

OVERVIEW

Up until this time, most of your business education has emphasized a specialized, functional perspective of business situations, e.g., courses in accounting, organization behavior, and new product development. All of these functional disciplines play a critical role in the success of a company. Strategy asks how a firm combines and deploys its functional activities to develop and sustain competitive advantage. One definition of strategy is

The art and science of combining a firm's structure, resources and capabilities, and strategic positioning to gain a sustainable competitive advantage given the environment in which the firm operates.

Strategy, therefore, involves analyzing the firm and its environment, developing a plan to translate that analysis into competitive advantage, and then implementing that plan. We will discuss each of these steps during the class.

While strategy is relevant to firms in any industry, it takes on particular importance in the presence of technology change. Looking at the definition above, it becomes clear that technology affects almost every aspect of a firm's successful strategy:

- It changes the nature of ADVANTAGE
- It changes the nature of COMPETITION
- It changes the SUSTAINABILITY of advantage
- It changes the firm's ENVIRONMENT
- It changes the RESOURCES the firm has at its disposal
- It changes the definition of the firm's POSITION
- It changes the STRUCTURE of the firm

Managers need not—and *should* not—accept these changes passively. Technological innovation also provides firms the means to reshape themselves and their competitive landscape to their advantage.

COURSE TEXTS AND CASES

There are two required items, both available at the TIS bookstore.

- Schilling, M. A., *Strategic Management of Technological Innovation*, McGraw Hill
- BA 543 *Case Readings packet*

TECHNIQUES FOR LEARNING TECHNOLOGY STRATEGY

To accomplish our objectives, we will use a variety of learning techniques: lectures, outside of class assignments, readings, written reports, presentations, and most importantly, class discussion.

Readings, lecture, and discussions

I will lecture some in class. However, we will all learn more if class is much more of a discussion. In order for us to have a discussion, it is important that you have completed and thought about the assigned reading. The *Class Schedule and Assignments* section includes some key questions to help focus your reading.

Analysis of real world events

Strategic thinking and analysis are best learned through practice. In addition to three formal cases, we will also read articles from the recent business press. The articles will cover a variety of technologies.

How much you get out of the analyses depends on your preparation and active participation. Each of us must be fully prepared for each class, and there will be assignments throughout the term to help focus our preparation. *Everyone* is expected to participate effectively in each class to comment, question, and analyze.

Exams

There will be a final exam. It will test both your mastery of the concepts in isolation and your ability to apply them.

EXPECTATIONS AND POLICIES

Preparation

I will assume that you have read everything assigned. It is especially valuable if you come with questions about the readings. Poor preparation is a disservice to your fellow learners and will negatively impact your participation grade

Class participation

Most of the learning in our class will occur through discussion. Therefore, we need everyone's active participation. Meaningful participation obviously requires having carefully read and thought about the day's material, but that is *not* enough. You also need to speak up. Brilliant insights are, of course, always appreciated, but you can also contribute by asking questions, politely disagreeing with me or another student, or following up on a fellow student's comments with further insights or evidence. There are usually many valid ways of looking at any issue we study, so don't worry about being "wrong".

Homework

One purpose of homework assignments is to enhance class discussion. Therefore, assignments must be turned in via Compass *before class begins* on the day they are due.

You should bring a copy to class for your own reference during discussion. I will *not* accept assignments in class, in my mailbox, under my door, or via e-mail. There is no credit provided for late assignments.

Teamwork

Several of the assignments will be done as team projects. Everyone is expected to participate fully in their team's efforts and every team member will receive the same grade. A confidential peer evaluation will take place at the end of the semester.

Course Organization

Your class assignments are shown in the *Class Schedule and Assignments* section below. While subject to change, this syllabus should guide your work planning for the course. You are responsible for completing assignments as described in the syllabus, even if I do not mention them in advance.

Technology

All mobile phones and pagers should be turned off during class. Please do not leave and re-enter the class. Use of laptops in the class is a privilege and not a right. Laptops are to be used for class activities only. If you are seen surfing or e-mailing during a class, you will lose laptop privileges.

Suggestions

If you have special inquiries or constructive suggestions concerning the progress of the class, please feel free to talk to me. You can make an appointment by telephone, e-mail, or simply leave a message in my mailbox in Wohlers 339.

INSTRUCTOR BIOGRAPHY

I'm particularly excited to be teaching this class because the mix of theory and practice matches my background. From 1994 to 1996, I directed research on Japanese business practices and government policy at the Washington, D.C., offices of the law firm Dewey Ballantine. In this capacity, I founded and managed a team of researchers supporting high technology clients including Eastman Kodak, the Semiconductor Industry Association, and firms in the steel, chemical and electronics industries. Our work was profiled by the *Washington Post* ("‘Dream team’ helps Kodak make its case," June 26, 1995) and by *Wall Street Journal* writer John Fialka in his 1997 book, *War by Other Means*.

In previous positions, I helped U.S. aerospace researchers gain access to leading-edge technology from throughout the world as an international policy analyst for the National Aeronautic and Space Administration's Scientific and Technical Information program. In this position, I supported negotiations with government agencies and aerospace companies in Japan, Australia and India and interacted with U.S. industry and various U.S. government agencies. As Japanese information specialist for SCAN C2C, Inc., I performed research on Japanese technology and commerce for clients including General Electric, IBM, Ford Motor Company, and the U.S. Government. Other consulting and executive education clients have included General Motors, the Japan Technology Evaluation Center, Air Products & Chemicals and Hewlett-Packard.

Prior to joining the faculty at Illinois in 2001, I earned a Ph.D. in international business and a Masters of applied economics degree at the University of Michigan. I previously earned an M.S. in library and information science from the University of Illinois and a B.A. in Japanese studies and mathematics from Earlham College. I also studied advanced Japanese at Middlebury College's Summer Language School.

My research interests include buyer-supplier relationships, the management of innovation in industries including flat panel displays and personal computers, and competitive intelligence.

I'm lucky to have a wonderful wife and two great kids, ages eight and eleven. In my spare time, I enjoy weight-lifting, eating good food, and biking.

COURSE REQUIREMENTS AND GRADING

Item	Individual or team	Points
Analysis 1: Walmart's strategic coherence map	Individual	100
Analysis 2: Five Forces Analysis (Practicum)	Team	100
Analysis 3: Synthes' market entry decision	Individual	125
Analysis 4: DPS's acquisition decision	Team	175
Final exam	Individual	300
Participation	Individual	100
Peer evaluation	Individual	50
Team Presentation	Team	50
Total		1000

The final grading schedule is based on your points out of 1000, as described below.

<u>Course Points</u>	<u>Grade</u>	<u>Honor Points</u>
980 - 1000	A+	4.00
930 - 979	A	4.00
900 - 929	A-	3.67
870 - 899	B+	3.33
830 - 869	B	3.00
800 - 829	B-	2.67
770 - 799	C+	2.33
730 - 769	C	2.00
700 - 729	C-	1.67
650 - 699	D	1.00
Below 650	F	0.00

EXPLANATION OF ASSIGNMENTS

Individual assignments (200 points total)

Analysis 1: Wal-Mart “Strategic Coherence” Map (100 points)

The Michael Porter article in the Coursepack (Porter 1996) provides a graphical description of Southwest Airlines activity system in order to demonstrate the coherence of its strategy. Draw a similar strategic coherence map for Wal-Mart. Think carefully about how all of Wal-Mart’s “details” in their activity system are complementary and reinforcing for their overall business strategy. Identify which activities are major and which are minor. Only link together activities that reinforce each other to a *significant* degree. *You may complete this assignment (and only this assignment) by hand and turn it in at the beginning of class.*

Analysis 3: Synthes’ market entry decision (125 points)

Synthes, a leader in the metal medical implant field, must decide whether or not to enter the emerging field of bioresorbable implants. Based on the information in the HBS case, provide a two page memo (1 inch margins, 12 point font, single spaced) to the top management of Synthes’ addressing the question, “Should Synthes make bioresorbable implants?” You should certainly address the options presented in the HBS case, but feel free to offer others.

Team assignments (250 points total)

Analysis 2: Five (six) forces analysis (100 points)

This assignment asks you to analyze the industry related to your practicum project. There are three parts to the assignment. (1) For each force, answer whether the force is low, medium, or high in intensity. Cite key evidence from your research. Don’t list everything, just the most important fact or two that supports your answer. (2) What does your analysis suggest about the current attractiveness of this industry? (3) Think dynamically. What changes in the forces do you seem likely and what implications does that have for the long-time attractiveness of the industry?

I’ve listed five or six forces because of the potential importance of complementors. If complementors are significant in your industry, please include them in your analysis. If they don’t actually play a significant role, omit them.

You should *not* do any graphics for this. Just type up your answers. To encourage conciseness, there is a limit of **two pages** for this assignment.

Analysis 4: Domino Printing Science’s acquisition decision (175 points)

Rick Mitchell has hired your consulting firm to advise him regarding Domino’s potential development of laser technology. He specifically wants you to address whether Domino should acquire SLS and/or DEI.

I'm leaving the length and format of the memo up to you. However, I'm going to read it like an over-worked, over-stressed executive and will, just as he or she would, stop reading when I get bored or frustrated. Remember that you are writing for a senior executive. The SLS and DEI issues are important to me, but there are a lot of other issues demanding my attention. Perfect English is not the issue. Organization is.

Presentation (50 points)

It is important that you be able to succinctly summarize the key points of a lecture for two reasons. First, doing so forces you to focus on the critical "big-picture" lessons, rather than being buried in details. Second, being able to summarize complex material well is a vital professional skill. So, over the course of the semester, I will call on each team once to start our discussion by having a representative present their analysis of a lecture, in-class assignment, homework, or other material. You are limited to five sentences, and I will enforce that strictly. If it helps, envision getting on an elevator with a recruiter who asks you what you have studied recently. After you tell her, she says, "That good. What should I know about [that subject] as a manager?" You now have the time it takes to go from the 5th floor to the ground floor to demonstrate your knowledge (and your attractiveness as an employee). Remember five sentences, not a word more.

Final exam (300 points total)

The exam will be closed-book and closed-notes.

Participation (100 points)

Active participation in the class is an essential part of the learning experience. We will be using cases and you must be prepared to discuss these cases. Meaningful participation means making a contribution to our discussion, not merely talking, and it does not mean repeating case facts or simply agreeing with what others have already said. Case discussion demands that we listen carefully to the statements of others, ask them to explain or defend controversial points, and expect to defend our judgments as well.

When I determine the final participation grades, I generally consider two factors: regular participation and number of stand-out comments. You can get partial participation points by posting questions and comments on the discussion board before and immediately after class. Before class, use the board to post interesting questions or insights about the case. Use these as a draft for points in class, and don't be afraid to print them out and bring them to repeat for our discussion. Good synthesis or extension of our discussion after class also contributes to participation if you post it by the night after class. Interesting comments long after the discussion are appreciated, but will not count towards participation.

Please do not confuse attendance with participation. While on-time attendance is important, active participation in the class discussion is evaluated separately.

Peer evaluation (50 points)

Team members will confidentially rate the contribution of their teammates.

CLASS SESSIONS AND ASSIGNMENTS

Session 1 Monday July 09	Introduction
Read	Nothing
Submit	Nothing
Key points	<ul style="list-style-type: none"> • Introduction to the strategic management course. • What is strategy and its role in achieving the objectives of the firm? • What is sustainable competitive advantage and how can the strategic management process enable the firm's managers to achieve such an advantage?

Session 2 Monday July 09	Strategic coherence
Read	Porter's "What is Strategy?" (Harvard Business Review; Nov/Dec96, Vol. 74 Issue 6, p61-78, 18p, 3 diagrams, 1 graph, 1bw)
Submit	Nothing
Key points	<ul style="list-style-type: none"> • What are the elements in "defining the business"? • What is "strategic coherence?" Why is it important? • How do measures of performance differ? When are they appropriate? • How does strategy change in the presence of pervasive technological innovation?

Session 3 Tuesday July 10	Case discussion: Walmart *
Read	Walmart in 2003 (HBS 9-704-430)
Submit	Analysis 1: Walmart's strategic coherence map
Key points	<ul style="list-style-type: none"> • What have been the sources of Wal-Mart's competitive advantage in discount retailing? • How do its different functional strategies (operational, marketing, financial, human resource) contribute to its competitive advantage? • What should Wal-Mart do to maintain its competitive advantage in a changing environment?

Session 4 Tuesday July 10	Industry Analysis
Read	Schilling Chapter 3 and pages 98-101
Submit	Nothing
Key points	<ul style="list-style-type: none"> • What is the Structure-Conduct-Performance Model? • How does industry (5-Forces) analysis help you to identify profitability of an industry?

Session 5 Thursday July 12	Resources and capabilities
Read	Schilling, pages 101-109
Submit	Analysis 2: Five Forces Analysis
Key points	<ul style="list-style-type: none"> • What are the drivers of sustainable competitive advantage? • How is value-chain analysis related to "core competencies?" • How can a firm prevent core competencies from becoming core rigidities?

Session 6 Thursday July 12	Business-level strategies
Read	Nothing
Submit	Nothing
Key points	<ul style="list-style-type: none"> • What are the strategic benefits and risks of a low-cost strategy? • What are the strategic benefits and risks of a differentiation strategy? • Define the integrated low-cost/differentiation strategy and discuss its increasing importance in the new competitive landscape.

Session 7 Monday July 16	Industry Lifecycle
Read	Schilling, Chapter 5
Submit	Nothing
Key points	

Session 8 Monday July 16	Strategic choice under uncertainty
Read	Schilling, Chapter 7
Submit	Nothing
Key points	<ul style="list-style-type: none"> • What is the impact of risk and uncertainty on firm strategic choices? • What are real options? • What is scenario analysis?

Session 9 Tuesday July 17	Case discussion: Synthes *
Read	Synthes (HBS 9-502-008)
Submit	Analysis 3: Synthes
Key points	<ul style="list-style-type: none"> • If the bio-reabsorbables segment is so promising, why is growth so slow? • What are the dangers to Synthes letting others take the lead with this new technology? • What if Synthes enters bio-reabsorbables and gets it wrong?

Session 10 Tuesday July 17	Corporate strategy
Read	Schilling, Chapter 10
Submit	Nothing
Key points	<ul style="list-style-type: none"> • What is corporate strategy? • How do you define the scope of the firm? • How do you change the scope of the firm?

Session 11 & 12 Thursday July 19	Alliances & Sources of Innovation
Read	Schilling, Chapter 8 & 13
Submit	Nothing
Key points	<ul style="list-style-type: none"> • What dictates the best way to govern an alliance? • What are the potential sources of innovative knowledge? • What advantages and disadvantages are associated with each?

Session 13 Monday July 23	Modularity
Read	Nothing
Submit	Nothing
Key points	<ul style="list-style-type: none"> • What is modularity? • What are the advantages and disadvantages of modularity?

Session 14 Monday July 23	Capstone case: Domino Printing Sciences *
Read	Domino Printing Services: Technology development or acquisition. ECCH # 602-031-1
Submit	Analysis 4: Domino Printing Services
Key points	<ul style="list-style-type: none"> • What action should Domino take regarding SLS and DEI? • Why?

Final exam TBA