The Wharton School
UNIVERSITY OF PENNSYLVANIA
Department of Operations and Information Management

Syllabus for OIDD 613

Information and Business Transformation

AKA

Online Innovation: New Patterns of Power and Profit

Professor Eric K. Clemons
clemons@wharton.upenn.edu
https://oid.wharton.upenn.edu/profile/26/
EricKClemons on Skype
JMHH 572 / / Ext. 8-7747

Fall 2017 / / Q 1

Revised 28 August 2017

Class Sessions: M, W 10:30-12 and 12:00-1:30

Office Hours: **M, W** 2-3 ❘ **T** 11-11:45 and 1:30-3:00 ❘ and by appointment

Teaching Assistants
Blanchard, Lucas lucasbl@wharton.upenn.edu
Dabaco, Matthew mdabaco@wharton.upenn.edu

OIDD 613 focuses on the impact of *information on management*, rather than the *management of information* or the management of information technology. The course prepares students to master information as a strategic asset, and combines theory, models, and case studies drawn from the instructor's professional experience. It is not a course on big data analytics or on the management of data, but rather is a course on diagnosing and solving ambiguous and poorly structured problems posed by changes in information availability. Consequently, the course is targeted at students interested in a career in strategic consulting or marketing strategy, and at students who need a solid command of valuation of online businesses in order to pursue a career in private equity.

Information has changed the operations, strategy, and structure of firms in all industries. Of course this is most visible in firms like Google and Facebook, with business operations that are entirely online and in support of activities that are largely online. But it is visible in a host of more traditional businesses, including those that historically had relied on massive investments in physical assets. These range from banking (*"What's in your wallet?"*) and retailing (*Using Alexa to order beer from Amazon with two-hour delivery*) to transportation (*Using Uber instead of a taxi).*

Interestingly, many online business models are not as innovative as they initially appear, and many turn out to be simply reworking of an earlier model whose success has been proven and whose value is clear. Understanding the prior uses of information-based business models greatly facilitates understanding new opportunities and evaluating new companies.

- Capital One exploited a newly vulnerable market and found a way to attract its competitors most profitable customers. It transformed the credit card industry and other banks either adapted or were forced out of the credit card business. While Uber and Capital One initially appear as different from each other as two companies can be, Uber also exploited a newly vulnerable market and is crushing traditional taxi companies around the world.
- Sometimes a new business may represent the combination of two patterns observed previously. Google's business model is a combination of controlling a gateway (like the airlines' reservations systems from the 1980s) and a platform envelopment strategy (like AT&T in the 1930s and Microsoft in the 1990s).

This course will focus on problem diagnosis based on historical understanding of a small set of important business models. Few problems in business come fully labelled with their root cause or with their appropriate solution technique. And yet there really is only a small set of business problems that one needs to recognize and needs to be able to solve. This course will therefore address one of the most critical skills a leader can possess, the ability to encounter an unfamiliar situation and rapidly transform it into one that the leader has solved before.

This course does not require any background or training in technology or computer science. It does assume familiarity with strategy and with marketing.

Course Objectives

At the conclusion of the course, students will have mastered the following:
- **Transforming and reframing questions as the basis of problem solving**: Most strategic problems originally appear in ways that are difficult to recognize and difficult to understand. Transforming questions into a different format often makes these strategic problems tractable. Learning to solve difficult problems is a fundamental objective of this course.
- **Using the Power of Information**: Students will understand the opportunities to launch innovative online businesses and modify the information-based strategy of existing businesses.
- **Valuing Businesses in the Presence of Uncertainty**: Most innovative information-based businesses involve a significant level of uncertainty, for entrepreneurs, for early round capital and for investors. Students will understand the most powerful techniques for assessing and managing risk.
- **Using history to predict the future**: There is a small number of new models for information-based strategies, and these are deployed, often in combination, by most new businesses no matter how original they may appear. Mastering these new models is a powerful predictor for entrepreneurs, for early round capital and for investors.
- **Bounding uncertainty with scenario analysis**: Some changes really are so disruptive that historical data have little predictive power. Scenario analysis still permits bounding the set of possible alternative future outcomes, even if it cannot identify a single future outcome as inevitable.

Required Text

The primary text for the course is *New Patterns of Power and Profit: A Guide to the*

Information Age. The text has not yet been published, so students will have access (without charge) to pre-publication material posted online. A few additional readings will be provided, primarily from a text that contains supplemental chapters with more detail and more mathematics than present in *New Patterns of Power and Profit*. These readings are from *Oh, Yeah, Now I Get It: Learning to solve really complicated problems in business, in society, and in life.*

Assignments and Grading

Based on consistent feedback over the past two years, we will no longer have written assignments in this course. Grading will be based 35% on class participation and 65% on the final exam. The final exam will be administered during the normal MBA exam week. Not surprisingly, a high grade in class participation will require class attendance. More importantly, a high grade in participation will require active engagement in classroom discussions, high quality responses to cold calls, and high quality interactions when the student volunteers rather than waiting to be called.

There will be several in-class discussions of cases or of problem sets during the semester. Those that were previously written assignments are highlighted in **RED** in the online course syllabus. Dates when the assignments would have been 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 did 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.

Since class participation is essential in this course it will be assessed four ways. (1) Students will be cold called during class. (2) Students with insights and strategic epiphanies can volunteer information. (3) For classes with discussion, highlighted in **RED** or **BLUE** in the syllabus, students will expected to be prepared to lead the class discussion. (4) Students who are uncomfortable speaking in class can submit the written answers to questions highlighted in red to improve their class participation grades; obviously, written answers must be submitted before the start of the day's class discussion!

Student Bios

Please submit a word file containing a short biographical sketch, not a full resume, via Canvas. This will be very helpful to me in guiding class discussions. Please title your file **613F17_I_NAME.doc**, where **I** is your first initial, and **NAME** is your last name. Please provide the following information:

- Your expected major 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[1]

Session 1 W 30-Aug **Introduction and Course Overview[2]**
Introduction to the changing role of information in business. Changing information endowment changes everything, from human behavior to corporate strategy. Discussion of grading and course mechanics.
Read: ***New Patterns of Power*** (Prolog)

— M 4-Sep **No Class — Labor Day**

Session 2 W 6-Sep **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: ***New Patterns of Power*** (Chapter 1, Sections 1-5)

Session 3 M 11-Sep **Versioning and the Market for Information Goods**
Introduction to individual types and individual willingness to pay. Introduction to information asymmetry. Introduction to versioning contracts to maximize producer surplus (the economists' fancy term for profits).
Read: ***New Patterns of Power*** (Chapter 2)

Session 4 W 13- Sep **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. The launch of Capital One, and extensions into other industries.
Read: ***New Patterns of Power*** (Chapter 1 Section 6, Chapter 2 Review Section 3)
Discussion: Screening and Competitive Advantage

Session 5 M 18- Sep **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: ***New Patterns of Power*** (Chapter 3)
Discussion: Examples of Reframing in Life and in Business

---

[1] All readings can be found at the course Canvas website, under the tab readings, at https://canvas.upenn.edu/courses/1335634/files/folder/Readings. Listings are alphabetical.

[2] Slides and notes for individual classes can be found at the course Canvas website, under the tabs Notes and Slides. Once again, listings are alphabetical. Not all class sessions will have notes posted.

Session 6 W 20-Sep **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: *New Patterns of Power* (Chapters 4 and 5)
Discussion: The Logic of Resonance Marketing

Session 7 M 25-Sep **Hustle at a Discontinuity and Platform Envelopment**
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? What does this tell us about Amazon? What does it tell us about the competitive advantage of existing companies in a net-based economy?
Read: *New Patterns of Power* (Chapter 6)
Discussion: Platform envelopment

Session 8 W 27-Sep **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: all Chapters plus Appendix 8.A2)
HW1: (Formerly Written Analysis) — Prepare for Discussion / Quantitative Analysis of Resonance Strategies

Session 9 M 2-Oct **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: *New Patterns of Power* (Chapter 11)
Discussion: Business models, and discussion of why the net must be "free" and funded by advertising, privacy intrusions, and control of search

Session 10 W 4-Oct **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: Chapters 1 and 2. Read Chapters 4 through 6 if you are not familiar with statistical decision making and decision trees. Read Chapters 7 and 9.)
HW2: (Formerly Written Analysis) — Prepare for Discussion /Computational exercise on business valuation

Session 11 M 9-Oct **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. What is the future of Chinese consumer goods? What companies are positioned to succeed and which companies are not? Where are the opportunities for Western companies?

Read: *New Patterns of Power* (Chapter 10)
Analysis and Discussion — Using Scenarios

Session 12 W 11-Oct **Third Party Payer Business Models., Online Gateways, and the Future of Competition**
Third Party Payer business models appear to be a special case of what are now commonly called two sided markets. Online gateways are emerging as one of the most powerful business models on the net. What is the source of their power? When are they dangerous to competition and to consumers? When might third party payer business models require new forms of regulation and why? What is the sharing economy? What are the externalities associated with Airbnb and Uber? When might regulation be appropriate?

Read: *New Patterns of Power* (Chapters 7-9, 11)
HW3: **(Formerly Written Analysis) — Prepare for Discussion /Computational Analysis of the Power of Search**

— F 13-Oct **Final Exam at Noon During Regularly Scheduled Exam Week**

OIDD 613
Online Innovation and Information-Based Strategy

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 **actively encouraged to meet to discuss your case assignments** before class. All written exercises still must be done individually or in your work groups of two or three.

- The most important thing to remember about each exercise 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 can be answered in 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. This is always preferable to a lengthy unstructured summary of various points, no matter how interesting each point may be separately. 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.

- 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.

OIDD 613
Online Innovation and Information-Based Strategy

The Changing Role of Information in Business and Strategy

Session 1 — 30 August 2017

Questions for Class Discussion
<u>Not</u> for Written Analysis

1. Why do we have an MBA course on *information*? Why is this course about information and *not* information technology? Why is this course about *information-based strategy* rather than about information technology?

2. 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?

3. Do big data and the emergence of real-time advanced analytics eliminate the need for strategy? Can you use machine learning, rapid adaption, and controlled testing to eliminate the need for advanced strategic planning?

OIDD 613
Online Innovation and Information-Based Strategy

Learning from the Experience of Others — The Power of Pattern Recognition

Session 2 — 6 September 2017

Questions for Class Discussion
<u>Not</u> for Written Analysis

1. Why do we have an MBA course on information? Why is this course about information and not information technology? Why is this course about *information-based strategy* rather than about information technology?

2. What makes a theory useful? Descriptive power? Predictive power? Falsifiability? What do we think about the theory that human behavior is leading to climate change?

3. 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?

4. What are the principal differences between strategic *uncertainty* or *ambiguity* and *strategic risk*? Think of a situation in which you faced uncertainty and be prepared to discuss how you analyzed it and resolved it. Why are the mechanisms for managing risk better understood than the mechanisms for managing uncertainty and ambiguity?

5. Do you believe that standard paradigms like conservation of energy in physical systems or finite element analysis in structural engineering have counterparts in management?

6. 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?

7. What is the importance of speed in diagnosis and recognition? Is diagnosis really a critical skill for managers?

OIDD 613
Online Innovation and Information-Based Strategy

Versioning and the Power of Information
Session 3— 9 September 2017

Questions for Class Discussion
<u>Not</u> 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?

OIDD 613
Online Innovation and Information-Based Strategy

Dealing with Information Asymmetry —
Screening Mechanisms in Newly Vulnerable Markets

(Discussion of Newly Vulnerable Markets[3])

Session 4 — 11 September 2017

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 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

---

[3] There are no power points posted in the course website for class discussion sessions.

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?

OIDD 613
Online Innovation and Information-Based Strategy

The Power of Framing and Reframing

Session 5 — 16 September 2017

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? Don't you always know what question you are trying to answer and what problem you are trying to solve?

2. OK, so Lewis Carroll came up with some cute problems. 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. Alternatively, be prepared to bring your own problems to the class, and be able to discuss and present them clearly.

3. 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?

4. 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?

5. And then there is that Monty Hall problem again. Explain it to me. Explain it to your classmates. What is the general principal at work here that makes this problem interesting?

OIDD 613
Online Innovation and Information-Based Strategy

The Power of Certainty — Resonance Marketing[4]
Session 6 — 18 September 2017

Questions for Class Discussion
<u>Not</u> for Written Analysis

1. What are the factors leading to hyperdifferentiation? What is the relationship between hyperdifferentiation and resonance marketing?

2. (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? (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?]

3. In resonance marketing it does not matter how many customers like you or how many hate you; it only matters how many customers love you. Why?

4. (i) 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 auto-mobile. Are they? (iii) Why are there so few big-ticket resonance products?

5. (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?

6. 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 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?

7. 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? (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?

---

[4] There are no powerpoints posted in the course website for most discussion sessions.

OIDD 613
Online Innovation and Information-Based Strategy

Hustle at a Discontinuity, followed by Platform Envelopment: Platform Envelopment and Resource-Based Sustainable Competitive Advantage

(Discussion of Channel Conflict[5])

Session 7 — 25 September 2017

Questions for Case Discussion
Not 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 CRS and who uses Google? Who pays in each case? (ii) 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? (iii) Does Google appear to be following a platform envelopment strategy, with new applications intended to build on and increase the value of existing applications? (iv) What risks does this create for other businesses or for society, if any?

---

[5] There are no posted class notes for case discussion sessions.

5. 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?

6. 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?

7. Think of other companies that are trying to follow a platform envelopment strategy and be prepared to present your analysis in class. What is their foundation app or service? 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?

OIDD 613

Online Innovation and Information-Based Strategy

Quantitative Analysis of Resonance Marketing

Session 8 — 27 September 2017

Questions Formerly for Written Analysis

(Questions to be provided before class)

OIDD 613

Online Innovation and Information-Based Strategy

Information Goods as a Strategy — Monetizing the Net
Beyond Advertising[6]

Session 9 – 2 October 2017

Questions for Class Discussion
<u>Not</u> 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? When will the commercial messages have more success? When will they be no more effective than traditional ads?

2. What alternative mechanisms are available for monetizing the internet and operating online businesses? Is the future of everything really advertising? If online advertising should prove to be 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 sometimes 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?

---

[6] There are no power points posted in the course website for most discussion sessions.

OIDD 613
Online Innovation and Information-Based Strategy

Making the Technology Investment Decision
Session 10 — 4 October 2017

Questions for Class Discussion
<u>Not</u> 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 Formerly for Written Analysis

<<Questions to be provided before class>>

OIDD 613
Online Innovation and Information-Based Strategy

**Case Study on Disruptive Technologies — The
Future of Consumption in China[7]**

Session 11 — 9 October 2017

Questions for Class Discussion
<u>Not</u> 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?

---

[7] There are no power points posted in the course website for most discussion sessions.

OID 613

Online Innovation and Information-Based Strategy

Third Party Payer Business Models and Online Gateway Systems

Plus A Quick Review of Digital Transformation

Session 12 — 11 October 2017

Questions for Class Discussion
<u>Not</u> 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 in part be considered a third party payer business model. The customer uses AmEx to pay for travel or for expensive impulse shopping purchases, but at least in the US the customer 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 between Google and the credit card business model? What is the same?

4. 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?

Questions Formerly for Written Analysis

<<Questions to be provided before class>>

Is this, like, the greatest business model, ever?