

UNIVERSITY OF CALIFORNIA  
Walter A. Haas School of Business

MBA 290G.1, ENG 298A.2, SIMS 290.10: International Trade and Competition in High  
Technology

Spring 2006 Thursday 2:00pm – 4:00pm

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### **Course Contents and Objectives**

The rise and fall of the high-technology industries of the 1990s reflect broader changes in markets, production organization, and business models, as well as the operation of government policies. These broader changes, which include but go well beyond the Internet revolution itself, suggest that the industrial economy is being fundamentally transformed by the diffusion of innovations in technology and business models across the industrial and industrializing economies. At the same time, these changes cannot be understood without a deeper examination of the factors that created competitive advantage at the national level in many of these industries during the previous three decades. This course explores the broad changes in "who is winning, who is losing, and why" in global markets for high-technology goods ranging from semiconductors to Internet services.

This course seeks to make sense of the decline and prospective recovery of U.S. high-technology industries, the evolution of innovation and technology strategies and policies in Asia and Europe, the historic and current roles of governments in shaping markets for high-technology goods, and the impact on business strategies of recent developments in early-stage capital markets. Our general approach views technological innovation and competition as dynamic processes that reflect choices and policies made by firms and governments. Modern technologies develop in markets that are international in scope, often imperfectly competitive, and subject to influence by a variety of economic and political stakeholders. We will use an eclectic mix of practical,

historical, and theoretical perspectives throughout the course in examining these issues. From time to time, we will be joined by venture capitalists, corporate executives, and technologists engaged in global high-technology markets for discussion of these issues.

### **Class Format and Preparation**

The course will use a mix of case discussions, lectures and guest speakers from leading high tech companies, global corporations, and venture capital firms.

The expectation is that the cases and reading materials will be fully prepared for each session. Students are encouraged to Google outside sources to learn more about the company, case, outcomes and issues.

The format of the case discussions will be as follows:

#### ***First Team***

One preassigned team will have the opportunity to open the discussions of the case. Each case opening should consist of:

1. Slides summarizing a brief analysis of the situation, including what the numbers (if any) tell us.
2. The team's recommendations for the key decisions and answers to questions posted.

The total length of the case opening should be no more than 15 minutes. If your team makes use of overhead slides or other presentation material, you should limit yourself to just a few items. Case openings should emphasize the frameworks and models covered in class or elsewhere. You should submit one copy of slides and other presentation materials at the start of your session. Please note that everyone on the team does not have to present – it is usually recommended to pick one spokesman.

Within 24 hours of the end of the class, the first team should post on the catalyst site:

1. PowerPoint with Appendix of developed but unused slides.
2. Hotlinks to any websites used for preparation
3. References to any written materials used for preparation

Class participation is strongly encouraged. You are invited to highlight insightful linkages between class material and your past experience as a professional and a global observer, to raise challenging questions and issues related to topics in global competition and strategies being

reviewed, and to participate actively in discussion of cases and global trends.

The instructor will also use a call list and any student may be called on at anytime. If for some special reason a student is not so ready for one class, please inform the instructor prior to class. Also, please use your name card throughout the semester.

Many classes will also have an international business executive guest speaker that will comment on the class analysis of the case as well as provide a forum for practical questions and answers. Due to speaker availability, session topics may be changed as the semester progresses.

### **Attendance and Feedback**

Attendance is expected and unexcused absences will affect course grade. Excused absences are those officially sanctioned by the school's academic regulations. In all cases of absence, professional conduct and courtesy dictate that the instructor be informed prior to class. Failure to do so will cause consternation and disappointment.

As "International Trade and Competition in High Technology" is a broad topic, the instructor will do his best to adapt the course based on current events and student feedback. As a result, mandatory email questionnaires will be occasionally be sent out following a class with the expectation of responses by Wednesday at 9am. This questionnaire is not expected to take more than 5-10 minutes to complete, but timely submissions will count towards your final course grade.

## **Grades**

Course grades will be based on both team activities (50%) and individual activities (50%). Team activities will be decided primarily by assigned case openings and volunteer 2<sup>nd</sup> team presentations. Individual activities will consist of class participation, email questionnaire responses, and “extra credit projects” (which can also be done with other students).

Extra credit projects will consist of either research questions assigned during class and/or projects approved by the professor.

## **Required and Recommended Reading**

Required cases and articles will be published and purchased through Study.Net or referenced on the web. In addition, there are a number of recommended books to be referenced for use in cases.

The Competitive Advantage of Nations by Michael E. Porter

Crossing the Chasm, Inside the Tornado, and The Gorilla Game by Geoffrey A. Moore

The Innovator’s Solution by Clayton Christensen

Three Billion New Capitalists by Clyde Prestowitz

## CLASS SCHEDULE

**The following is preliminary and subject to change as the class gets underway.**

### **January 19, 2006: Introduction**

No Assignment

- Introduction to international trade and competition
- Course overview and administrative issues

### **January 26, 2006: Singapore**

Guest Speaker: Ms. Tahn-Joo Chin, Managing Partner, Cross Border Ventures Partners, former CEO of the Information Technology Institute which is the R&D Arm of the National Computer Board of Singapore

Team: Team 2

Assignment

- Read case “Singapore Unlimited: Building the National Information Infrastructure”
- Read “The Competitive Advantage of Nations (Study.net article)”

Questions

1. Please compare analyze NII and Singapore based on the 4 major components of Porter’s diamond.
2. What was Prime Minister Lee Kuan Yew’s vision for Singapore? What challenges did he face in achieving this vision? How has his vision been extended (or changed) under Prime Minister Goh Chok Tong?
3. What is the National Information Infrastructure? How does an IT infrastructure compare with other types of country-level infrastructure (e.g., roads, schools, ports)?
4. Evaluate the process used to implement Singapore’s National Information Infrastructure. Would you consider the implementation “successful?” If so, what factors contributed to its success? If not, what factors contributed to its failure? What can be learned by its success/failure?
5. What other areas do you think Singapore should target based on your analysis? What are your thoughts on an effort into biotech?

### Extra Credit Project

- Compare and contrast the economy of Singapore (3M people+/-) to the economy of the Bay area (6M people +/-).

### **February 2, 2006: Competitive Advantage of Nations**

Teams: Team 1

#### Assignment

- Read case “Finland and Nokia”
- Read “The Competitive Advantage of Nations (Study.net article)”

#### Questions

1. Please outline the principal global competitive advantages of Finland in cellular phones based on the 4 major components of Porter’s diamond: Factor Conditions, Demand Conditions, Related and Supporting Industries and Firm Strategy, Structure & Rivalry.
2. What developments in Finland led to the economic transformation in Finland? What was different about Finland’s telecommunication sector that led to Finland’s emergence as a global telecommunication powerhouse?
3. What was the cluster program? How did it stimulate R&D and technology innovations?
4. How did Nokia leapfrog Motorola in the early 1990s to become the No. 1 mobile phone company?
5. What challenges did Finland face by 2001? What strategy would you recommend the nation to take on?

### **February 9, 2006: National Culture and Administrative Heritage**

Team: Team 3

#### Assignment

- Read case “Philips versus Matsushita: A New Century, A New Round”
- Bring one hard copy of your resume with current/future contact information to class. The hardcopy should be one sided, not two sided (multiple pages are acceptable).

#### Questions

1. Please compare and contrast Philips vs. Matsushita based on the 4 major components of Porter’s diamond.

2. How did Philips become the leading consumer electronics company in the world in the post war era? What distinctive competence did they build? What distinctive incompetencies?
3. How did Matsushita success in displacing Philips as No. 1? What were its distinctive competencies and incompetencies?
4. What do you think of the change each company has made to date – the objectives, the implementation, the impact? Why is the change so hard for both of them?
5. Apple has dominated the MP3 marketplace with 80% market share. Other major CE manufacturers have failed to date. With regards to corporate culture and organizational structure – what has allowed Apple to succeed? What should Philips and Matsushita do to compete?

### **February 16, 2006:**

#### Assignment

- Mini lecture on Investment Banking and Analyst Functions
- Continued discussion of “Philips versus Matsushita: A New Century, A New Round”
- Read Panasonic Digital Concepts Center Case (Extra Reading)

### **February 23, 2006: No Class**

#### Assignments:

- Read Technology Review Article on “The Great Chinese Experiment” (study.net)
- Read One Billion Customers (study.net)
- Find a 2 Basic/Comprehensive Wall Street Industry Research Report on one subsection of the following 97-3 Program industries in at least 2 countries. One report should be about the subsection of the industry in Mainland China. The 97-3 Program concentrates research in six areas: agricultural biotechnology, energy, informatics, natural resources and the environment, population and health and materials science AND/OR a recent Chinese IPO S-1 and basic/comprehensive company research reports on the company (if available) and its top 3-4 competitors/comparables.
- Submit both the paper copy and the electronic copy at the next class. The electronic copies should be posted on under the appropriate topic area in Catalyst. As soon as one person posts on Catalyst – someone must find a different research report and/or topic.
- Some recommended topics are: Agricultural Biotech (Monsanto and it’s competitors), Energy (Solar Power, Fuel Cells, Alternative Energy, Coal Liquification/Gasification), Informatics (Semiconductors, E-Commerce, Internet Media), Natural Resources and the

Environment (Clean Technology, Coal Scrubbers, Clean Water), Population and Health (Medical Devices, Biotechnology, Medical Services, Mass Transport, Logistics, Financial Services), Materials Science (New Materials, Nanotech).

### **March 2, 2006: China Outsourcing**

Team: Team 4

#### Assignment

- Read Chapters 2 and 4 of Three Billion New Capitalists (study.net)

#### Questions

1. Profile China's advantages and disadvantages regarding outsourced manufacturing and also outsource services.
2. What measures has the government taken to encourage economic growth and especially the technology industry.
3. What are the key technology drivers that have enabled China's technology awakening.
4. Use Porter's Diamond to analyze China.

#### Extra Credit Project

- Compare and contrast the economy of Shanghai (16M people+/-) to the economy of the Bay area (6M people +/-).

### **March 9, 2006: Continuation of 3/2/06 China Outsourcing Class Shanghai Global Fund Case Introduction**

### **March 16, 2006: India Outsourcing Shanghai Global Fund Case Continuation**

Team: Team 10

#### Assignment

- Read Chapter 5 of Three Billion New Capitalists (study.net)
- Read <http://www.quickmba.com/strategy/porter.shtml>
- Read Porter's Five Forces in the Digital Age

## Questions

1. Profile India's advantages and disadvantages regarding outsourced services.
2. What measures has the government taken to encourage economic growth and especially the technology industry.
3. What are the key technology drivers that have enabled India's technology awakening.
4. Use Porter's Diamond to analyze India.
5. India vs. China – which country is better positioned and why?

## **March 23, 2006: Continuation of India Class**

### **Shanghai Global Fund Case Continuation**

## **March 30, 2006: Spring Break**

## **April 6, 2006: High Definition TV Standards Battle in the US (w/Guest Speaker)**

**Guest Speaker:** Elliot Broadwin, CEO, Phaseon Corporation

## Assignment

- Read case “High-Definition TV: The Grand Alliance”
- Read “Digital TV: The Future of Video Services” by Alan Stillwell
- Read Chapters 6 of Three Billion New Capitalists (study.net)

## Questions:

Think about HDTV standards from 3 different perspectives:

1. Geopolitical – What are the government interests and why? How does national security play a role in the development of these standards?
2. Economic - Who stands to gain from adoption of standards and why? Who are the major industries involved? What will it take for consumers to adopt the technology?
3. Technology – How does technology play a role? Are there key technology drivers that would influence the impact of standards?

We will have 3 project groups assigned the following groups:

1. NAB representing the broadcast industry
2. FCC representing the national interest and public interest agendas
3. Telecommunications representing the wireless industry

These groups will be testifying in front of Congress:

“Currently there are 67 HDTV channels representing 408 MHz of frequency that have been allocated to the broadcast industry. The broadcasters were allocated this spectrum for free. Based on FCC auctions – this spectrum has a value of \$470B to the US government. 84% of the US population gets programming from Cable TV or Satellite.”

What policies should we be changing and why? Why shouldn't we take back the spectrum and auction the spectrum off? What is the best use of this spectrum and what are your plans for the spectrum (both for NAB and for Telecommunications)? What powers do you not have that you should have (for the FCC)? What should we be doing about AT&T?

### **April 7-8, 2006: Bridging the Divide Conference (April 7-8)**

Please attend at least one day of the MOT Bridging the Divide conference. The admissions fee for students was \$50 last year. Students who are unable to pay for the conference registration due to financial limitations can contact Drew Isaacs ([isaacs@haas.berkeley.edu](mailto:isaacs@haas.berkeley.edu)) for subsidized entry to the conference.

Assignment:

- Submit (by email) a summary of one session that you attended. It may be in outline or bullet form if desired. This assignment is due by 2pm on April 13<sup>th</sup>.

### **April 13, 2006: Dell – 5 (or 7) Forces**

Team: Team 11

Assignment:

- Read case “Dell: Selling Directly, Globally”
- Read case “Matching Dell”

- Read <http://www.quickmba.com/strategy/porter.shtml>
- Read Porter's Five Forces in the Digital Age

Questions:

1. Describe the value chain of the PC industry? How has it changed over time? How did the IT industry transition from IBM/BUNCH to Wintel?
2. With Porter's Five Forces, analyze the way Dell expands in both the US and in China PC environment. Does Porter's Diamond have any additional implications in Dell's expansion decisions? Evaluate the pros and cons of different distribution methods for PCs in both the China market as well as the US market.
3. What strengths does Dell bring into the Chinese market? What weaknesses? What are Legends (Lenova)'s competitive advantages?
4. Legend Computer (China's top PC manufacturer) has vaulted its way to the top through Legend branded retail stores. Why was this strategy successful in China? Why has Legend (Lenova) purchased IBM's PC division?

Should Dell expand its model to move into the consumer electronics space? Why or why not? What type of products and services will be the most appropriate for Dell?

#### **April 20, 2006: Webex – Platforms and 5 (or 7) Forces**

Team: Team 6

Assignment:

- Read the latest S-1 and Annual Report on Webex
- Read at least one research report on Webex
- Read "A Fresh Look at Industry and Market Analysis" (study.net)

Questions:

1. Why did MSFT buy Placeware? Why not Webex or another competitor?
2. What kind of company is Webex? Who are its competitors? Who are likely acquirers?
3. Compare and contrast different software architectures: Mainframe/Minicomputer based, PC based, Client-server based, Web based, P2P based
  - a. Development
  - b. Platforms
  - c. Marketing and Positioning
  - d. Distribution
  - e. Pricing
  - f. Expansion Strategies

- g. Customers
4. What are each platforms' impact on the 5 Forces?
  5. If you were Min, what would present to your Board of Directors as to your global expansion strategy? Where would you invest your time, money and efforts to maximize controllable profitable growth? What information would you need to make a more informed decision?

### **April 27, 2006: Sybase w/Guest Speaker**

#### **Willie Jow**

Willie Jow is Vice President of the Global Products Group (GPG) and the Asia Development Centre at Sybase, Inc. He has been with Sybase over four years, where he has driven the standardisation of the company's globalisation engineering methodology and establishment of Sybase's Asia Development Centre (ADC), located in Singapore.

As Vice President of the Global Products Group, Mr. Jow is responsible for several teams with combined charter to internationalise and localise Sybase products to address global customer needs. The different teams conduct internationalisation engineering, international product management and operations, globalisation consulting, and corporate globalisation strategy. As Vice President of ADC, he is responsible for remote product development as well as joint research projects with Singapore universities to support Sybase's product initiatives.

Prior to joining Sybase, Mr. Jow managed the internationalisation engineering team at Sun Microsystems, as well as worked at Convergent Technologies and Motorola.

Mr. Jow was born in Hong Kong. He earned a bachelor's degree in Electrical Engineering and Computer Science from the University of California at Berkeley.

### **May 4, 2006: EBay – Global Expansion through Acquisitions**

Team: Team 8

#### Assignment

- Read case “Meg Whitman and eBay Germany”
- Read case “Philipp Justus at eBay Germany (A)”
- Read Article “The World According to eBay” (*Contact Lori Davis for Email Link*)

## Questions

1. What has made eBay so successful to date? What has eBay been able to do that its other competitors couldn't match?
2. What caused eBay Germany's decline post the acquisition by eBay? How did Justus try to deal with the low morale?
3. What made the migration of eBay Germany to the common eBay platform so difficult? What organizational change did Justus implement in response to this crisis?
4. eBay lost to rival Yahoo in the Japanese marketplace. Why?
5. Discuss eBay's approach to Mainland China. Opinions regarding the best expansion strategy?

## **Disruptive Technology Strategy and Crossing the Chasm (Lecture and Discussion)**

Team: No Team

### Assignment:

- Read chapter 2 of [The Gorilla Game](#) (found on Study.net)
- Read chapter 2 of [The Innovator's Solution](#) by Clayton Christensen (found on Study.net)

## Questions

1. Name at least one successful technology that has successfully crossed the chasm over the last 3 years. Name at least one exciting technology that has not. Compare and contrast appropriate attributes.
2. Both the Internet and Desktop Publishing have been mentioned as disruptive technologies. What large companies failed due to the development of these technologies?