Marketing: B7633

High-Technology Marketing and Entrepreneurship Course and Syllabus Overview

Module I: HOW IS HIGH TECHNOLOGY DIFFERENT?

Module II: TECHNOLOGY ADOPTION IN THE NETWORK ECONOMY

Module III: MARKET MEASUREMENT, PRODUCT DEVELOPMENT, & BIOTECH

Module IV: PROMOTION, PRODUCT, PRICING, PLACE, EXPERIENCE

Module V: STRATEGY FOR FUTURE TECHNOLOGY

Module VI: "THE FUTURE OF THE e-MBA"

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This syllabus will change. A current version of the syllabus will be posted on the course Web site --- http://www.columbia.edu/itc/business/hightech/emba. Make sure to prepare the assignments for the first day of class.

1. COURSE PERSPECTIVE

On-going dramatic changes in the technology and business environment have fundamental implications for marketing strategies, in general, and for marketing of high-technology products and services, in particular. Furthermore, the world of technology *still* provides exciting new business opportunities. In contrast to mature and more static markets, in which the likelihood that a small new entrant will compete effectively with established leaders is rather low, emerging high-technology markets offer opportunities for innovative entrepreneurial companies, as well as for large established companies, to become market leaders (but also to lose tremendous amounts of money). However, it is usually safe to assume that any promising opportunity is pursued by multiple aspiring entrepreneurs, often with equally promising technologies. Accordingly, in many (perhaps most) cases, the winner is determined based not necessarily on its superior technology but rather on the strength of its *business model*. I use the term "business model" broadly to include the product/service and customer definition, the revenue model, whether and how the company chooses to create partnerships and co-opetitions, customer acquisition and retention engines, and other components of the marketing program.

Although formal knowledge creation may have lagged behind business innovation, this course provides some structure and offers guidelines for the development of strategy and marketing programs for high-technology firms. While the three C's and four P's are important in any type of marketing, high- or low- tech, these traditional frameworks do not highlight the key factors that make high-technology marketing different. Furthermore, we need to understand the key decisions and challenges faced by companies and individuals starting a new high-tech venture.

Accordingly, there was a need to develop a framework from the ground up. Specifically, the framework for this course has been developed on the basis of (1) durable economics and marketing principles; (2) numerous interviews with Silicon Valley and other technology companies, including many startups as well as larger, established firms; and (3) recent books, articles, analyst reviews, and research. The framework is based on an integration and analysis of repeated themes in the issues, market conditions, actions, and outcomes that companies, managers, and/or entrepreneurs are experiencing in business environments related to high-technology.

Thus, the course provides an analytical framework and tools for developing strategic business models and marketing plans for high-technology products and services. However, the course does not *focus* on how to employ (high) technology as a marketing tool. Although we discuss issues such as viral marketing and the Internet as a marketing medium, this is not our primary concern. The course is also *highly* relevant to start-ups and to students who wish to become high-technology entrepreneurs. However, it does not focus on bottom-up, granular aspects of entrepreneurship (e.g., how to structure financing? how to recruit?). This is the subject of our various entrepreneurship courses (e.g., the Greenhouse Program), which are *complementary* to and synergetic with the present course. Nevertheless, this course will be very relevant to an opportunity analysis and new venture formulation and will provide students with an opportunity to present their new venture proposals to a panel of VCs. Finally, it is important to note that this

course is not about trends. We will not try to determine which areas in high-technology are currently the "hottest," nor will we search for the best investment opportunities or necessarily try to forecast the future (although we will have some of the latter, for example, when we discuss biotechnology, personal video recorders (PVRs), robotics, and the future of the PC).

2. COURSE OBJECTIVES

Some objectives of the course are as follows:

- Understanding the major forces shaping and differentiating high-technology marketing.
- Acquiring conceptual frameworks and analytical tools needed for developing and changing business models in fast-paced technology markets.
- Gaining practice in looking for and developing opportunities in rapidly changing markets.
- Developing tools for specific functions ("horizontals") necessary for marketing high-tech products and services, such as new product development processes, market measurement, "versioning" and branding, customer retention, pricing, and more.
- Getting acquainted with *some* of the particular issues in specific high-tech industries ("verticals"), such as infomediaries, hardware, customer relationship management, biotechnology, loyalty marketing, and pervasive computing.
- Developing habits of orderly, analytical thinking and skill in reporting conclusions and proposals effectively in written and oral form.
- Practicing working in groups.

3. THE STRUCTURE OF THE COURSE

The course begins with an introductory session that seeks to understand whether and how high-technology marketing is different from "regular" marketing. This session introduces an analytical framework that highlights some of the unique aspects of high-tech marketing. In the subsequent few sessions, we continue our "introduction" into high-technology marketing, discussing concepts such as "infomediaries" and the technology adoption life cycle.

The next major module of the course takes a closer look at several important themes of the network economy. As part of this module, we cover topics such as externalities and interdependencies in the value chain, related implications for partnerships and standards, and how the Internet may fundamentally affect marketing. Together with a few, select industry guests, we also explore the new venture ideation process and the meaning and challenges of being an entrepreneur in the ever-changing high-technology markets.

The third module of this course focuses on market measurement, demand forecasting, and the related product development process; for high-technology firms, all of these require increased risk-taking and foresight. The fourth major module examines the four P's (and a "new P" --

"Experience") in the context of high-technology marketing. We examine "versioning," branding, and positioning; pricing information goods; customer retention; and more. The next module explores the future of the personal computer vis-à-vis the so-called "information appliances." The final module of the course peeks at what may be "your future"...student teams will present their new venture proposals to a panel of VCs.

The course uses a combination of current examples, lecture material, readings, "live" as well as HBS-type cases, discussions with industry leaders, and actual development tasks. Executives that have confirmed their participation include:

- Peter Barrett, Ph.D., Senior Investment Principal, Atlas Venture [Co-Founder and former Executive Vice President & Chief Business Officer, Celera Genomics (NYSE: CRA)].
- <u>Bill Campbell</u>, Chairman of the Board and former CEO, <u>Intuit</u> (NASDAQ: INTU).
- Malcolm Elvey, Founder & Principal Partner, <u>The Elvey Parntership</u>, Collaborative Capital 1, LP.
- Howard Morgan, Ph.D.; Vice Chairman, idealab!
- Eli Singer, Chief Executive Officer & Co-founder, WebCollage.
- Gary Singer, Chief Strategy Officer, Interbrand Corporation.
- William Sprague, Founder & Managing Partner, <u>Crest Communications Holdings LLC</u>; Founder & Principal, <u>Crest Advisors</u>.

4. COURSE SCHEDULE AND READINGS

(The readings and assignments in this syllabus will change. Updated case preparation guidelines, modified and/or additional readings, and other information will be posted on the course Web site --- http://www.columbia.edu/itc/business/hightech/emba.

Make sure to prepare the assignments for the first day of class

Module I: HOW IS HIGH TECHNOLOGY DIFFERENT?

Session 1: Course Overview --- The Technology Paradox

Saturday, January 8, 2005; 8:45 a.m. – 10:05 a.m.

Readings (18 pages)

This course syllabus.

Browse the course web site --- http://www.columbia.edu/itc/business/hightech/emba.

Moriarty, Rowland T. and Thomas J. Kosnik, "High-Tech Marketing: Concepts, Continuity, and Change," *Sloan Management Review*, Summer 1989, pp. 7-17.

Mendelson, Haim, "Moore's Law," Encyclopedia of Computer Science, 2000, pp. 960-961.

Gross, Neil and Peter Coy with Otis Port, "The Technology Paradox," *Business Week*, March 6, 1995, pp. 76-84.

Assignment: Prepare the following study questions for class discussion:

- 1. Do you agree with Moriarty and Kosnik's view of the key differences in *high-tech* marketing?
- 2. What do the leading high-technology firms have in common?
- 3. What forces underlie the Technology Paradox? What are the strategic and marketing implications of Moore's Law and the "new" economics of information?

Session 2: GolfLogix

Saturday, January 8, 2005; 10:15 a.m. – 11:35 a.m.

Case (15 pages)

"GolfLogix: Measuring the Game of Golf," HBS Case, October 7, 2002, pp. 1-24 [9-503-004].

- 1. How does the xCaddie create value? Is it compelling?
- 2. What is the market potential for the GolfLogix devices? (use the numbers in the case)
- 3. What are the advantages of going through the golf courses? Through retail channels?
- 4. If you could only choose one of the two channels, which would you choose --- courses or retail?
- 5. Given the option of selling through both channels, what would you do?

Friday, January 21, 2005: Please turn in a list of your <u>new venture</u> team members and a very short new venture description

Session 3: The Profitless PC

Friday, January 21, 2005; 8:45 a.m. – 10:05 a.m.

Case (11 pages)

"The Case of the Profitless PC," *Harvard Business Review*, November-December, 1998, pp. 2-12, [98603].

Assignment: Prepare the following study questions for class discussion:

- 1. What should Praxim do?
- 2. With whom do you agree regarding his or her analysis of Praxim's situation?

Module II: ADOPTION IN THE NETWORK ECONOMY

Session 4: Crossing the Chasm and TiVo

Friday, January 21, 2005; 10:15 a.m. – 11:35 a.m.

Case (14 pages)

"TiVo in 2002: Consumer Behavior," HBS Case, June 30, 2002, pp. 1-14, [N9-502-062].

Readings (41 pages)

Moore, Geoffrey A., "Crossing the Chasm -- and Beyond," *Inside the Tornado*, 1995, Chapter 2, pp. 13-26.

Norman, Donald A., "<u>Growing Up: 'Moving from Technology-Centered to Human-Centered Products'</u>," *The Invisible Computer*, 1999, Chapter 2, pp. 22-49.

- 1. Formulate a hypothesis about the limited success and adoption of TiVo.
- 2. What are the underlying assumptions and/or hypotheses of TiVo's management regarding the diffusion of TiVo? How does this reflect on the research they conduct?
- 3. Analyze the situation from the consumer's standpoint. What is TiVo? What factors facilitate its adoption? What factors make adoption difficult? Who is TiVo best suited for?
- 4. What "crossing the chasm" strategy would you recommend for TiVo? How should TiVo position itself and whom should they target first?

Session 5: Metcalfe's Law and the Network Economy

Saturday, January 22, 2005; 3:40 p.m. – 5:00 p.m.

Readings (55 pages)

Mendelson, Haim, "Metcalfe' s Law," Encyclopedia of Computer Science, 2000, pp. 961-62.

Shapiro, Carl and Hal R. Varian, "Networks and Positive Feedback," *Information Rules*, 1999, Chapter 7, pp. 173-225.

"A Note on Cisco and the Network Economy," 2p.

Browse Cisco's Web site.

Optional Background Reading:

Mendelson, Haim, "A note on Internet Technology," *Stanford Business School Teaching Note*, 27p.

Krugman, Paul. "The Web Gets Ugly," Paul Krugman's Web site:

http://web.mit.edu/krugman/www/ugly.html, Dec. 6, 1998, 1 page.

"Laying Down the Laws," Forbes.com, February 21, 2000, 4p.

Assignment: Prepare the following study questions for class discussion:

- 1. Are we in a "new" economy or back in the "old" economy? What roles do Metcalfe's Law and Moore's Law play?
- 2. How do the principles of network externalities and "Crossing the Chasm" relate to Cisco's business and marketing strategies?

Session 6: Siebel Systems

Saturday, January 22, 2005; 5:10 p.m. - 6:30 p.m.

Case (25 pages)

"Siebel Systems, Inc." Stanford Case, November, 1999, pp. 1-25.

Browse Siebel's Web site.

- 1. Why did CRM applications develop initially as separate and often stand-alone unintegrated applications and why did that change?
- 2. What made Siebel Systems successful in the sales force automation and the customer relationship management software markets?
- 3. Who are Siebel Systems actual and potential competitors in the rapidly evolving CRM space? How would you assess the competitors' potential impact and Siebel Systems' competitive responses?
- 4. Which of the areas in Exhibit 5 are most attractive for Siebel?
- 5. What is the impact of the Internet on customer relationship management systems and software suppliers? Is the Internet a threat, an opportunity, or both? Please analyze.
- 6. What should Tom Siebel do to maintain growth and market leadership?

Session 7: WebCollage: Penetrating New Markets

Friday, February 4, 2005; 3:40 p.m. – 5:00 p.m.

Guest:

Eli Singer, Chief Executive Officer & Co-founder, WebCollage.

Case (14 pages)

"WebCollage: Penetrating New Markets" Columbia Business School Case, February 2004.

Assignment: This is a team (3 to 5 members) assignment. Prepare a PowerPoint (**10-**minute) presentation to the CEO. Please e-mail me your presentation (including your team members' names) by Thursday, February 3, **midnight**. Three or more teams will be randomly selected to present.

The CEO has hired your consulting group to help develop WebCollage's penetration strategy into the <u>consumer electronics</u> market. He specifically wants you to address the following questions:

- 1. What are the likely obstacles to adoption from the vendors' point of view? What are the likely obstacles from the retailers' point of view?
- 2. What do you consider to be the single primary obstacle to adoption of WebCollage in the consumer electronics market? Describe a detailed strategy to overcome this obstacle and penetrate that market.
- 3. What will be the key for WebCollage to successfully expand the "marketing materials and tools" application beyond the consumer electronics category, and why?

Module III: MARKET MEASUREMENT, PRODUCT DEVELOPMENT, & BIOTECH

Session 8: Abgenix and the XenoMouse

Friday, February 4, 2005; 5:10 p.m. – 6:30 p.m.

Case (14 pages)

"Abgenix and the XenoMouse," *HBS Case*, January 9, 2001, pp. 1-14, [9-501-061].

- 1. Does Pharmacol or BioPart represent a better way to go for Abgenix? Why?
- 2. What factors would you focus on in choosing a partner? Which of these factors are the most important? Why?
- 3. What should Scott Greer do?
 - go it alone through the end of phase II trials?
 - ♦ sign with Pharmacol?
 - ♦ sign with BioPart?
 - ♦ something else?
- 4. What are the major risks you see in your decision? How can these be managed?

Session 9: Project Reviews

Friday, February 18, 2005; 8:45 a.m. – 10:05 a.m.

Session 10: New Venture Ideation

Friday, February 18, 2005; 10:15 a.m. – 11:35 a.m.

Guest: <u>Howard Morgan</u>, PhD; Vice Chairman, <u>idealab!</u>; President, Arca Group Inc.

Read about Dr. Morgan at http://www.ausum.com/

Optional Background Reading:

Howard Lee Morgan, Amy Kallianpur, Leonard M. Lodish, "Selecting, Developing, and Evaluating New Products and Services," Chapter 2 in *Entrepreneurial Marketing: Step One Strategies for New Ventures*," 23p.

Session 11: Biopure

Saturday, March 19, 2005: Project mid-term progress report (2-4 pages) is due.

Saturday, March 19, 2005; 8:45 a.m. – 10:05 a.m.

Case (18 pages)

"Biopure Corp" HBS Case, May 27, 1999, pp. 1-18, [9-598-150].

Assignment: Prepare the following study questions for class discussion:

- 1. What is Biopure's potential in the human market? The animal market?
- 2. What are the biggest obstacles to Biopure's success in the human market? The animal market?
- 3. How might Oxyglobin be a threat to Hemopure? How might it be an asset to Hemopure?

Module IV: PROMOTION, PRODUCT, PRICING, PLACE, EXPERIENCE

Session 12: Versioning and Pricing Information Goods

Saturday, March 19, 2005; 10:15 a.m. – 11:35 a.m.

Readings (40 pages)

Shapiro, Carl and Hal R. Varian, "Versioning: The Smart Way to Sell Information," *HBR*, November-December 1998, pp. 106-114, [98610].

Shapiro, Carl and Hal Varian, "Pricing Information," *Information Rules*, 1999, Chapter 2, pp. 19-51.

- 1. Which segmentation approaches are meaningful in high technology markets?
- 2. How does *Versioning* relate to the "5 Ps" -- Price, Product, Promotion, Place, & Experience?
- 3. How should you price at each stage of the technology diffusion cycle?
- 4. When should a product be free?

Session 13: The Biogen Idec Merger: Branding Strategy in Biotech

Friday, April 1, 2005; 12:35 p.m. – 1:55 p.m.

Guest: Gary Singer, Chief Strategy Officer, Interbrand Corporation.

Case (17 pages)

"The Biogen Idec Merger: Branding Strategy in Biotech" Columbia Business School Case, March 2004, pp. 1-17.

Assignment: This is a team (3 to 5 members) assignment. Prepare a Powerpoint (10-minute) presentation to the CEO. Please e-mail me your presentation (including your team members' names) by Thursday, March 31, **midnight**. Three or more teams will be randomly selected to present.

The CEOs of Biogen-Idec have hired your consulting group to develop the brand positioning of the merged company, Biogen Idec. They specifically want you to address the following questions:

- 1. Prioritize the constituencies in terms of branding. How significant a role does the branding initiative have to play for each constituency?
- 2. What are the unique competitive advantages of Biogen Idec? What should be the key differentiating proposition of Biogen Idec? Which constituencies are most directly impacted by the differentiating proposition?
- 3. Define a brand positioning for Biogen Idec to serve as the platform for the branding initiative. This should be a phrase or short sentence.
- 4. For each constituency, what is the specific benefit that the brand positioning represents?
- 5. What will the most important obstacle(s) to implementing and fulfilling the brand positioning be?

Session 14: Customer Retention and Incentives – Part 1

Friday, April 1, 2005; 2:00 p.m. – 3:20 p.m.

A retention program (team) exercise will be given in class.

Please make sure that each team has at least one laptop.

Session 15: Customer Retention and Incentives – Part 1 (Continued)

Saturday, April 2, 2005; 12:35 p.m. – 1:55 p.m.

Continuation of work on (team) retention program.

Please make sure that each team has at least one laptop.

Session 16: Customer Retention and Incentives – Part 2

Saturday, April 2, 2005; 2:00 p.m. – 3:20 p.m.

Team presentations of *retention programs*.

Module V: STRATEGY FOR FUTURE TECHNOLOGY

Session 17: Sony AIBO

Friday, April 15, 2005; 8:45 a.m. – 10:05 a.m.

Case (22 pages)

"Sony AIBO: The World's First Entertainment Robot" *HBS Case*, September 24, 2002, pp. 1-22, [9-502-010].

Readings

Optional Background Reading:

Norman, Donald A., "What's Wrong with the PC?" The Invisible Computer, 1999, Ch. 4, pp. 69-87.

Norman, Donald A., "A World of Information Appliances," *The Invisible Computer*, 1999, Chapter 12, pp. 247-272.

- 1. Satoshi Amagai, president of Sony Entertainment Robot Company says there are three types of customers for the Aibo: "Those looking for a pet to substitute for a real furry friend; the technophiles who adore all things digital; and the collectors, who want the first of everything." How large a market is Amagai describing, and does this represent an effective strategy for crossing the chasm?
- 2. Albo has a very committed and involved group of early adopters in the United States, forming Albo groups and putting up Albo web sites. They have embraced the concept of their Albo as not only entertainment, but as a being to have a relationship with. How helpful will the involvement and input of these users be in developing a mass market for Albo?
- 3. SONY first tried to block third parties from customizing Aibo and developing their own software for it, then reversed their position and now condones it and sells software development tools. What are the benefits and risks to SONY of the new open-source strategy?
- 4. With the features Aibo has now, are there network externalities at work in the adoption and/or use of Aibo? Are there changes SONY could make to the Aibo to enhance the possibility of network externalities, and how much impact would such a strategy have?

Session 18: Celera Genomics and Biotech Business Models

Friday, April 15, 2005; 10:15 a.m. – 11:35 a.m.

Guest: <u>Peter Barrett</u>, Ph.D., Senior Investment Principal, <u>Atlas Venture</u> [Co-Founder and former Executive Vice President & Chief Business Officer, <u>Celera Genomics</u> (NYSE: CRA)]

Readings

(Modified readings may be posted on --- http://www.columbia.edu/itc/business/hightech/emba.)

- 1. Familiarize yourself with <u>Celera Genomics</u>.
- 2. Read your preferred selection of the articles appearing in the "<u>Information About Celera</u>" (download from course website)
- 3. Read: Mantz, Beth, "Celera to Depend on New Discoveries as Revenue Source," Dow Jones News, October 5, 2000, 4p.
- 4. Skim: Carey, John, et al., "The Genome Gold Rush," Business Week, June 12, 2000, 9p.

Assignment: Prepare the following study question for class discussion:

How has Celera's product development strategy changed over time? How is this change related to the estimated market potential of genomic-information database subscriptions? How is this change related to the structure of value chains in the biotech and pharmaceutical industries?

Friday, April 22, 2005: Please e-mail me your new venture executive summary (1-2 pages MAX.) **by e-mail**; it will be distributed to the VCs.

Module VI: THE FUTURE OF THE e-MBA

Sessions 19 - 20: Team Presentations of New Venture Ideas

Friday, April 29, 2005; 8:45 a.m. – 12:20 p.m.

Guests:

- 1. Malcom Elvey, Founder & Principal Partner, <u>The Elvey Parntership</u>, Collaborative Capital 1, LP.
- 2. <u>William Sprague</u>, Founder & Managing Partner, <u>Crest Communications Holdings LLC</u>; Founder & Principal, <u>Crest Advisors</u>.
- 3. To be announced.

Team presentations of new venture ideas; each group is to give a <u>10 minute</u> presentation (oral and visual) that will be followed by five minutes of feedback from the VC panelists. (Note: there may be changes to these timetables)

Further details and a schedule of presentations will be announced on the course website --- http://www.columbia.edu/itc/business/hightech/emba.

Lunch will be served in-class.

At the end of the presentations, the class and the VCs will (separately) choose their top 3 ventures. We will conclude with a 15-minute Q & A with the VC guests.

Session 21: "Cutting Edge Lessons from Silicon Valley" (+ Last Class)

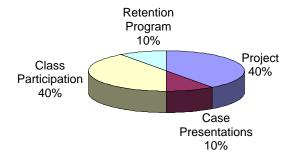
Friday, April 29, 2005; 12:35 p.m. – 1:55 p.m.

Guest: Bill Campbell, Chairman of the Board, Intuit

The readings, assignment, and relevant Web sites will be posted on the course Web site --- http://www.columbia.edu/itc/business/hightech/emba.

5. COURSE PERFORMANCE MEASURES AND FEEDBACK

This course is designed to be a challenging and fun course. If you wish to take the course, make sure you have the time to prepare two sessions/cases per week as well as the demanding deliverables below. Performance evaluation will be based on a new venture proposal (or a company "mini-consulting" project) (40%; this includes the required progress report), class participation (40%), a retention program exercise (10%; to be discussed in class); and two case presentations (10%; to be discussed in class).



5.A. New Venture Proposal (or Company Consulting Project)

The main group assignment is to propose a new high-technology venture. This assignment should be done in groups of four or five of your own choosing. Although you have freedom to propose any new (high-tech) venture that is currently of interest to you or that you may start after graduation, my approval for the new venture idea is required. Think carefully about your idea; it should be feasible with as clear as possible "path-to-profitability." You are to write a short-version business plan that focuses on the marketing plan (i.e., situation analysis, objectives and strategy, and marketing programs; additional guidance will be provided in class). This B-plan should also analyze the proposed venture vis-à-vis the framework and concepts discussed in class. You do *not* need to include the financial assumptions and projections and the internal staffing sections. At the end of the course, each group will pitch its new venture idea to a panel of VCs, who will provide feedback and suggestions (and, who knows, maybe funding...).

Groups that do not wish to propose a new high-technology venture will be given an opportunity for an in-depth study or application of the techniques and concepts discussed in class (in the context of an existing company). This "mini-consulting" project should be done in groups of four or five (my approval for the project is required).

If you are having trouble proposing a new venture (or selecting a consulting project), please talk with Professor Kivetz.

Deliverables: A proposal outline is due early in the semester, followed by a mid-term progress report, an executive summary, and a final B-plan/project report (written and oral). Specifically:

Date	Deliverable	
Fri., Jan. 21, 2005	One-paragraph description of new venture proposal is due along with team list.	
Fri., Feb. 18, 2005	Project Reviews (in-class).	
Sat., Mar. 19, 2005	Project mid-term progress report (2-4 pages) is due.	
Fri., Apr. 22, 2005	New venture executive summary (1-2 pages MAX.) is due by e-mail ; will be distributed to VCs.	
Fri., Apr. 29, 2005	Written report is due. Will be distributed to VCs (upon VCs' request ands your approval).	
	Team presentations of new venture ideas; each group is to give a 10-minute presentation in-class (oral and visual) that will be followed by about 5 minutes of feedback from VCs.	
Note: There may be changes to this schedule.		

5.B. Class Participation

I will come to class each day with a carefully thought out teaching plan. The plan will try to achieve a logical progression through the key issues in the case or reading materials. To this end, specific questions will have been prepared to lead the discussion. However, it is important to appreciate that the students in the class are *co-producers* of the class discussions. You will be expected to have completed the readings prior to each class and prepared the assignment questions. It is also crucial that you listen carefully to the questions that are posed and that the class *collectively* attempt to answer them. For this to happen, class members need to listen carefully to one another and to build on or critique prior comments. Class members should try to resist the temptation to jump to topics that are not specifically open for discussion. When that happens, it is the responsibility of the class and myself to bring the discussion back on track. The discussion should be a conversation in which all participants recognize that they have an obligation to advance our understanding of the issue at hand. Your contribution to this learning *process* will be appraised in addition to the content of what you contribute.

Some of the specific things that have an impact on effective class participation and on which you will be graded include:

- 1. Is the participant a good listener?
- 2. Are the points that are made relevant to the discussion? Are they linked to the comments of others and to the themes that the class is exploring together?

- 3. Does the speaker sustain a line of argument or point of view through a significant part of the class session, or is it an isolated comment?
- 4. Do the comments add to our understanding of the situation? Are they incisive? Do they cut to the core of the problem? Comments that simply repeat case facts get little credit.
- 5. Is there a willingness to challenge the ideas that are being expressed?
- 6. Is there a willingness to test new ideas, or are all comments "safe?" (For example, repetition of case facts without analysis and conclusions, or a comment already made by someone else.)
- 7. Does the participant interact with other class members?
- 8. Does the participant integrate material from past classes or the readings where appropriate? Do the comments reflect cumulative learning over the course, or does the participant merely consider each case in isolation?

If you are having any difficulty participating, please discuss this with Professor Kivetz.

5.C. Retention Program Exercise

A retention program exercise will be given in class. This is an in-class exercise that will be done in teams of three to five of your own choosing. Each group will create a proposal for an online retention program related to the music industry. This proposal will be handed in, and some teams will present their work in class. (More details will be given in class.)

5.D. Case Presentations

Two team case-presentations will be due: the WebCollage case (Session 7) and the Biogen-Idec case (Session 13). For each case, three or more teams will be randomly selected to present inclass to the top executive sponsoring the case.

6. EXPECTATIONS REGARDING CLASS BEHAVIOR AND COURSE NORMS

- 1. Because a case- and discussion- oriented course relies on class participation for its success, attendance at every class is considered extremely important. Please schedule other activities (e.g., job interviews) at times other than when High-Technology Marketing and Entrepreneurship meets. Missing classes will seriously adversely affect your grade.
- 2. If you do miss a class, it is your responsibility to find out from your classmates what materials were covered, what additional assignments were made, and what items may have been distributed in class.
- 3. *Please arrive on time and stay from beginning to end*. It is extremely disruptive to your classmates if you arrive late or leave while class is in session.
- 4. I expect you to be prepared for every class. Since I frequently call on students whose hands are not raised, you should let me know before the start of class if some emergency has made it impossible for you to prepare adequately for that class.
- 5. Given the importance of class participation, I will learn your names as quickly as possible. To facilitate that, please use a name card during every class.
- 6. It goes without saying that I consider the Columbia Business School Code of Integrity to be an extremely important part of the educational system. Discussion with your classmates is acceptable and encouraged for purposes of general case preparation. Moreover, it is obviously required for group assignments. However, I expect you to present in class only analyses which you participated in preparing. That is, reading from notes simply handed to you by a study group member or anyone else violates the Code of Integrity. Similarly, it is considered to be a violation of the Code of Integrity for students to use analyses of cases posted to electronic bulletin boards, formal or informal "virtual study groups," and so-forth. The reasons for this are threefold. First, class discussion is enriched if there is variety in points of view. This is diminished if a majority of students come to class with the same case analysis. Second, a great deal of learning occurs in the process of preparing the case and/or study questions. Third, I want to grade *your* class performance.

Class Plan: High Technology Marketing and Entrepreneurship (B7633)

Fridays and Saturdays; Uris Hall, Room 307

Session	Session Topic	Date & Time
Module I: HOW IS HIGH TECHNOLOGY DIFFERENT?		
1	Course Overview	S., 1/8; 8:45 – 10:05 a.m.
1	The Technology Paradox	
2	Case: GolfLogix	S., 1/8; 10:15 – 11:35 a.m.
3	Case: The Profitless PC	F., 1/21; 8:45– 10:05 a.m.
Module II: ADOPTION IN THE NETWORK ECONOMY		
4	Crossing the Chasm and TiVo	F., 1/21; 10:15 – 11:35 a.m.
5	Metcalfe's Law and the Network Economy	S., 1/22; 3:40 – 5:00 p.m.
6	Case: Siebel Systems	S., 1/22; 5:10 – 6:30 p.m.
7	"WebCollage: Penetrating New Markets"	F., 2/4; 3:40 – 5:00 p.m.
,	Guest: Eli Singer	
Module III: MARKET MEASUREMENT, PRODUCT DEVELOPMENT, & BIOTECH		
8	Case: Abgenix and the XenoMouse	F., 2/4; 5:10 – 6:30 p.m.
9	Project Reviews	F., 2/18; 8:45 – 10:05 a.m.
10	New Venture Ideation	F, 2/18; 10:15 – 11:35 am.
	Guest: Dr. Howard Morgan	
11	Case: Biopure	S., 3/19; 8:45 – 10:05 a.m.
Module IV: PROMOTION, PRODUCT, PRICING, PLACE, EXPERIENCE		
12	Versioning and Pricing Information Goods	S., 3/19; 10:15 – 11:35 a.m.
13	The Biogen-Idec Merger: Branding Strategy in Biotech Guest: Gary Singer	F., 4/1; 12:35 – 1:55 p.m.
14	Customer Retention & Incentives – Part 1 (note: laptops required)	F., 4/1; 2:00 – 3:20 p.m.
15	Customer Retention & Incentives – Part 1 (continued)	S., 4/2; 12:35 – 1:55 p.m.
16	Customer Retention & Incentives – Part 2	S., 4/2; 2:00 – 3:20 p.m.
Module V: STRATEGY FOR FUTURE TECHNOLOGY		
17	Sony AIBO	F., 4/15; 8:45 – 10:05 a.m.
18	Celera Genomics and Biotech Business Models	F, 4/15; 10:15 – 11:35 am.
	Guest: Dr. Peter Barrett	r, 4/13, 10.13 – 11.33 am.
Module VI: "THE FUTURE OF THE e-MBA"		
19 – 20	Team Presentations of New Venture Ideas	F, 4/29; 8:45am-12:20pm
	Guests: Malcolm Elvey, William Sprague, TBA	r, 4/29; 0:45am-12:20pm
21	"Cutting Edge Lessons from Silicon Valley (+ Last Class)"	F., 4/29; 12:35 – 1:55 p.m.
	Guest: Bill Campbell	1., 4/2/, 12.33 – 1.33 p.m.

= Session with Guest Visitor(s)