted an extraordinarily profitable customer? (iv) How might an unregulated new entrant have attracted profitable customers? (That is, what would a screening mechanism look like?)
8. How easy was it for Capital One to extend its strategy to other industries? That is, (i) How well did they succeed with their attempts to create a retail online flower business or an online retail gift retailer selling valentine chocolates and other holiday favorites? Are they competing effectively with Amazon, Teleflora, and other online retailers? (ii) How large is the customer profitability gradient in those industries? (iii) How easy is it to construct a screening mechanism for these other industries? [Check Capital One's annual report for contributions from online sales of flowers and gifts to assess their success in these industries.]
9. Uber has certainly been in the news lately, and much of the news has not been good. Traditional taxicab companies and their drivers hate Uber. Uber targets the most profitable customers, those who need cabs when cabs are difficult to get, and charges them much higher prices. Uber confirms timing and pricing, and lets you use your smart phone to pay for your taxi and to monitor the location of your car as it approaches. Let's analyze this as if it were a newly vulnerable market (i) Is the market for online delivery of taxi reservations newly easy to enter? (ii) Is it attractive for Uber to attack? (iii) Is it difficult for traditional taxi companies to defend themselves from Uber, and if so, why?

OPIM 210 — Information: Strategy and Economics

The Power of Framing and Reframing

Session 6 — 3 February 2015

Questions for Class Discussion

1. Why do we spend an entire class on framing, reframing, and asking the right question? Doesn't your manager, or your client, always know how to ask the right question?
2. OK, so Isaac Newton is smarter than I am and possibly smarter than you are. He solved a problem by brute force, and I transformed it into a problem that I could solve more easily. How did his solution work? How did my solution work? What was my reframing? Which is more flexible, when considering traveling coaches and flying pigeons?
3. OK, so Lewis Carroll came up with some cute problems too. How can you solve his "clock" problem by brute force arithmetic? How can we solve this problem more easily, simply by reframing the question? Be prepared to think about some additional cute Lewis Carol problems in class.
4. The Board at Merrill Lynch was considering a serious decision regarding restricting Mike Bloomberg or allowing him to sell his system whenever and wherever he wished. Why was the problem important? Why was it difficult to solve in its original form? How and why did changing the question make it easier to solve? Why didn't members of Merrill Lynch's management team make this transformation sooner?
5. Unilever and British Airways both started thinking about online sales because supermarket markups and travel agent commissions at least potentially represented great new profit sources without requiring any increases in sales. Why did Lever conclude that the supermarket distribution channel was neither easy to enter nor attractive for a new entrant to attack? Why did BA conclude that travel agent distribution was both newly easy to enter and attractive to attack? Why was the supermarket easy for large retailers to defend against attack by manufacturers of fast moving consumer goods? Why was the market for online travel difficult for agencies to defend against attack by airlines?
6. And then there is that Monty Hall problem again. Explain it to me. Explain it to

your classmates.

**OPIM 210 – Information:
Strategy and Economics**

**Hustle at a Discontinuity, followed by Platform Envelopment:
Platform Envelopment and Resource-Based Sustainable
Competitive Advantage
(Rosenbluth Travel Case Discussion and Discussion of Channel
Conflict²)**

Session 7 – 8 February 2015

**Questions for Class Discussion
Not for Written Analysis**

1. Rosenbluth appears to have benefitted from opportunities in travel as travel became in some sense a newly vulnerable market. (i) Why was there a customer profitability gradient in air travel reservations after deregulation of air travel? (ii) Why were there now opportunities to add value for corporate customers? (iii) Why were airlines not able to counter Rosenbluth's moves into corporate-focused travel services? That is, why were they not able to protect themselves from Rosenbluth's attack on their ability to serve their most profitable customers?
2. Rosenbluth seems to have enjoyed competitive advantage for many years. (i) Why didn't American Express or some other dominant player launch a corporate-focused strategy before Rosenbluth? (ii) Why didn't every other small agency replicate this strategy once its value to Rosenbluth became clear? (iii) [Platform envelopment strategies occur when new applications make old applications more valuable, and make existing infrastructure more valuable. This increases the value of incumbents' assets, making it harder for new entrants to compete.] In what ways did Rosenbluth clearly follow a platform envelopment strategy, with new applications interacting with older applications to create value for customers?
3. Rosenbluth has exited the industry, and under terms much less attractive than they would have gotten in 2000. (i) Why did airlines want to recapture control over their ticket sales? (ii) Why were airlines able to recapture the booking of air travel; that is, what made the market for selling airline tickets newly easy for airlines to re-enter using a channel encroachment strategy?
4. When valuing Google, we are tempted to claim their business model is unique. Almost nothing in business is unique. (i) Could we use the CRS business as a "like" when using mark to like to value Google? What are the similarities? Who uses the

² There are no posted class notes for discussion sessions.

CRS and who uses Google? Who pays in each case? (ii) What are the differences between search for flights and search for everything? Which market is larger? (iii) What other differences are relevant? Why couldn't airlines escape from the travel agent CRSs in the 1980s? Are there firms that can escape from the power of third party payer search? Are there firms that probably cannot? (iv) Does Google appear to be following a platform envelopment strategy, with new applications intended to build on and increase the value of existing applications?

5. Why did the FTC drop its investigation of Google?
6. Did Microsoft follow a platform envelopment strategy? That is (i) did it have at least one application with nearly universal adoption? (ii) did it find a way to combine that application with other applications, to produce a sustainable revenue source that competitors could not match?
7. Is Facebook following a platform envelopment strategy? That is (i) does it have at least one application with nearly universal adoption? (ii) has it found a way to combine that application with other applications, to produce a sustainable revenue source that competitors cannot match?
8. Can you think of another company that is trying to follow a platform envelopment strategy? What is their foundation app? What are they trying to build on top of their foundation? Why do you believe that it will work (or that it will not work)?

**OPIM 210 — Information:
Strategy and Economics**

**The *Why* of Outsourcing —
Understanding the Changing Risk Profile of Outsourcing**

Session 8 — 10 February 2015

**Questions for Class Discussion
Not for Written Analysis**

1. Why is outsourcing an interesting topic for Wharton undergraduates? You are not likely to run an outsourcing operation in Asia, and you are not likely to have your jobs outsourced out from under you. Why is this a subject you need to understand?
2. The principal risks associated with inter-firm cooperation, and with investments in inter-firm coordination, have been *shirking*, *poaching*, and *opportunistic renegotiation*. How might information technology reduce the possibility for shirking? How might use of IT in place of other investments in inter-firm coordination reduce the risk of opportunistic renegotiation? What are the implications for a firm's decision to produce internally or procure outside the boundary of a firm? That is, how might the *amount* of outsourcing be altered?
3. We have claimed that IT for monitoring and coordination has increased the amount of outsourcing. What effects might the increased use of IT in managing outsourcing relationships have on the duration of contracts and the number of competing suppliers used? That is, how might the *nature* of outsourcing be altered?
4. What are the implications of increased outsourcing for *productivity* of the global economy or of national economies?
5. What are the *stresses* that outsourcing might induce in existing corporations? What problems might organizations have in achieving the new optimal balance between production and procurement?
6. What are the implications of these shifts — in the balance between spot market purchases and inter-firm coordination, and in the balance between internal production and external procurement — for business school curriculum design?
7. How has the move to eCommerce, intellectual assets, and cooperation for rapid market entry altered the role of poaching? Why do we consider poaching such a significant risk in eCommerce?

**OPIM 210 – Information:
Strategy and Economics**

**The Power of Certainty – Resonance Marketing
Session 9 – 15 February 2015**

**Questions for Class Discussion
Not for Written Analysis**

1. What are the factors leading to hyperdifferentiation?
2. What is the relationship between hyperdifferentiation and resonance marketing?
3. (i) Why does a consumer's willingness to pay for a product depend both upon the product's location in the "product attribute space" and the consumer's own location in that space? [In other words, think about the drivers of the triangle-shaped willingness to pay curve.] (ii) Why does a reduction in the consumer's uncertainty about a new product's location in product attribute space increase the customer's willingness to pay for those new products that are most suitable for him or her? [In other words, why is there a curved portion in the center of the curve when uncertainty is introduced?] (iii) Why does reduction in uncertainty have little or no effect on consumers' willingness to pay for products that do not represent a good fit with their preferences? [In other words, why does the curved portion usually not affect the outer edges of the triangular willingness to pay curve?]
4. Why do we say that for resonance marketing it does not matter how many customers like you or how many hate you; it only matters how many customers love you?
5. [Some customers have high valuation for some goods, or high **V**, which means that they place a higher valuation on specific products that they truly want than some other buyers do, and which also means that they will pay more to get exactly what they want. High **V** customers are also usually high **T** customers, meaning that they are more significantly affected by compromise. A customer with high **T** will greatly lower his or her willingness to pay for a product that represents a compromise; the greater the customer's **T**, the more the customer discounts because of the distance between his or her ideal product and the actual location of the product in its product attribute space. In brief, high **V** high **T** customers will be willing to pay more for perfection, but will also reduce their willingness to pay by a greater amount for products that deviate from their ideal choice.] (i) Why does a given level of uncertainty produce a greater impact on willingness to pay for high **V** high **T** customers than the same level would for low **V** low **T** customers? That is, why does a given amount of uncertainty produce a greater reduction in willingness to pay among high **V** high **T** customers, and why does a given reduction in uncertainty likewise restore more willingness to pay among these customers? [You can answer this simply with the details presented above; you do not need to make

- additional behavioral assumptions.] (ii) Why is the greater impact of uncertainty reduction on high **V** high **T** customers extremely significant to a business considering the launch of new and more expensive products?
6. Why are resonance products more likely to be snacks, soft drinks, beer, blue jeans, or other small-ticket consumable items? (ii) The Boeing 787 was intended to be a resonance aircraft. The Toyota Prius was intended to be a resonance automobile. Are they? (iii) Why are there so few big-ticket resonance products?
 7. (i) Can resonance products be either manufactured goods or services? Can they be either niche or mass market? (ii) Almost all of Amazon's sales are in the fat part of the distribution and *not* in the long tails. If that is true, how does having long tail offerings help Amazon compete?
 8. Comment on the importance of resonance marketing to *real* companies. (i) Does the presence of resonance products affect grocery stores and department stores? (ii) Does the presence of resonance products affect the strategies of established consumer product companies? Are there categories where growth and profitability of the fat spots is threatened by the accumulation of competitors' sweet spot offerings? (iii) How should P&G, Lever, or Pepsi respond to the growth of sweet spot offerings?
 9. What if this resonance marketing theory is all wrong? What if consumers can still be manipulated by ads and company-sponsored messages, as long as these messages successfully present themselves as community-generated content? [False community content is also fake grass-roots support, and for obvious reasons it is called *astroturfing*!] (i) How would successful astroturfing affect Budweiser, Miller, and Coors as they attempt to enter the high-margin craft brewing marketplace? (ii) How would successful astroturfing affect small craft brewers like Victory, Dogfish Head, Ommegang, Stone, and others that have never invested in advertising?

**OPIM 210 – Information:
Strategy and Economics**

**First Thoughts on Finding a Business Opportunity,
Preparing a Business Plan³**

Session 10 – 17 February 2015

**Questions for Class Preparation
Not for Written Analysis**

1. What are some major frustrations in your life? How could you build an information-based business to address them? What opportunities do you see to use information, databases, mobile service delivery, or other innovative combinations of technology, to offer products and services that would address these frustrations?
2. Why would others value these offerings?
3. Could you actually bring them to market? What resources would you need? How would you get them?
4. What interests you? What do you want to do that offers an opportunity to use information, databases, mobile service delivery, or other innovative combinations of technology, to offer products and services that interest you? Once again, why would others value these offerings? Could you actually bring them to market? What resources would you need? How would you get them?

³ There are no posted class notes for this session.

**OPIM 210 – Information:
Strategy and Economics**

Quantitative Analysis of Resonance Marketing

Session 11 – 22 February 2015

Questions for Written Analysis

Questions for written analysis will be provided two weeks before class.

**OPIM 210 — Information:
Strategy and Economics**
**The How *Not* of Outsourcing:
Stasis Bank Case**

Session 12 — 24 February 2015

Questions for Case Discussion
Not for Written Analysis

1. [Doesn't cloud computing make this case hopelessly out of date?] (i) Doesn't IaaS solve all problems with infrastructure-based vendor holdup? (ii) Doesn't SaaS solve all problems resulting from buying software, including being deceived by vendors selling incomplete systems? (iii) Doesn't the combination of IaaS and SaaS solve all problems related to vendor-holdup? Explain all three of your answers.

Additional questions will be posted two weeks before class.

**OPIM 210 – Information:
Strategy and Economics**
**Information Goods as a Strategy – Monetizing the Net
Beyond Advertising**
Session 13 – 29 February 2015

Questions for Class Discussion
Not for Written Analysis

1. Is the problem with advertising in traditional mass media the fact that no one watches television or reads magazines? That is, is the problem caused by no one viewing the *media*, or by no one viewing the *ads*? If the problem really is with the message, what happens when you try to advertise on the internet? Will the commercial messages have more success?
2. What alternative mechanisms are available for monetizing the internet and operating online businesses? Is the future of everything really advertising? If advertising is seen as ineffective, would that really *Break the Internet*?
3. How does advertising create brand awareness and a perception of quality? Is Google's array of paid search mechanisms a form of advertising, no different from charging a premium price for billboard in a prime high traffic location? Or might paid search be seen as something somehow different from advertising?
4. What is the future of online social networks? Are they a form of interpersonal communication? A form of entertainment? A form of boredom relief, like CB-radios, which were obliterated by better in-car entertainment systems or a fundamental change in human interaction, like the telephone?
5. What is the future of advertising and the undisguised use of commercial messages in social networks? When did "popping the question" come to mean offering to sell your beloved a new cell phone or other electronic device?
6. When can mobile promotional messages be really useful to the recipient? What are attributes of a perfect mobile ad?
7. Why might mobile promotional campaigns become even more expensive for merchants, and even more dangerous for them?
8. Why might all of the data collection used for targeted ads ever be worse than an annoyance to the recipient? Isn't it always better for the recipient to have only

perfectly targeted ads? How might perfectly targeted ads be dangerous to the recipient?

**OPIM 210 – Information:
Strategy and Economics**
Making the Technology Investment Decision
Session 14 – 2 March 2015

Questions for Class Discussion
Not for Written Analysis

1. What is the role of subjective and qualitative analysis in making the decision to implement strategic information systems projects? Why can't all strategic systems investments be justified through use of precise and accurate verifiable data?
2. What problems might be encountered trying to justify systems investments without such hard data? How can this best be managed?
3. What is the role of *strategic necessity* in justifying systems investments? Can systems create value for your customers and still not lead to additional profits or even to additional revenues? What are the limitations of attempting to justify investments by appealing to "strategic necessity" for the firm?
4. In class we will discuss *Strategic Chunkification*, the division of a large investment in information technology into two phases, where the first phase investment will be made early and unconditionally, and the second phase investment will be made later, and only if the conditions that emerge over time have justified continuation. (1) Relate the concept of the phase 1 investment to a strategic option. Why might the phase 1 investment be made, even if the firm knows there is a chance that it will never be completed or used? (2) If the firm later does decide to go forward with the phase 2 investment, what is the value to the firm of having made the phase 1 investment earlier? (3) Describe situations in which this two-phase strategy might make sense. That is, what are the factors, such as expense, duration, or others, that might characterize the two phases in order to make this sort of investment strategy valuable to the firm?

Questions for Written Analysis

Additional questions will be posted two weeks before class.

**OPIM 210 – Information:
Strategy and Economics**

Guest Speaker – Starting Your Own Business

Session 15 – 14 March 2015

**OPIM 210 – Information:
Strategy and Economics**

Making the Technology Investment Decision

Session 16 – 16 March 2015

Questions for Class Discussion
Not for Written Analysis

1. Third party payer business models have been around for some time. The airline reservations systems model provides a good example. Travel agencies had a choice of going directly to the airlines for reservations or staying with the CRSs that they were provided; why did they use CRSs? Once customers use agencies to book flights, and agencies use CRSs to find flights, airlines are required to participate and to pay the fees that CRSs demand. Why didn't agencies object to the fees charged to airlines? Why didn't customers object?
2. American Express can also be considered a third party payer business model. The customer uses AmEx to pay for travel or for expensive impulse shopping purchases. The customer usually pays an annual fee for the AmEx card, but usually does not pay for the use of the card. The merchant needs the traffic brought by American Express, and pays the fee charged by AmEx. What limits the fees charged by American Express? What limits the fees that acquiring banks charge these merchants when customers use MasterCard or Visa instead?
3. So competition between numerous banks servicing merchants seems to limit the fees charged by credit card companies even in a credit card third-party payer environment, but competition between search engines does not appear to limit pricing charged by Google. Why? What is different? What is the same?
4. Do third party payer business models represent an antitrust threat as severe and as unanticipated as natural monopolies were after the framing of the Sherman (Antitrust) Act? Natural monopolies were recognized in the late 19th century as a novel regulatory problem with railroads, and then even more obviously with telecommunications. Might third party payment mechanisms require unique regulatory treatment? If so, when?

Questions for Case Discussion
And for Written Analysis

Additional questions will be posted two weeks before class.

**OPIM 210 – Information:
Strategy and Economics**
Review Session before In-Class Mid-Term Examination
Session 17 – 21 March 2015

Questions for Class Discussion
Not for Written Analysis

1. What questions on the sample exam would you like to discuss?
2. What do you think are the most important concepts covered in the class?
3. Which do you feel need more discussion before you can be fully comfortable with the mid term examination next week?

**OPIM 210 – Information:
Strategy and Economics**
In-Class Mid-Term Examination
Session 18 – 23 March 2015

**OPIM 210 – Information:
Strategy and Economics**

Presentations of Preliminary Business Plans

Session 19-20 – 28 March – 30 March 2015

Guidelines for Presentations will be Posted Online

**OPIM 210 – Information:
Strategy and Economics**

Review of Mid-Term Examination

Session 21 – 4 April 2015

**OPIM 210 – Information:
Strategy and Economics**
**Redesign of the Organization:
Discussion of SNM Pharmaceuticals**
Session 22 – 6 April 2015

Questions for Case Discussion
Not for Written Analysis

1. It looks like your firm is about to experience *Death by Design*. The incentives you provide each unit within the firm are now totally misaligned with the strategy the firm needs moving forward. How can this happen?
2. If you know the incentives of key personnel you can probably predict their behavior and the problems that they will create within the organization. (i) What problems at SNM Pharmaceuticals are created by the incentives it provides for the Sales department? (ii) By the incentives of the Manufacturing Department? (iii) By the incentives of Inventory Management? (iv) By the incentives it provides to customers themselves?
3. Assume that while the 30 day lock-in on manufacturing reflected historical limitations on scheduling software and materials procurement, but that these are no longer significant constraints today. (i) What are the simplest behavioral changes you could cause, anywhere in the organization, that would improve Manufacturing's ability to meet demand? (ii) What is the simplest change you could make to supply or inventory management that would improve SNM's ability to meet demand?
4. (i) What incentive changes for Sales would facilitate the change you proposed in 3.i? (ii) What incentive changes for Customers of SNM Pharmaceuticals would facilitate achieving the changes proposed in your answer to question 3.i?
5. "Do you feel lucky?" What information should SNM's Sales personnel have in order to allow them to benefit from the incentive changes proposed in your answers to question 3?
6. Plover, a distinguished manufacturer of Splash and other fine detergent and laundry products, has a very different incentive for the Manufacturing group. Manufacturing is evaluated and provided with incentive bonuses based solely on order fill rates. Needless to say, there is no 30-day lock in on manufacturing schedules here! Additionally, to help improve fill rates, Manufacturing has been encouraged to treat any order with less than 10 days lead time as an urgent highest priority order, and to do what ever is necessary to assure that it is filled. (i) What behavioral differences would you expect to observe when you compare Plover to SNM? (ii) What problems would this create for the firm? (iii) What incentive changes would solve these problems? (iv) What information would be needed to support these incentive changes?
7. Great Benefits Auto Insurance has long sold its products through independent

agents who sell product both from the company and from its competitors. It has started having difficulty competing against online companies like Geico and Progressive. It feels it has a better product than either, although it does not have Flo or a Gecko constantly reminding customers that Great Benefits' products are cheaper. Senior management has been trying to assess the impact of several options on its agents and on the firm's performance. (i) What effect would result from GB's beginning to sell online to cut its distributions costs, and thus placing itself in competition with its own agents? (ii) What would happen if it slashed payments to its own agents to reduce distribution costs? (iii) What would happen if it froze hiring of new agents, allowed natural attrition to reduce the number of agents, and provided the remaining agents with extensive computerized support? How might this allow it to compete more effectively? (iv) How different would your answer be each of the preceding parts of this question if you were asked about a door-to-door sales company like Avon?

**OPIM 210 – Information:
Strategy and Economics**

**Defending Your Business Plan:
How Do You Know You Really Have A Business?**

Session 23 – 11 April 2015

**Questions for Class Discussion
Not for Written Analysis**

Questions for discussion will be posted two weeks before class.

**OPIM 210 – Information:
Strategy and Economics**

**Learning To See Alternative Worlds –
The Power of Scenario Analysis When Dealing with Strategic
Uncertainty**

Session 24 – 13 April 2015

**Questions for Class Discussion
Not for Written Analysis**

1. How can we defend the use of scenario analysis and planning based on ignorance, rather than planning based on all available data? How can ignoring quantitative analyses ever improve decision-making?
2. What is the relationship between using scenarios as a mechanism for driving “the forgetting organization” and organizational creativity? How can ignorance ever improve creativity? How can deliberate forgetting ever improve creativity?
3. And yet the best scenarios and the best scenario analysts almost always draw from history. How do we reconcile ignoring data with remembering history?
4. Once we have a set of scenarios, what do we do with them? Do we take the average of all four, and prepare for the average? Do we prepare for all of them? Do we look for common features and requirements that will be present in all of them and do only that?

**OPIM 210 – Information:
Strategy and Economics
Scenario Assignment –
Using Scenarios to Manage Uncertainty
Session 25 – 18 April 2015**

**Questions for Case Discussion
Not for Written Analysis**

1. Scenario planning does not use historical data. Why might it ever be helpful to start without data? Why might it sometimes be dangerous to start with data?
2. Scenario planning starts with uncertainties. Are all uncertainties equally important? How do you determine which uncertainties to use when constructing your alternative worlds?
3. Statistical analyses can be compared to using data to determine “what game God is playing with the Universe.” Scenario analysis can be compared to using historical patterns to list “all the games God might start playing with the Universe soon.” What does that mean and why might it be useful?
4. Assume for the moment that Chinese consumption patterns begin to look more like those in the West, in which consumption is as much for personal delight as it is for public signals of status, but that foreign brands remain more enjoyable and more trusted. (i) What could cause this scenario to emerge? (ii) How would you know that this scenario had started to emerge? What are your early indicators of this scenario? (iii) How would this affect the strategies of retailers? How would this affect the strategies of restaurants? (iv) How would this affect foreign manufacturers who imported their products into China? Who would be best positioned? (v) How would this affect foreign manufacturers who actually manufactured their products in China? (vi) How would this affect domestic manufacturers? What sorts of firms would be best positioned?
5. Assume for the moment that Chinese consumption patterns begin to look more like those in the West, in which consumption is as much for personal delight as it is for public signals of status, but that domestic Chinese brands are now seen as more enjoyable and more trusted. (i) What could cause this scenario to emerge? (ii) How would you know that this scenario had started to emerge? What are your early indicators of this scenario? (iii) How would this affect the strategies of retailers? How would this affect the strategies of restaurants? (iv) How would this affect foreign manufacturers who imported their products into China? Who would be best positioned? (v) How would this affect foreign manufacturers who actually manufactured their products in China? (vi) How would this affect domestic manufacturers? What sorts of firms would be best positioned?

**OPIM 210 – Information:
Strategy and Economics**

No Class – Work on Final Project Presentations

Session XX – 20 April 2015

Guidelines for Presentations will be Posted Online

**OPIM 210 – Information:
Strategy and Economics**

Final Project Presentations

Session 26 – 25 April 2015

Session 27 and 28 – 25 April – Double Evening Session

Class will run from 6 to 8.30. Sandwiches and soft drinks will be provided. In order to be polite to students presenting in the evening session, attendance will be mandatory unless individual student arranges excuse in advance. Feedback at these sessions will be essential in development of final projects.

**OPIM 210 – Information:
Strategy and Economics**

Course Summary and Integration

Session 29 – 29 April 2015

**Questions for Class Discussion
Not for Written Analysis**

1. What are the most important patterns for the impacts of information technology on business strategy that we have discussed in this class? How might you be able to use them as you become progressively more senior in the management of your organization?
2. What are the greatest barriers that prevent the rapid development of new strategies and the redeployment of resources as the business environment changes?

**OPIM 210 – Information:
Strategy and Economics**

Additional Preparation Questions and Assignments for each day will be posted later in the semester, on Monday of the week before they will be discussed. On occasion there will be last minute postings based on breaking news stories or litigation.